2015 International Chemical Congress of Pacific Basin Societies

DECEMBER 15–20, 2015 • HONOLULU, HAWAII



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PACIFICHEM 2015 CHAIRMAN'S WELCOME

Welcome and warmest Aloha! On behalf of Pacifichem, Inc., the American Chemical Society, the Chemical Society of Japan, the Canadian Society for Chemistry, the New Zealand Institute of Chemistry, the Royal Australian Institute of Chemistry, the Korean Chemical Society and the Chinese Chemical Society, it is my great pleasure to welcome all of the participants and their guests to the 2015 International Chemical Congress of Pacific Basin Societies - Pacifichem 2015. This is the seventh in this distinguished series of chemistry-related meetings traditionally held in December in Honolulu.

The theme of Pacifichem 2015 is *Networking – Building Bridges across the Pacific.* As with all past Pacifichem congresses, Pacifichem 2015 fosters collaborations among Pacific Basin chemical scientists to improve the quality of life throughout the world. The venue is Honolulu, on the beautiful island of Oahu, which is located in the central Pacific Ocean, around which two-thirds of the world's population lives. Since the first Congress in 1984, this conference has seen tremendous growth. Over 18,000 papers were submitted for this year's meeting. There are 334 symposia and a total of 1,493 oral and poster sessions. The outstanding technical program truly represents collaborations among Pacific Rim scientists. Each symposium has organizers from at least three different Pacific Rim countries. The technical program represents contributions from 71 countries. The result of such collaborations can only bring improvements in technical development and a better quality of life for all people.



There is much to do on this beautiful island, both independently and as part of the Pacifichem program. I hope you will be able to join us for the Pacifichem Opening Ceremony. This begins with a traditional Hawaiian Chant, followed by the Pacifichem Lecture. Sam Kean, the New York Times bestselling author of The Disappearing Spoon, is the Pacifichem Plenary Lecturer. The Periodic Table is one of our crowning scientific achievements, but it's also a treasure trove of passion, adventure, betrayal, and obsession. The Disappearing Spoon delves into every single element on the table and explains each one's role in science, money, mythology, war, the arts, medicine, alchemy, and other areas of human history, from the Big Bang through the end of time. His stories have appeared in The Atlantic Monthly, The New York Times Magazine, Psychology Today, Mental Floss, and Slate, and his work has been featured on NPR's "Radiolab," "All Things Considered," and "Fresh Air."

All of the members and staff on the Pacifichem 2015 Organizing Committee have spent many hours preparing for this Congress to make it the best possible. We are excited about the outcome and hope that you will find this Congress fruitful, enjoyable and worthwhile. Mahalo.

Peter Stang is the chair of Pacifichem 2015. He is a Distinguished Professor of Chemistry at The University of Utah and has been the editor of the Journal of the American Chemical Society since 2002. He holds a B.S. from DePaul University and a Ph.D. from the University of California, Berkeley.

Working with chemical systems built from molecular components, Stang has advanced organic chemistry for five decades. He and his team are molecular architects who rearrange the building blocks of chemistry to create new and better products to serve advanced medicine, information storage, and energy.

In recognition of his achievements as a pioneer in supramolecular chemistry, Stang received the National Medal of Science in 2011, followed by the American Chemical Society's (ACS) 2013 Priestley Medal. His major scientific contributions began in the late 1960s with his synthesis of vinyl trifluoromethanesulfonates, which are used to join two completely different hydrocarbons and thus create a chemical reaction. In the 1990s, his synthesis of molecular squares led to the development of several functional, self-assembled chemical systems. Most notably, Stang's method of preparing cyclic structures containing metal-complex units—known as the directional bonding approach—has enabled his team to synthesize elaborate molecules such as tetrahedral frameworks, trigonal prisms and cage-like metallocyclic dodecahedrons. This allows the construction of an intricate molecular framework, ultimately leading to the rapid assembly of nanoscale molecular devices for broad-based, practical applications.

Stang is a member of the American Chemical Society, the American Academy of Arts & Sciences, the National Academy of Sciences, the Chinese Academy of Sciences, and the Hungarian Academy of Sciences. He received the Fred Basolo Medal for Outstanding Research in Inorganic Chemistry in 2009, the Paul G. Gassman Distinguished Service Award of the American Chemical Society's Division of Organic Chemistry, and the F.A. Cotton Medal for Excellence in Chemical Research, in 2010. His research has garnered several other awards from the American Chemical Society, including the ACS Award for Creative Research and Applications of Iodine Chemistry, and the ACS George A. Olah Award in Hydrocarbon or Petroleum Chemistry, the ACS James Flack Norris Award in Physical Organic Chemistry, and the Linus Pauling Medal. He has more than 500 publications and more than 23,500 citations to his credit and has mentored nearly 100 graduate students and postdoctoral fellows.

Proclamation

WHEREAS, the seventh International Chemical Congress of Pacific Basin Societies will convene in Honolulu from December 15–20, 2015, and will host an estimated 16,000 participants, including chemists and chemical engineers, from all over the world; and

WHEREAS, this conference, held every five years, will feature products, services, and publications from a variety of companies during its Pacifichem 2015 Exposition; and

WHEREAS, the 334 symposia focusing on 11 specific scientific areas bring together scientists from all over the world, where the latest research in various fields of chemistry is being conducted; and

WHEREAS, the conference will showcase the knowledge, advancements, and products and services that improve the efficiency of international chemical professionals, local and global environments, and our well-being; and

WHEREAS, the American Chemical Society, Canadian Society for Chemistry, Chemical Society of Japan, New Zealand Institute of Chemistry, Royal Australian Chemical Institute, Korean Chemical Society, and Chinese Chemical Society jointly sponsor this learned gathering, which is one of the largest and most prestigious of international scientific meetings,

NOW, THEREFORE, I, KIRK CALDWELL, Mayor of the City and County of Honolulu, do hereby proclaim December 15–20, 2015, to be

PACIFICHEM 2015 DAYS

in recognition of the outstanding contributions of chemical scientists and to commend the sponsors of this event for hosting this productive international gathering that promotes scientific exchange in the Pacific Basin.

Done this 1st day of December, 2015,
in Honolulu, Hawai'i.

KIRK CALDWELL

Proclamation

Presented to

The 2015 International Chemical Congress of the Pacific Basin Societies

WHEREAS, the seventh International Chemical Congress of Pacific Basin Societies will convene in Honolulu, Hawai'i from December 15 – 20, 2015; and

WHEREAS, the congress, known as Pacifichem 2015, is co-sponsored by the chemical societies of Australia, Canada, China, Japan, Korea, New Zealand, and the United States, with representative from more than 57 other chemical societies headquartered in Pacific nations, who will be among those participating in this important gathering; and

WHEREAS, chemists from more than 71 countries will gather to present more than 17,800 papers and discuss recent discoveries in their fields with the promise of making significant contributions to the science of chemistry and to the general advancement of scientific knowledge; and

WHEREAS, Hawai'i is proud to host Pacifichem 2015, widely recognized as one of the largest and most prestigious international scientific meetings in the world;

THEREFORE I, DAVID Y. IGE, Governor, and **I, SHAN S. TSUTSUI, Lieutenant Governor** of the **State of Hawai'i,** do hereby proclaim December 15 – 20, 2015 as

"CHEMISTRY WEEK"

in Hawai'i and encourage the citizens of the Aloha State to join us in welcoming the participants of Pacifichem 2015 to our islands and offering them our best wishes for a memorable conference.

DONE at the State Capitol, in the Executive Chambers, Honolulu, State of Hawai'i, on this twenty-third day of September 2015.

DAVID Y. IGE
Governor, State of Hawai'i

SHAN S. TSUTSUI
Lt. Governor, State of Hawai'i

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CO-SPONSORING SOCIETIES

American Chemical Society

Canadian Society for Chemistry

Chemical Society of Japan

Chinese Chemical Society

Korean Chemical Society

New Zealand Institute of Chemistry

The Royal Australian Chemical Institute

OFFICIAL PARTICIPATING ORGANIZATIONS

Australia: Australian Peptide Association

Brunei: Brunei Darussalam Institute of Chemistry

Canada: Canadian Society for Chemical Engineering

China: Hong Kong Chemical Society

India: Amity Institute for Environmental Toxicology, Safety and Management (AIETSM)

Indonesia: Himpunan Kimia

Japan: Catalysis Society of Japan

Combustion Society of Japan

Japan Association for International Chemical Information

Japan Coating Technology Association

Japan Explosives Society

Japan Oil Chemists' Society

Japan Society for Bioscience, Biotechnology, and Agrochemistry

Japan Society of Electromagnetic Wave Energy Applications (JEMEA)

Japan Society for Environmental Chemistry

Japan Society for Molecular Science

Japan Society for Safety Engineering

Japan Society of Colour Material

Japan Society of Nutrition and Food Science

Japan Society of Soil Science and Plant Nutrition

Japan Technical Association of the Pulp and Paper Industry

Society of Environmental Science

Society of Sea Water Science, Japan

The Ceramic Society of Japan

The Electrochemical Society of Japan

The Fullerenes, Nanotubes and Graphene Research Society

The Japan Institute of Energy

The Japan Petroleum Institute

The Japan Society for Analytical Chemistry

The Japan Society of Applied Physics

The Japan Wood Research Society

The Japanese Photochemistry Association

The Japanese Society for Food Science and Technology

The Japanese Society for the History of Chemistry

The Japanese Society of Carbohydrate Research

The Japanese Society of Printing Science and Technology

The Pharmaceutical Society of Japan

The Rare Earth Society of Japan

The Society for Biotechnology, Japan

The Society of Chemical Engineers, Japan

The Society of Fiber Science and Technology, Japan

The Society of Photography and Imaging of Japan

The Society of Polymer Science, Japan

The Society of Rubber Science and Technology

The Society of Synthetic Organic Chemistry, Japan

The Surface Finishing Society of Japan

Malaysia: Institut Kimia Malaysia, Kuala Lumpur

Mexico: Sociedad Quimica de Mexico (SQM)

Nepal: Nepal Chemical Society

Papua New Guinea: The Institute of Chemists, PNG (ICPNG)

Philippines: Integrated Chemists of the Philippines

Republic of Korea: Korean Society of Radiopharmaceuticals and Molecular Probes (KSRAMP), Korean Society of Water and Wastewater (KSWW)

Singapore: Singapore National Institute of Chemistry

Sri-Lanka: Institute of Chemistry Ceylon

Taiwan: The Chemical Society Located in Taipei

Thailand: The Chemical Society of Thailand

United States: American Peptide Society; Biotechnology Industry Organization (BIO); International UV Association (IUVA)



THE PACIFICHEM 2015 Organizing Committee along with the symposium organizers, gratefully acknowledge the following companies and organizations for financial and in kind contributions received in support of the Congress. We also wish to thank those who contributed but are not listed below. Additional contributors that were not available to us at press time can be found on the website at www.pacifichem.org.

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Nanoscale, RSC: Silver Level
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ARC Centre of Excellence for Electromaterials
ChemPlusChem, a journal of ChemPubSoc Europe published by Wiley-VCH

Advances in Quantum Monte Carlo (#80)
ACS Division of Physical Chemistry

Heat Shock Proteins: The Next Target in the Disease Frontier (#91)
ACS Division of Biological Chemistry
University of Pennsylvania, Department of Chemistry

Recent Discoveries in the Chemistry of Bismuth and Related Elements (#93)
Royal Australian Chemical Institute

Sustainable Chemistry: Beyond the Bench (#103)
National Science Foundation, Sustainable Chemistry, Engineering, and Materials (SusChEM)
American Chemical Society, Committee on Environmental Improvement (CEI)
American Chemical Society, Industrial and Engineering Chemistry Division (I&EC)
American Chemical Society, Division of Environmental Chemistry (ACSenvr)
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Water-phase Catalysis for Energy and Chemicals Production (#182)
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ABR Process Development

Innovative Approaches in Bond-Cleavage and Bond-Forming Reactions at Late Transition-Mtal Centre (#186)
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Royal Australian Chemical Institute, Inorganic Division
DNA Technology A/S
Nucleic Acids Research

Synthetic Modulators of Protein-Protein Interactions (#461)
Bristol-Myers Squibb Company



PACIFICHEM 2015

International Chemical Congress of Pacific Basin Societies Dec. 15–20

ALOHA! Welcome to Honolulu and the 2015 international Chemical Congress of Pacific Basin Societies (Pacifichem 2015, PAC CHEM 2015). The 2015 International Chemical Congress of Pacific Basin Societies is the seventh in the series of successful Congresses. Founded in 1984, these conferences have been held around every five years in Honolulu, Hawaii. Pacifichem's vision is to promote scientific exchange amongst chemical scientists within the pacific basin and to improve the quality of life throughout the world.

Pacifichem 2015 is sponsored jointly by the American Chemical Society (the host society), the Canadian Society for Chemistry, the Chemical Society of Japan, the New Zealand Institute of Chemistry, the Royal Australian Chemical Institute, the Korean Chemical Society and the Chinese Chemical Society. Peter J. Stang, University of Utah, is the Chair of the Congress. Steven Holdcroft, Simon Fraser University, and Eiichi Nakamura, The University of Tokyo, are the two Congress Vice Chairs, representing CSC and CSJ respectively. The theme of Pacifichem 2015 is "Chemical Networking: Building Bridges Across the Pacific."

The Congress begins on Tuesday morning, December 15 and runs through Sunday morning, December 20. There are 334 symposia focusing on 11 topical areas of chemistry: Analytical Chemistry; Inorganic Chemistry; Macromolecular Chemistry; Organic Chemistry; Physical, Theoretical & Computational Chemistry; Agrochemistry, Environmental, and Geochemistry; Biological Chemistry; Materials and Nanoscience; Chemistry of Clean Energy Conversion, Storage, and Production; Bench to Bedside: Chemistry of Healthcare; and Connecting Chemistry to Society. Information on the technical program summary listing the topical areas and the symposia can be found on page 16.

The official Congress Opening Ceremony with will take place on Tuesday, December 15 at the Sheraton Waikiki Hotel in the Hawaii Ballroom from 6:00pm–7:00pm followed by the Pacifichem Lecture. The Pacifichem Lecture will feature one of New York Times bestselling authors, Sam Kean, writer for science and author of the Disappearing Spoon. Sam Kean's lecture on the Disappearing Spoon will masterfully fuse science with the classic lore of invention, investigation, discovery, and alchemy. All registered attendees and guests are invited to attend this event. After the lecture, the Opening Reception will be held from 8:00pm–10:00pm on the Sheraton Waikiki Hotel and Royal Hawaiian Lawns. The Closing Reception will take place on Sunday, December 20 from 2:00pm–4:00pm at the Hilton Hawaiian Village in the Coral Ballroom.

More than 17,000 papers will be presented in either oral or poster formats. The Congress is utilizing the Hawaii

CLASSIFICATION OF REGISTRANT	EARLY REG. FEES JUNE 25–OCT. 15	STANDARD/ ONSITE FEES OCT. 16–DEC. 20
Member of sponsoring or participating societies[a]	$725	$825
Nonmember	850	950
Student[b]	250	250
Guest	80	80

NOTE: All fees are in U.S. dollars. **a** Member fees are available to the members of the seven cosponsoring societies and the official participating organizations. **b** Student fees are available to full-time students enrolled in an undergraduate or graduate degree program; postdoctoral fellows are not considered to be students.



Convention Center, Hilton Hawaiian Village, Hilton Waikiki Beach, Hyatt Regency Waikiki, Waikiki Beach Marriott, Royal Hawaiian and the Sheraton Waikiki for the oral technical sessions. Oral technical sessions will take place as half-day sessions in the morning [8:00am–12:00pm], afternoon [1:00pm–5:00pm] and evening [7:00pm–9:00pm]. All poster sessions will take place in the Hawaii Convention Center, Kamehameha Exhibit Halls I, II, and III.

REGISTRATION

ALL DELEGATES. All delegates must register in order to attend the Congress and technical sessions. Registration fees include attendance to the opening ceremony and reception, the Pacifichem Lecture, the closing reception, all the technical sessions, the exposition, access to meeting mail, and usage of the shuttle services. Member fees are available to members of the sponsoring societies and the official participating societies. Please see page 7 for a listing of the Sponsoring Societies and the Official Participating Societies.

ON-SITE REGISTRATION. Onsite registration is located at the Hawaii Convention Center (main lobby), the Hilton Hawaiian Village (Coral Lounge and Lobby), the Sheraton Waikiki (Ballroom foyer, 2nd floor) and the Marriott Waikiki (Tour Lobby-Paoakalani Tower). For your convenience, program booklets and badge cases are located in all registration areas. Registration hours are: Monday, Dec. 14, 3–7pm and Tuesday, Dec. 15 through Saturday, Dec. 19, 7:30am–5:30pm; Sunday, Dec. 20, 7:30am–11:30am.

In addition to the program booklets, delegates can download the Pacifichem 2015 mobile app from the Apple Store, Google Play or Amazon. The mobile app allows attendees to browse the program by topical areas, by day, and by authors to quickly find information about the scheduling and location of sessions, author presentations, and special events. The online program at www.pacifichem.org/online will serve as the final program for Pacifichem 2015.

ATTENDEE BADGES. Attendees and guest must display their badges at all times during the conference for admittance to the technical sessions, poster sessions, expo and social events.

ON-SITE HOUSING. An on-site housing desk is located at the Hawaii Convention Center (main lobby) during the meeting to assist with last-minute housing changes or needs. On-site housing hours are: Monday, Dec. 14, 3–7pm and Tuesday, Dec. 15 through Saturday, Dec. 19, 7:30am–5:30pm and Sunday, Dec. 20, 7:30am–11:30 am.

MEETING MAIL. Computer terminals with internet connections will be located at the Hilton Hawaiian Village (Coral 3), Waikiki Beach Marriott (Lobby), Sheraton Waikiki (Ballroom Foyer, 2nd floor), and the Hawaii Convention Center (Third floor).

CONGRESS INFORMATION CENTERS. Information booths will be located in the registration areas of the Hawaii Convention Center, Hilton Hawaiian Village, and the Sheraton Waikiki. The hours of operation are Monday, Dec.14, 2pm–7pm; Tuesday, Dec 15 , 7:30am–7:30pm; Wednesday, Dec 16, through Saturday, Dec 19, 7am–5pm; Sunday, Dec 20, 7am–llam.

LOST AND FOUND. Items lost or found in meeting rooms should be turned in to Pacifichem Operation Offices at the official hotels or the Hawaii Convention Center. Attendees can claim lost items from the operation offices. Items not claimed from the operation offices by the end of the conference will be turned in to security at the Official Hotel or Hawaii Convention Center.

DAYCARE SERVICES: Most of the official hotels on the Pacifichem hotel list have babysitting services or can refer guests to a babysitting service. For more information or to make arrangements, contact the Guest Services Desk of the hotel. The co-sponsoring societies can't be held liable or responsible for care given by these child care services.

FACILITIES FOR PEOPLE WITH DISABILITIES. We are committed to making the Congress accessible to all people We realize some people may have special requirements, such as interpreters for the hearing impaired and shuttle vehicles with lifts. Facilities utilized for the meeting are readily accessible. If you have special needs during the meeting, contact the nearest Congress Operations Office for assistance.

SHUTTLE SERVICES. The Pacifichem shuttle bus will operate between the Hawaii Convention Center and the official Pacifichem hotels every 15 minutes during rush hours and 30 minutes during non-rush hours beginning December 15 (7am–5:30pm then 5:30pm–10:30pm to the Opening Cer-

WORKSHOPS

WEDNESDAY, DEC 16, 2015 • 7:00PM–9:00PM
COMMUNICATING YOUR RESEARCH CLEARLY AND EFFECTIVELY
Hawaii Convention Center, Room 304A
The advancement of science depends on sharing research findings.Most scholarly journals are published in English, and it's important to be able to clearly communicate in these journals.In the past year, we edited over 10,000 physical science manuscripts for researchers throughout the world who don't speak English as a first language.In this workshop, we will discuss how to communicate research clearly and effectively in a scholarly manuscript.We will also cover mistakes commonly made when writing in English.Finally, we will conclude with a discussion on how to convey findings in a brief and effective way for a general audience.

WEDNESDAY, DEC 16, 2015 • 7:00PM–9:00PM
DOING BUSINESS WITH THE DEFENSE THREAT REDUCTION AGENCY (DTRA)
Hilton Hawaiian Village, Kalia Tower, Lehua Suite
This workshop will focus on the Defense Threat Reduction Agency's (DTRA) Research and Development Dire.

THURSDAY, DEC 17, 2015 • 7:00PM–9:00PM
APPLYING TO GRADUATE SCHOOL IN THE US: WORKSHOP WITH FACULTY
Hawaii Convention Center, Room 303A
Many college students outside the U.S. are interested in attending graduate school in chemistry and biochemistry in the United States.We will discuss common questions about the admissions process, expectations, and funding for graduate students in the U.S.Interested students are welcome to participate in a Q&A session.

THURSDAY, DEC 17, 2015 • 7:00PM–9:00PM
Leadership and Following
Hilton Hawaiian Village, Kalia Tower, Kahili Room
Leadership in Science will reflect on some necessities of leadership in academia and industry: How to communicate with people?How to delegate and how to listen?The workshop will be led by Alexander Schiller, chemist and Junior Professor at University Jena, Germany.

THURSDAY, DEC 17, 2015 • 7:00PM–9:00PM
How to Review a Manuscript
Hilton Hawaiian Village, Nautilus I Room
In this hands-on Reviewer Workshop, young researchers will be trained in the art of peer review.The Participants will be sent a manuscript in advance which they have to review.During the Workshop Angela Wilson (Editor of Computational and Theoretical Chemistry and Director of the NSF Division of Chemistry) will go through the article step by step together with the young scientists. Those interested should contact Rob van Daalen at G.Daalen@elsevier.com or Evalyne Wanjiru at e.wanjiru@elsevier.com

emony only). Shuttles will continue running from 7am–10pm, December 16–19; and from 7am–noon, December 20; and 1pm–4pm to the Closing Ceremony. Additional information on the shuttle schedules can be found in the lobby areas of the official hotels and the Hawaii Convention Center.

ADA requests for shuttle reservations should be made at least 7 days in advance by contacting Naomi Aquino at NaomLaguino@robertshawaii.com. cc: groupsales@robertshawaii.com or by calling 888-472-4729 or 808-539-9481. Call the dispatch hot line for same day reservations at 808-831-1555 (may incur a 30 minute wait time).

SPEAKER INFORMATION. Speaker Check-In Procedures: **It is strongly recommended that all speakers visit the Speaker Ready Room (In the building they will be presenting) 24 hours in advance of their presentation.** Each hotel and convention center will have a speaker ready room where speakers can view their presentation(s) in order to avoid compatibility issues with the computer supplied in the meeting room. Technicians will also be available to assist speakers with uploading their presentations to the computer that will be in the session room.

All electronic files must be submitted in the Speaker Ready room in either PowerPoint or PDF format. Note: Users of PowerPoint 2007 or later should save their file in the native pptx format for greatest compatibility.

Presenters should bring their files on a PC Formatted USB drive. Note: If you have a QuickTime videos as a part of your presentation, please make sure to submit the presentation to the Speaker Ready Room at least 24 hours in advance due to additional time that may be required to re-encode the videos.

Internet connectivity is not available in oral session rooms unless it has been ordered and paid for by the session organizers in advance.

The standard audiovisual equipment provided for technical sessions will consist of a computer (With a wired mouse), a computer projector, switcher, screen, lighted podium, podium microphone, lapel microphone and a laser pointer. The laptop computer will have the following configuration:

- Processor: a minimum i7 2.2 GHz
- 8 Gig RAM
- 1024 x 768 at 24 bit color depth
- Microsoft Office 2010
- Windows Media Player (Latest Version)
- Quick Time (Latest Version)
- Flash Player (Latest Version)
- Adobe Acrobat Reader (Latest Version)

Please refer to the following website for tips on formatting your presentation: http://www.projectionnet.com/styleguide/presentationstyleguide.aspx. Technical questions should be sent to the ACS audiovisual provider: acs@projection.com

SPEAKER READY ROOM HOURS:

Monday, December 14
3:00pm–7:00pm
Tuesday, December 15
7:00am–8:00pm
Wednesday, December 16
7:00am–8:00pm
Thursday, December 17
7:00am–8:00pm
Friday, December 18
7:00am–8:00pm
Saturday, December 19
7:00am–8:00pm
Sunday, December 20
7:30am–11:30am

TRANSPORTATION. Delegates arriving at the Honolulu International Airport will arrive at the main terminal located on the second level. Proceed to the escalator or elevator down to the ground floor to access baggage claim areas and ground transportation. Visitor information booths are located in gate and baggage claim areas to assist arriving passengers.

GROUND TRANSPORTATION. Taxi service is available at the Honolulu International Airport on the center median fronting the terminal baggage claim areas. See the taxi dispatchers in yellow shirts with black lettering (TAXI DISPATCHER) for service. The fare from the airport to Waikiki during non-rush hour periods is approximately $40.00–$45.00, plus a baggage charge of 50 cents per bag. Fare is by meter only.

CITY BUS. The City & County of Honolulu provides an island-wide bus transportation system that serves Honolulu International Airport. Children up to 5 years of age ride free. The fare for children and students (6–17) is $1.25; Adults-$2.50; senior citizens (with reduced fare card or valid US Medicare card is $1.00; and a visitor's pass (four consecutive days pass with unlimited use)-$25. For route information visit www.thebus.org or call customer service at (808) 848-4500 or call (808) 848-5555.

TOURS. Pacifichem attendees will receive a 20% discounted rate on tours booked through Roberts Hawaii of Oahu, Maui, Kauai and Hawaii Island. Confirmations will be sent directly from Roberts Hawaii listing the location of departure and the pickup time. Tours can be purchased online at www.robertshawaiiexpress.com or by calling (800) 831-5541 (US/Canada) between 7am–9pm HST using promo code: PACHEM15.

AIRPORT SHUTTLE. Roberts Hawaii Express Shuttle provides affordable transportation from the Honolulu International Airport to hotels along Oahu for a discounted rate of $12.80 (one way) and $24.00 (round trip). Roberts Hawaii Express airport representatives will meet and greet attendees upon arrival and assist with their luggage at the baggage claim area. Transportation fee includes 2 pieces of luggage and a personal carry on complimentary. Golf bags may be considered 1 piece of luggage. Additional luggage over 2 per person will cost an additional fee. Due to limited availability, Roberts Hawaii requires that ADA vehicle reservations be made a minimum of 48 hours prior to the date and time of service. Reservations for transportation can be made by calling the Reservations Office at 1(800) 831-5541 (US/Canada) between 7am–9pm HST or via online at www.robertshawaii.com/pachem2015 using promo code: PACHEM15. Advanced reservations required. A 10% service fee will be charged for credit card booking cancellations. There will be no charge for cancellations made by 12 noon, the day prior to the date of the scheduled service. Round trip scheduled service is defined as the first date of the round trip booking. Thereafter, a full charge will apply. No refund will be given for cancellation notices within 24 hours of service date/time and no shows are subject to the full charge. Should you have questions, email Roberts Hawaii at airport.shuttle@robertshawaii.com or call 1 (800) 831-5541(US/Canada) or (808) 441-7800.

CAR RENTALS. Hertz, Enterprise, and Dollar Rent A Car are offering discounted rates for Pacifichem 2015. Contact Hertz at (800) 654-2240 and refer to code: CV#022Q7358; for Enterprise call (800) 593-0505 using code: 32H7476; and for Dollar Rent A Car call (800) 800-3665 using code: CM0679.

SPECIAL EVENTS

CONGRESS OPENING CEREMONY. Tuesday, Dec. 15, 6:00pm–7:00pm, Sheraton Waikiki Hotel, Hawaii Ballroom. The ceremony will open with welcoming remarks from the chair of the Congress.

PACIFICHEM LECTURE. Tuesday, Dec. 15, 7:00pm–8:00pm, Sheraton Waikiki Hotel, Hawaii Ballroom. Sam Kean, one of New York Times bestselling authors will give the Pacifichem 2015 lecture on "The Disappearing Spoon". The lecture will detail how the periodic table masterfully fuses science with the classic lore of invention, investigation, and discovery.

CONGRESS OPENING RECEPTION. Tuesday, Dec. 15, 8:00pm–10:00pm will be held on the Sheraton Waikiki Hotel and Royal Hawaiian Lawns. All delegates and guests are welcome.

EXPOSITION. Tuesday, Dec. 15 (2pm–5pm), Wednesday, Dec. 16 (11am–5pm), and Thursday, Dec. 17 (11am–5:30pm) in the Coral Lounge & Ballroom at the Hilton Hawaiian Village.

STUDENT POSTER COMPETITION. Tuesday, Dec. 15, noon–2pm, Hawaii Convention Center, Kamehameha Exhibit Halls I, II & III. Approximately 350 student finalists selected from over 7,500 Pacifichem poster submissions will participate in the competition. Open to student poster competition finalist only.

CLOSING RECEPTION. Sunday, Dec. 20, 2:00pm–4:00pm, Hilton Hawaiian Village, Coral Ballroom, Mid Pacifichem Conference Center. The Orchestra Chemica Japan will provide Chamber music. All delegates and guests are welcome.

POSTER SESSIONS. Poster presenters must register for the meeting. All poster sessions will be located at the Hawaii Convention Center in Kamehameha Halls I, II & III. The poster boards provided will be 4 feet high and 8 feet wide. Presenters are responsible for mounting their material on the poster boards prior to the opening of the poster sessions. Boards will be numbered with designated poster numbers and pushpins will be provided to mount posters. Boards are available for poster setup one hour prior to the start time of the session. Posters should be removed within a half hour after the session ends. Pacifichem cannot assume responsibility for materials beyond these time limits. Authors must be present by their posters during the time of their poster session.



MEDICAL BREAKTHROUGHS MAY COME OUT OF THE LAB.

BUT THEY BEGIN IN THE HEART.

For more than 150 years, a very special passion has driven the people of Merck. Our goal is to develop medicines, vaccines, and animal health innovations that will improve the lives of millions. Still, we know there is much more to be done. And we're doing it, with a long-standing commitment to research and development. We're just as committed to expanding access to healthcare and working with others who share our passion to create a healthier world. Together, we'll meet that challenge. With all our heart.

For more information about getting Merck medicines and vaccines for free, visit merckhelps.com or call 800-727-5400.

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TECHNICAL PROGRAM SUMMARY

Topic Areas

I. The Core Areas of Chemistry

01. ANYL - Analytical
02. INOR - Inorganic
03. MACR - Macromolecular
04. ORGN - Organic
05. PHYS - Physical, Theoretical & Computational

II. Multi- & Cross-Disciplinary Areas of Chemistry

06. ENVR - Agrochemistry, Environmental & Geochemistry
07. BIOL - Biological
08. MTLS - Materials & Nanoscience

III. Chemistry Solutions to Global Challenges

09. ENRG - Chemistry of Clean Energy Conversion, Storage & Production
10. HLTH - Bench to Bedside: Chemistry of Health Care
11. SCTY - Connecting Chemistry to Society

01. Analytical ANYL

Marriott Waikiki Beach	T	W	T	F	S	S
New Tools & Methodologies for the Characterization of Biomolecular Interactions (#15)	D	D	P	TA		
Development & Applications of Techniques for Electrochemical Analysis (#24)			D	D	TA	
Current Issues in Teaching Analytical Chemistry (#38)		D	TA			
Frontiers in Flow Injection Analysis & Related Techniques (#45)	D	D	TA			
Supercritical Fluid Chromatography (SFC) for Analysis & Purification (#53)			D TE			
Advances in Analytical Ion Mobility Separations (#61)	D	D	TA			
On-site & In Vivo Instrumentation & Applications (#88)			D TE			
Direct & Mediated Bioelectrocatalysis for Biosensors & Energy Conversion Applications (#89)				D	A TE	
Comprehensive Multidimensional Separations (#90)					P	A
Immunoanalysis: Applications & Trends for Environmental Monitoring & Human Health (#94)	D	D	TA			
Novel Analytical Probes for In Vivo Optical Functional Imaging (#115)				P	D TE	A
Micro-& Nanofabricated Analytical Devices for Chemical, Biochemical & Biomedical Platforms (#129)	D	DE	AE	TA		
Marine & Freshwater Toxins: Detection, Structure & Pharmacology (#138)					D TE	A
Innovation in Chemical Sensing & Separation Systems toward Advanced Chemical Analysis (#159)	D	TA				
Fundamentals & Applications of Atomic Spectrometry (#160)		D TE	D			
Optical Waveguide Techniques for the Analyses of Materials & Interfaces (#164)				D TE	A	

A = Oral AM P = Oral PM E = Oral Eve D = Oral AM/PM
TA = Poster AM TE = Poster Eve

All posters sessions are located at the Hawaii Convention Center.

01. Analytical (continued) ANYL

Marriott Waikiki Beach	T	W	T	F	S	S
Paper-Based Analytical Devices for Point-of-Need Measurements (#213)					P TE	A
Symposium on Petroleomics: Molecular-Level Understanding of Petroleum for Environmental Science & Petroleum Engineering (#247)	D	TA				
Laser Ionization Mass Spectrometry (#274)				D		
Ultrasensitive Assays for Proteins & Protein Modifications (#287)			DE	E TA		
Advanced Analytical Applications & Technical Developments of Soft X-Ray Spectroscopy (#303)				P TE	D	
Advances in FTIR Microspectroscopy: 3-D Tomography to Nanoscale Imaging (#315)			D TE			
Magnetoanalytical Science: Separation, Characterization & Imaging (#320)	D	A TE				
Harmonized Strategy of New UHPLC Implementation in Pharmaceutical R&D & CRO/CMO QC Laboratories (#353)				A		
Vibrational Spectroscopy: New Developments & Applications in Biological & Medical Sciences (#375)				D TE		
Analytical Laser-Induced Breakdown Spectroscopy (LIBS) for Hazards Analysis, Forensics & Health (#379)					P TE	A
Bacterial Identification by Mass Spectrometry (#389)					A TE	
Advances in Analytical Techniques for Effective Food Allergen Management (#394)					P TE	A
Advances in Terahertz Spectroscopy & Imaging (#413)				D TE		
(Bio-)Chemical / Electrochemical Sensors & Sensing Materials (#417)		P TA	D			
Plasmonic Materials for Chemical Analysis (#450)		P TA	D			
Organized Surfactant Assemblies in Chemical Analysis & Separation Science: Fifty Years Later (#457)					D TE	A
Analytical General Posters		TA				

02. Inorganic (continued) INOR

Hilton Hawaiian Village	T	W	T	F	S	S
Organo-Main Group Avenues toward Advanced Materials (#16)	D	D	TA			
Fundamentals & Applications of Solvent Extraction in the Recovery of Strategic Metals (#17)	D	D				
Experimental & Theoretical Actinide Chemistry: From Fundamental Systems to Practical Applications (#42)				DE	D TE	A
Metal-Organic Frameworks: Synthesis, Properties & Applications (#50)				E	D TE	A
From Pnictides to Perovskites: Impact of Local Structure in Solid-State Chemistry (#62)				PE	D TE	A
Lewis Acid-Base Pair Chemistry in Molecular Transformations, Catalysis & Energy Storage (#65)	D	D TE				
Functional Nanomaterials Based on Coordination Chemistry (#73)			D TE	A		
Molecular Catalysis of Water-Splitting Reactions (#76)	D	D	TA			
Accessing the Full Potential of Redox-Active Ligands: Reactivity & Applications (#87)					D TE	A
Recent Discoveries in the Chemistry of Bismuth & Related Elements: The Green Alternative (#93)				D	A	
Coordination & Supramolecular Chemistry for Aqueous Metal Ion Separations (#97)			D TE	D		
Frontiers of Molecular Magnetism (#109)			D TE	D		
Frontiers of Organo-f-element Chemistry (#125)	D	D	TA			
Electron Transfer & Electrochemistry of Inorganic & Organometallic Materials (#126)			P TA	D		
Chemistry & Application of Boron Clusters (#152)				TE	DE	A
Current Trends & Interconnectivities Among Fundamental & Applied Inorganic Fluorine Chemistry (#156)				P TE	D	A
Noncovalent Interactions in Coordination Systems (#161)	D	D	TA			
Activation & Transformation of Small Molecules Mediated by Early-Transition-Metal Complexes (#170)			DE	D TE		
Innovative Approaches in Bond-Cleavage & Bond-Forming Reactions at Late-Transition-Metal Centres (#186)	D	D	TA			

02. Inorganic (continued) — I N O R

Hilton Hawaiian Village	T	W	T	F	S	S
Transition-Metal Complexes of N-Heterocyclic & Mesoionic Carbenes: Structure, Materials & Catalytic Applications (#195)			D TE	A		
Advances in Phosphorus Chemistry: Materials, Reactivity at Phosphorus & Synthesis (#226)					D TE	A
The Expanding Periodic Table: New Discoveries & Chemistry of the Heaviest Elements (#234)					D TE	A
Photofunctional Chemistry Based on Metal Complexes and/or Supramolecules (#239)			P TE	D		
Nuclear Probes in Nanoscale Characterization (#254)		DE	TA			
Advances in the Medicinal Applications of N-Heterocyclic Carbene Metal Complexes & Azolium Cations (#255)					D TE	
Inorganic Complexes for Solar Energy Harvesting (#256)			P	D	TA	
Metal-Containing π-Conjugated Systems: Syntheses, Properties, Applications (#269)		D	TA			
Metal Mediated Polymerization (#292)			D	D	TA	
s Block Metal Chemistry (#304)					D TE	A
Novel Heme Proteins & Model Systems (#305)			D TE	A		
Metal Coordination Sphere Design for Challenging Bond Transformations (#318)			DE	D	P TA	
Dioxygen Activation Chemistry of Metalloenzymes & Models (#339)		D TE	A			
New Frontiers in Bioinorganic Chemistry (#356)	D	D	TA			
Isotope Production—Providing Important Materials for Research & Applications (#363)		D TE	A			
The Biocoordination Chemistry of Nitric Oxide & Its Derivatives: Mechanisms of NO_x Generation, Signaling & Reduction in Biological Systems (#371)				TE	DE	A
Dynamic Aspects of Solid Materials: From Equilibrium to Nonequilibrium Systems (#376)	D	TA				
Activation of Small Molecules by Electropositive Metals Related to Chemical Energy Conversion (#380)					D TE	A

02. Inorganic (continued) — I N O R

Hilton Hawaiian Village	T	W	T	F	S	S
New Directions for Sensing Metals in Biology (#424)					D TE	A
Telomeres & Other G-quadruplex Structures as Targets for Metallodrugs (#459)			D	TA		
Inorganic General Posters				TA		

03. Macromolecular — M A C R

Hawaii Convention Center	T	W	T	F	S	S
NMR Spectroscopy of Polymers & Biobased Materials (#12)		E TA	DE	DE	A	
Synthetic Biopolymers (#37)	D	A TE				
New Perspectives of Synthetic & Biological Soft Matter (#57)			D TE	DE		
Dynamic, Reversible & Self-Healing Materials (#64)					P TE	A
Polymer Gels as Advanced Soft Materials (#83)	D	DE	TA			
Radical Polymerization Kinetics & Process Modeling (#92)					D	A
New Frontiers in Polymer Crystallization (#96)				PE TA	D	A
Simulation of Polymers (#110)	D	TA				
Controlled Macromolecular & Supramolecular Architectures for Sustainability (#112)	D	D	TA			
Current Polyurethane Science (#133)					D TE	A
Monomer Sequence Control: Using Nature's Strategy to Create 21st-Century Polymers (#158)			DE	D TE		
Characterization of Polymers & Polymer Assemblies in Solution (#172)	D	A TE				
Polymer Interfaces: Design, Structure, Physical Properties & Applications (#194)		P	D TE	A		
Macromolecular Self-Assembly for Smart Biomaterials (#196)				P TE	D	A
Functional Materials Based on Organic-Inorganic Hybrid Polymers (#221)	D	D	TA			

A = Oral AM P = Oral PM E = Oral Eve D = Oral AM/PM
TA = Poster AM TE = Poster Eve

All posters sessions are located at the Hawaii Convention Center.

03. Macromolecular (continued) MACR

Hawaii Convention Center	T	W	T	F	S	S
Cyclic & Topological Polymers (#248)				P TE	D	A
Advanced Membrane Separations (#262)				TE	DE	A
Polymers from Renewable Sources & Sustainable Polymer Synthesis (#281)	D	D TE				
Fusion Materials: Functional Self-Organized Materials Consisting of Fused Organic & Inorganic Components (#294)				P TE	DE	A
Sustainable Conversion of Lignin to Value-Added Products & Green Chemicals (#319)	D	D TE				
Polymers for Energy & Optoelectronic Devices (#361)	D	D TE				
Polymer Materials Performance, Degradation & Optimization (#369)			D	A TE		
New Perspectives of Bioplastics for Environmental Benign Materials (#396)			D TE	A		
Advances in Precision Polymer Synthesis Using Reversible-Deactivation Radical Polymerization (#401)			D TE	A		
Aggregation Induced Emission: Materials & Applications (#444)			DE	D	P TA	A
Macromolecular General Posters		TA				

04. Organic ORGN

Hilton Hawaiian Village	T	W	T	F	S	S
Reactive Intermediates & Unusual Molecules (#7)		DE	A TE			
Designed π-Electronic Systems: Synthesis, Properties, Theory & Function (#25)			P	D TE	D	
Prospects for Flow Chemistry (#29)	D	D TE				
Anion Receptors (#31)				P TE	D	A
Chemistry of Nanocarbons: Fullerenes, Carbon Nanotubes, Nanographenes & Related Materials (#41)		P TE	DE	A		
Natural-Product-Based Drug Discovery (#66)			D	D TE	D	
Molecular & Supramolecular Photochemistry (#71)	D	DE	TA			
Innovative Strategies for the Synthesis of Nitrogen Heterocycles (#74)	D	D TE				

04. Organic (continued) ORGN

Hilton Hawaiian Village	T	W	T	F	S	S
Molecular Containers (#99)			D	A TE		
Organoboron Chemistry: Applications in Organic Synthesis, Biology & Materials (#100)		P TE	D	D		
Electrochemical Reactions & Mechanisms in Organic Chemistry (#104)			D TE			
Recent Trends in Organocatalysis (#122)			DE	DE	TA	
Organic Reactions in Aqueous Media (#131)				D TE		
Practical Application of Basic Research on Molecular Recognition (#136)		D TE				
New Green Techniques for Medicinal Chemistry (#148)					D TE	A
Applications of C–H Functionalization (#169)				DE	D TE	A
Strategies & Tactics for Complex Molecule Synthesis (#174)				DE	D TE	A
Homogeneous Gold Catalysis: Methods, Theories & Applications (#192)	D	A TE	A			
Molecular Function of Natural Products: Advances toward Chemical Biology (#237)	D	DE	TA			
The Science & Strategy of Pharmaceutical Process Chemistry: Adapting to Global Regulatory Development Guidance on Process Impurities (#242)			D TE			
Molecular Self-Assembly & Functional Organic Nanostructures (#263)			D TE			
Cooperative Cocatalysis with Two Different Metals (#270)					D TE	A
Molecular Probes & Fluorophores for Biological Imaging (#280)			D TE	A		
Frontiers of Chirality in Organic Chemistry (#286)	D	DE	TA			
Supramolecular Chemistry at the Interface of Materials, Biology & Medicine (#300)	D	A TE				
Chemical Glycosylation: Methods & Mechanisms (#306)				P	D TE	A
Fluorinations & Fluoroalkylations (#310)		P TE	D			
Nanomaterials as Catalysts for Green Chemistry (#313)	D	A TE				
Mechanochemistry & Solvent-Free Synthesis (#322)	D	TA				

04. Organic (continued) ORGN

Hilton Hawaiian Village	T	W	T	F	S	S
Carbenes & Carbenoids in Organic Synthesis (#362)	D	TA				
Organic Solid-State Chemistry: Structure, Property & Reactivity (#398)		P TE	D	A		
Cognizance of Endangered Elements for Organic Synthesis (#415)	D	A TE				
New Horizon of Process Chemistry by Scalable Reactions & Technologies (#426)				P	D TE	
New Organosulfur Chemistry (#436)			DE	A TE		
Photoredox Catalysis in Organic Synthesis (#440)		D TE				
Asymmetric Supramolecular Catalysis (#451)					D TE	
Catalytic Multicomponent, Tandem & Cascade Reactions (#455)		D TE				
Synthetic Modulators of Protein-Protein Interactions (#461)				P	D TE	A
Organic General Posters		TA				

05. Physical, Theoretical & Computational PHYS

Hawaii Convention Center	T	W	T	F	S	S
Synergistic Relationships between Computational Chemistry & Experiment (#9)			E TA	DE	DE	A
Coarse-Grained Modeling & Its Integration with Experiments (#30)				P	D	
Ultrafast Intense Laser Chemistry (#35)	D	D TE				
Modeling & Analyzing Exciton & Charge Dynamics in Molecules & Clusters (#44)			D TE	D		
Chemistry of Atmospheric Aerosols (#56)			TE	DE	DE	A
Multiscale Couplings of Molecular Theory of Solvation: Fundamentals & Applications (#60)	D	AE	TA			
Advances in Quantum Monte Carlo (#80)				D TE	D	A
New Insights from Quantum Dynamics & Ab Initio Potentials in High-Dimensional Systems (#84)	D	D TE				
Conformational Dynamics of Biomolecules & the Biomolecule-Solvent Interface (#98)					D TE	A

05. Physical, Theoretical & Computational (continued) PHYS

Hawaii Convention Center	T	W	T	F	S	S
Deciphering Molecular Complexity from Single Molecules to Cellular Networks (#121)	D	D				
Recent Advances in Dynamics of Confined Liquids (#123)				P TE	DE	A
Computational Modeling of d- & f-Block Chemistry: Challenges & Opportunities (#130)	D	D TE				
Chemical Imaging: Frontiers of Spatio-Temporal Resolution (#134)	D	D TE				
Recent Progress in Molecular Theory for Excited-State Electronic Structure & Dynamics (#142)	D	DE	E TA			
Self-Organization in Chemistry (#165)			D TE	D		
Frontiers of Metal Clusters & Nanostructures: From Fundamental Properties to Functionalities (#168)	D	D TE				
Challenges in Plasmonic Photochemistry (#176)				P TE	D	A
Theory of Main Group Chemistry Beyond First Row (#183)	D	TA				
Challenges & Opportunities for Exascale Computational Chemistry (#184)				P	D	A
Latest Development of Advanced Vibrational Spectroscopy (#187)	D	D TE				
Recent Progress in Matrix-Isolated Species (#199)			DE	A TE		
Metal Ions & Protein Functions: Theoretical Models & Applications (#202)			DE	D TE		
Quantum Fluid Clusters (#203)					DE	A
Single-Molecule Fluorescence Imaging (#208)		DE	D TE			
Molecular Perspectives on Interfacial Electrochemistry & Electrocatalysis (#218)				PE TA	DE	A
Fundamental Science of Photon- & Electron-Induced Surface Processes (#228)		PE	DE	A		
Interplay between Theory & Experiment in Catalytic Research (#277)		DE	D	TA		
Quantum Coherence in Energy Transfer (#297)				D	D	A

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All posters sessions are located at the Hawaii Convention Center.

05. Physical, Theoretical & Computational (continued) PHYS

Hawaii Convention Center	T	W	T	F	S	S
Dynamical Intermolecular Interactions for Biological Functions (#307)				P TE	DE	A
Science with Beams of Radioactive Isotopes (#340)			D	A		
Photocatalysis & Charge Transfer at Interfaces & Nanomaterials (#344)		TE	DE	AE		
Dissociation of Biomolecules in the Gas Phase for Structural Characterization (#352)					D	A
Applications of Coherent Multidimensional Spectroscopy to Chemistry, Biology & Materials (#370)		D TE	D			
Practical Strategies for Modeling Noncovalent Interactions (#372)			D TE	A		
Advances in Quantum Dynamics from Spectroscopy to Reactions (#384)					D TE	A
Interfacial Phenomena for Bubbles, Droplets, Films & Soft Matter (#403)			D	D TE	A	
Frontier Chemical Applications Using Accelerator-Based Photon Sources (#414)	D	TA				
Reactive Intermediates in Combustion & Atmospheric Chemistry (#419)			E	DE	D TE	A
Frontiers of Photon Upconversion Based on Triplet-Triplet Annihilation (#420)	D	TA				
Computational Modeling of Magnetic Materials & Magnetic Properties (#423)	D					
Frontiers of Plasmon-Enhanced Spectroscopy (#428)	D	DE	TA			
Recent Experimental & Theoretical Advances in Studies of Liquid Interfaces (#437)				P	D TE	A
Developments in Spectroscopic Investigation of Intermolecular Interactions & Dynamics of Molecular Clusters (#438)	D	DE	E TA			
Interplay between Chemistry & Dynamics in Biomolecular Machines (#441)		DE	TA			
Structure & Spectroscopy of Linear Polyenes: Finite & Infinite (#456)			D TE	A		
Physical, Theoretical & Computational General Posters				TA		

06. Agrochemistry, Environmental & Geochemistry (continued) ENVR

Hilton Waikiki Beach	T	W	T	F	S	S
Ferrites & Ferrates: Chemistry & Applications in Sustainable Energy & Environmental Remediation (#13)		D TE	D			
Chemicals of Emerging Environmental Concern: A Global Perspective (#19)			DE	D TE		
Pectin Chemistry & Technology (#20)				P	D	A
Human Exposure to Environmental Contaminants (#26)					D TE	A
Recycling of Polymeric Materials: Challenges & Perspectives (#36)					D TE	A
Analysis of Flavors in Specialty Asian Foods (#58)			D TE			
Advanced Products from Lignin & Micro- or Nanofibrillated Cellulose (#70)			P	D	TA	
Application of Mass Spectrometry to Agrochemical Challenges (#72)	D	TA				
Nanointerfaces & Their Role in Environmental Systems & Processes (#86)	D	D TE				
Sustainable Chemistry: Beyond the Bench (#103)	D	A TE				
Chemical Ecology Applied to Sustainable Agriculture (#105)				P TE	D	
Chemistry & Biology of Auxin, Strigolactone & Their Interactions (#107)		D TE				
UV Photochemistry for Water: Implications for Safe Water Disinfection & Oxidation Treatment Applications (#204)	D	DE	TA			
Enzymes Essential to Biosphere Health: Bioremediation & Biogeochemical Cycling (#219)					P TA	A
Fate & Risks of Nanoparticles in Aquatic & Terrestrial Environments (#220)				P TE	A	
Complex Mineral Growth & Dissolution Reactions: Collaborative Experimental & Computational Perspectives (#225)			D TE			
Proteomics & Metabolomics in Agricultural, Environmental & Public Health Sciences (#264)				D TE		
Genomics & Metabolomics for Phytochemical Research (#267)	D	TA				
Opportunities & Advancements in Rice Research & Aquaculture Research (#282)			A TE			

06. Agrochemistry, Environmental & Geochemistry (continued) — ENVR

Hilton Waikiki Beach	T	W	T	F	S	S
Analytical Development Relevant to Environmental Exposure & Effects (#288)				D TE		
Advances in Functional Foods & Flavor Chemistry Research (#329)			DE	D TE		
Environment & Gene Interaction (#336)		D				
Phytochemicals for Crop Protection: Discovery to Molecular Target (#358)	D	TA				
Fukushima & Radiological Contaminated Environments Worldwide: The Important Role of Environmental Chemistry & Radiochemistry in Remediation & Restoration (#374)		D		TE		
Radioactive Contaminants & Waste Management in the Environment (#390)				D TE		
Sources, Fates & Risks from Consumer Product Ingredients in the Environment (#391)	D	TA				
Food Processing: Chemistry, Quality, Safety, Sustainability & Value-Added By-Products (#400)	D	D TE				
Status & Trends of Persistent Organic Chemicals in the Environment (#402)			D TE			
Chemistry of Integrated Water Treatment Systems for Halogenated Organics & Long-Lived Radionuclides (#454)					D TE	
Agrochemistry, Environmental & Geochemistry General Posters		TA				

07. Biological — BIOL

Sheraton Waikiki (*) & Royal Hawaiian (**)	T	W	T	F	S	S
Advances in Peptide & Protein Chemistry (#6) (*)			P	D TE	DE	A
Functional Nucleic Acids: Chemistry, Biology & Materials Applications (#10) (*)				AE	D TE	A
New Platforms for Natural Products Discovery (#18) (**)		E	D TE	D		
Biosynthesis of Natural Products (#27) (*)				PE TA	DE	A
Homeostasis of Transition-Metal Ions in Biological Systems (#47) (*)					D TE	A

07. Biological (continued) — BIOL

Sheraton Waikiki (*) & Royal Hawaiian (**)	T	W	T	F	S	S
Characterization & Applications of Food Enzymes (#59) (*)			D TE			
Heat-Shock Proteins: The Next Target in the Disease Frontier (#91) (*)				D TE		
Low-Energy Photoexcited States in Photosynthesis (#117) (*)	D	D				
Advances in Biological Solid-State NMR (#120) (**)	D	DE	TA			
Life at Small Copy Numbers (#137) (*)					D TE	A
Frontiers in Chromatin Biology & Chemical Epigenetics/Epigenomics (#151) (*)		D TE	DE	A		
Fluorescent & Luminescent Proteins: New Chemistries & New Functions (#180) (*)	D	TA				
Biomolecular Structure & Dynamics: Recent Advances in NMR (#181) (**)			DE	DE	TA	
Strategies for Coupling & Decoupling Diverse Molecular Units in the Glycosciences (#201) (*)		D	A			
Enzyme Engineering & Biocatalysis Applications (#222) (**)		P	D TE	A		
Bioorganic Reaction Mechanisms (#224) (**)				PE TA	D	A
Physiology & Metabolism of Extremophiles (#249) (*)		D TE				
Bio/chemical Approaches for Single-Cell Biosensing Technologies (#257) (*)				D TE		
Frontiers of Iron Chemistry in Biology (#268) (**)	D	A TE				
Function, Chemistry & Signaling of Glycolipids & Phospholipids (#273) (**)					D TE	A
Chemical Approaches to Astrobiology (#326) (*)	D	TA				
Carbohydrate Recognition in Health & Disease (#342) (*)		D	D TE			
Bioorthogonal Chemistry: Tools & Applications in Chemical Biology (#343) (*)			D TE	D		
Chemistry & Applications of Retinal Proteins: From Microbes to Humans (#395) (*)				DE	A TE	

A = Oral AM P = Oral PM E = Oral Eve D = Oral AM/PM
TA = Poster AM TE = Poster Eve

All posters sessions are located at the Hawaii Convention Center.

07. Biological (continued) B I O L

Sheraton Waikiki (*) & Royal Hawaiian (**)	T	W	T	F	S	S
Luciferin/Luciferase Engineering (#410) (*)		D TE				
Small-Molecule Interactions in Biomembranes (#418) (*)			D TE			
Chemical Biology of Protein-Lipid Modification (#421) (*)	D	TA				
The RNA World: From Prebiotic Chemistry to the Emergence of Complexity (#449) (*)		D TE				
Biological General Posters				TA		

08. Materials & Nanoscience M T L S

Hawaii Convention Center	T	W	T	F	S	S
Organic, Inorganic & Hybrid Nanoparticles: Synthesis, Characterization & Applications (#23)			P TA	DE	DE	A
Nanocrystal Synthesis, Characterization, Assembly & Applications (#34)	D	E	E TA	P		
Chemistry & Applications of Graphene (#39)			P	D TE	D	A
Conjugated Polymers for Biological Applications (#43)	D	A TE				
Nanowires: Synthesis, Fundamental Properties & Novel Device Applications (#51)			D TE	A		
Metal-Oxo Clusters: Molecular Design from Monomers to Infinity (#79)			E	PE TA	DE	A
Two-Dimensional Nanosheets & Nanosheet-Based Materials: Synthesis, Characterization, Functionalization & Applications (#95)		P	D TE	A		
Luminescent Nanomaterials: Properties, Mechanisms & Applications (#101)				P TA	D	A
Molecular Adsorption on Metallic Interfaces: Beyond the Cartoons (#102)	D	A TE				
Design, Synthesis & Applications of Advanced Porous Materials (#111)	D	D TE				
Development of Nano Devices & Nanotechnologies for Environmental Monitoring & Remediation (#124)					D TE	
Frontier & Perspectives in Molecular Spintronics (#127)	D	D TE				

08. Materials & Nanoscience (continued) M T L S

Hawaii Convention Center	T	W	T	F	S	S
Functional Molecular Materials & Devices (#128)				DE	D TE	A
Applications of Ultrasound to Nanoscience (#150)		P	D TE	A		
Mechanically Responsive Materials (#153)		DE	TA			
Specific Effect(s) in Chemical Reactions by Innovative Technologies (#157)	D	D TE				
Electrochemistry on Boron-Doped Diamond (BDD) Electrodes (#162)	D	TA				
Natural to Nanosphere Lithographies: Two Decades of Self-Assembled Advanced Materials (#177)		A TE				
Current & Future Applications of Nanotechnology in the Oil Industry (#197)			D			
Janus Materials: Design, Fabrication & Properties (#210)				D TE		
Frontiers of Organic Porous Materials: Structures, Properties & Applications (#223)	D	D TE	A			
Carbon Nanotubes: Preparation, Characterization & Applications (#227)			TE	DE	DE	A
Advances in Bioinspired & Biomedical Materials (#245)				PE TA	DE	A
Self-Organization of Membrane Systems (#259)			D TE	A		
Nanomaterials for Nanomedicine (#289)	D	D TE				
Challenge for Rare-Element-Free Functional Materials (#291)					D TE	A
Advanced Materials for Photonics & Electronics: Fundamentals & Applications (#308)		D TE	D	A		
Nitroxide Radicals: Synthesis & Functional Bio-/Nanomaterials (#309)				P TE	D	A
Data Mining & Machine Learning Meets Experiment & First-Principles Simulation for Materials Discovery (#314)	P	D TE				
Membranes & Nanotechnologies for Energy & Environment Applications (#317)			D TE	D		
Ceramic Materials & Processing for Advanced Applications (#341)			D TE	A		
Supramolecular Assemblies at Surfaces: Nanopatterning, Functionality, Reactivity (#346)				D TE	DE	A

08. Materials & Nanoscience (continued) M T L S

Hawaii Convention Center	T	W	T	F	S	S
The Physical Structure, Function of Biological & Bioinspired Soft Matter (#347)	D	A TE				
Fundamentals & Applications of Nanomaterials for Energy Technologies (#348)				P TE	D	A
Multiscale & Synergistic Supramolecular Systems in Material & Biomedical Sciences (#357)				P TA	D	A
Materials for the Mitigation of Chemical Hazards (#388)		TA	D	A		
Design of Innovative Photochromic Applications (#399)			D TE	A		
Safety & Sustainability of Nanotechnology (#404)	D	D TE				
Single-Molecule Function & Measurements (#408)	D	DE	TA			
Advances in Organic Light-Emitting Diodes (#409)		D	D TE			
The Frontiers of Geometrically Frustrated Magnetic Materials (#430)		E	DE			
Synthesis, Structure & Functionalities of Ferroelectrics & Multiferroics (#432)				PE TA	DE	A
Self-Assembled Biofunctional Nanomaterials (#433)	D	DE	PE TA			
Application of Luminescent Materials for Radiation Detection (#442)			P	TE		
Self-Organization: Novel Mesogens & Applications (#447)					D TE	A
Materials & Nanoscience General Posters					TA	

09. Chemistry of Clean Energy Conversion, Storage & Production E N R G

Hyatt Regency Waikiki	T	W	T	F	S	S
Chemistry of Automotive Emission Control Catalysis: Current R&D & Future Challenges (#21)	D	TA				
Integrated Biomass Refinery by Precisely Designed Heterogeneous Catalysts (#54)					D TE	A
Nano Catalysis for Clean Energy & Environmentally Friendly Chemical Production (#81)	D	DE	E TA	E	E	

09. Chemistry of Clean Energy Conversion, Storage & Production (continued) E N R G

Hyatt Regency Waikiki	T	W	T	F	S	S
Progress Toward a Lignocellulosic Biorefinery (#144)	D	A TE				
Theory & Computation for Efficient Utilization of Energy & Resources (#163)		P	D TE	A		
Nanostructured Oxides for Energy Harvesting & Water Splitting (#171)				P TE	D	A
Dynamical Processes of Light-Harvesting Surfaces (#178)	D	A	TA			
Water-Phase Catalysis for Energy & Chemicals Production (#182)	D	A TE				
Current Status & Future Prospect of Polymer Electrolyte Fuel Cells (#188)		P TE	DE	A		
Artificial Photosynthesis: Photo-induced Water Splitting (#193)					D TE	A
Energy Storage in Chemical Bonds: Advances in Chemistry & Materials for Hydrogen Storage (#216)			D	D TE		
New Generation of Electrochemical Energy Storage & Conversion System: Materials, Interface & In Situ Techniques (#250)		P	P TA	D		
Nanoporous Materials for Renewable Energy & Sustainability (#266)				P TE	D	A
Artificial Photosynthesis: Reduction of Carbon Dioxide (#271)	D	A TE				
Artificial Photosynthesis: Bioinspired Chemistry for Solar Fuel Production (#278)		P TA	A			
Homogeneous Catalysis Methodologies for the Upgrading of Biomass-Derived Molecules (#301)		P	D			
Advances in Microwave Green Chemistry (#360)				D TE	A	
Challenges in Second-Generation Biofuels: Processing, Stability & Usage (#378)			D TE			
Bridging Homogeneous & Heterogeneous Catalysis in Biorefining of Lignin (#405)					P	A
Global Strategies for Algal Biomass for Bioenergy & Biorefinery (#407)				D	D TE	
Chemistry of Clean Energy Conversion, Storage & Production General Posters		TA				

A = Oral AM P = Oral PM E = Oral Eve D = Oral AM/PM
TA = Poster AM TE = Poster Eve

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10. Bench to Bedside: Chemistry of Health Care

H L T H

Sheraton Waikiki (*) & Royal Hawaiian (**)	T	W	T	F	S	S
Oligonucleotide Therapeutics: From Base Pairs to Bedsides (#8) (*)	D	A	TA			
Chemistry for Development of Theranostic Radiopharmaceuticals (#11) (*)		D	A			
De Novo Drug Design (#28) (*)				D		
Advances in Polymers for Medicine (#52) (*)			D TE	D		
Academic Drug Discovery (#69) (*)				P TA	D	A
Fragment-Based Lead Discovery (#145) (*)	D	DE	TA			
Small-Molecule Epigenetic Modulators (#146) (*)					P TA	A
In Vivo Chemical Strategies for Functional & Translation Studies of Biological Networks & Pathways (#212) (*)					D TE	A
Chemistry of Molecular Imaging (#215) (*)			P TA	D		
New Antibacterial Agents (#236) (*)		P TA	D			
Nutraceuticals & Functional Food Ingredients: Chemistry & Health (#285) (*)			D	D TE		
Molecular Design in Medicine: Concept to Commerce (#295) (*)					D TE	A
Noncanonical Approaches to ^{18}F-labeling: New Frontiers in Stable Non-carbon-fluorine Bonds (#337) (*)					D	
Drug Conjugates: Approaches to Delivering Active Drugs to Where They Are Needed (#385) (*)		P TA	A			
Cancer-Targeted Delivery of Therapeutics & Diagnostics (#393) (**)					D TE	A
Spectroscopic Tools for the Treatment of Cancer (#397) (**)	D	DE TA				
Recent Advances in Microfluidics for Radiochemical Synthesis (#416) (*)	D					
Bench to Bedside: Chemistry of Health Care General Posters				TA		

11. Connecting Chemistry to Society

S C T Y

Hawaii Convention Center	T	W	T	F	S	S
Connecting Ionic Liquids to Societal Issues: Materials, Medicines, Energy & Water (#113)				PE TA	D	A
Technology & Assessment Strategies for Improving Student Learning in Chemistry (#132)				D TE	D	
Educational Approaches To Help Students Connect Chemistry to World Issues of Sustainability & Climate (#149)					A	A
The Evolving Nature of Scholarly Communication: Connecting Scholars with Each Other & with Society (#173)	D	D TE				
Effective Collaboration Strategies to Drive Innovation in Drug Discovery & Development (#179)		P				
Small Businesses Reaching Out for Market Share: Tool Kit & Success Stories (#185)				D		
Historical Evolution of the Chemical Community in the Countries of the Pacific Rim (#198)					P	A
Bioactive Natural Products & Public Health in the Pacific Rim: From Aquatic Dietary Supplements to Marine & Freshwater Toxins (#230)	D	TA				
Green & Sustainable Chemistry Education for Tomorrow's Citizens of the World (#334)			D TE	A		
Policies & Procedures Regarding Primary Research Data (#335)			A			
Chemistry Education: International & Multicultural Perspectives (#365)	D	A TE				
Women in Chemistry: Changing the Face of Science (#382)		D	D			
Advancing Sustainability: Catalyzing Interdisciplinary Scholarship for Green Chemistry (#383)					D	
Active & Inquiry Learning in the Chemistry Classroom & Laboratory (#443)			DE	TA		
University-Industry Collaboration, Regulatory Environments & Commercialization of Emerging Technology (#453)		A				
Safety in the Academic Research Laboratory (#460)	D	TA				
Connecting Chemistry to Society General Posters				TA		

PACIFICHEM 2015 POSTER SESSIONS

Wednesday Morning

Kamehameha Halls I, II, and III (Convention Center)
10:00–12:00

Area	Symposium
(1) Analytical	Innovation in Chemical Sensing and Separation Systems toward Advanced Chemical Analysis (#159)
(1) Analytical	Symposium on Petroleomics: Molecular Level Understanding of Petroleum for Environmental Science and Petroleum Engineering (#247)
(1) Analytical	(Bio-)Chemical / Electrochemical Sensors and Sensing Materials (#417)
(1) Analytical	Plasmonic Materials for Chemical Analysis (#450)
(1) Analytical	Analytical General Posters
(2) Inorganic	Dynamic Aspects of Solid Materials: From Equilibrium to Non-equilibrium Systems (#376)
(3) Macromolecular	NMR Spectroscopy of Polymers and Biobased Materials (#12)
(3) Macromolecular	Simulation of Polymers (#110)
(3) Macromolecular	Macromolecular General Posters
(4) Organic	Mechanochemistry and Solvent-free Synthesis (#322)
(4) Organic	Carbenes and Carbenoids in Organic Synthesis (#362)
(4) Organic	Organic General Posters
(5) Physical, Theoretical & Computational	Theory of Main Group Chemistry Beyond First Row (#183)
(5) Physical, Theoretical & Computational	Frontier Chemical Applications Using Accelerator Based Photon Sources (#414)
(5) Physical, Theoretical & Computational	Frontiers of Photon Upconversion Based on Triplet-triplet Annihilation (#420)
(6) Agrochemistry, Environmental, and Geochemistry	Application of Mass Spectrometry to Agrochemical Challenges (#72)
(6) Agrochemistry, Environmental, and Geochemistry	Genomics and Metabolomics for Phytochemical Research (#267)
(6) Agrochemistry, Environmental, and Geochemistry	Phytochemicals for Crop Protection: Discovery to Molecular Target (#358)

Wednesday Morning

Kamehameha Halls I, II, and III (Convention Center)
10:00–12:00

Area	Symposium
(6) Agrochemistry, Environmental, and Geochemistry	Sources, Fates and Risks from Consumer Product Ingredients in the Environment (#391)
(6) Agrochemistry, Environmental, and Geochemistry	Agrochemistry, Environmental, and Geochemistry General Posters
(7) Biological	Fluorescent and Luminescent Proteins: New Chemistries and New Functions (#180)
(7) Biological	Chemical Approaches to Astrobiology (#326)
(7) Biological	Chemical Biology of Protein-Lipid Modification (#421)
(8) Materials & Nanoscience	Electrochemistry on Boron-doped Diamond (BDD) Electrodes (#162)
(8) Materials & Nanoscience	Materials for the Mitigation of Chemical Hazards (#388)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Chemistry of Automotive Emission Control Catalysis: Current R&D and Future Challenges (#21)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Artificial Photosynthesis: Bio-inspired Chemistry for Solar Fuel Production (#278)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Chemistry of Clean Energy Conversion, Storage, and Production General Posters
(10) Bench to Bedside: Chemistry of Health Care	New Antibacterial Agents (#236)
(10) Bench to Bedside: Chemistry of Health Care	Drug Conjugates: Approaches to Delivering Active Drugs to Where they are Needed (#385)
(10) Bench to Bedside: Chemistry of Health Care	Spectroscopic Tools for the Treatment of Cancer (#397)
(11) Connecting Chemistry to Society	Bioactive Natural Products and Public Health in the Pacific Rim: From Aquatic Dietary Supplements to Marine and Freshwater Toxins (#230)
(11) Connecting Chemistry to Society	Safety in the Academic Research Laboratory (#460)

Wednesday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(1) Analytical	Fundamentals and Applications of Atomic Spectrometry (#160)
(1) Analytical	Magnetoanalytical Science: Separation, Characterization and Imaging (#320)
(2) Inorganic	Lewis Acid/Base Pair Chemistry in Molecular Transformations, Catalysis and Energy Storage (#65)
(2) Inorganic	Dioxygen Activation Chemistry of Metalloenzymes and Models (#339)
(2) Inorganic	Isotope Production--Providing Important Materials for Research and Applications (#363)
(3) Macromolecular	Synthetic Biopolymers (#37)
(3) Macromolecular	Characterization of Polymers and Polymer Assemblies in Solution (#172)
(3) Macromolecular	Polymers from Renewable Sources and Sustainable Polymer Synthesis (#281)
(3) Macromolecular	Sustainable Conversion of Lignin to Value-Added Products and Green Chemicals (#319)
(3) Macromolecular	Polymers for Energy and Optoelectronic Devices (#361)
(4) Organic	Prospects for Flow Chemistry (#29)
(4) Organic	Chemistry of Nanocarbons: Fullerenes, Carbon Nanotubes, Nanographenes and Related Materials (#41)
(4) Organic	Innovative Strategies for the Synthesis of Nitrogen Heterocycles (#74)
(4) Organic	Organoboron Chemistry: Applications in Organic Synthesis, Biology, and Materials (#100)
(4) Organic	Practical Application of Basic Research on Molecular Recognition (#136)
(4) Organic	Homogeneous Gold Catalysis: Methods, Theories and Applications (#192)
(4) Organic	Supramolecular Chemistry at the Interface of Materials, Biology, and Medicine (#300)
(4) Organic	Fluorinations and Fluoroalkylations (#310)
(4) Organic	Nanomaterials as Catalysts for Green Chemistry (#313)
(4) Organic	Organic Solid-State Chemistry: Structure, Property & Reactivity (#398)

Wednesday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(4) Organic	Cognizance of Endangered Elements for Organic Synthesis (#415)
(4) Organic	Photoredox Catalysis in Organic Synthesis (#440)
(4) Organic	Catalytic Multicomponent, Tandem and Cascade Reactions (#455)
(5) Physical, Theoretical & Computational	Ultrafast Intense Laser Chemistry (#35)
(5) Physical, Theoretical & Computational	New Insights from Quantum Dynamics and ab initio Potentials in High Dimensional Systems (#84)
(5) Physical, Theoretical & Computational	Computational Modeling of d- and f-Block Chemistry: Challenges and Opportunities (#130)
(5) Physical, Theoretical & Computational	Chemical Imaging: Frontiers of Spatio-Temporal Resolution (#134)
(5) Physical, Theoretical & Computational	Frontiers of Metal Clusters and Nanostructures: From Fundamental Properties to Functionalities (#168)
(5) Physical, Theoretical & Computational	Latest Development of Advanced Vibrational Spectroscopy (#187)
(5) Physical, Theoretical & Computational	Photocatalysis and Charge Transfer at Interfaces and Nanomaterials (#344)
(5) Physical, Theoretical & Computational	Applications of Coherent Multidimensional Spectroscopy to Chemistry, Biology, and Materials (#370)
(6) Agrochemistry, Environmental, and Geochemistry	Ferrites and Ferrates: Chemistry and Applications in Sustainable Energy and Environmental Remediation (#13)
(6) Agrochemistry, Environmental, and Geochemistry	Nanointerfaces and their Role in Environmental Systems and Processes (#86)
(6) Agrochemistry, Environmental, and Geochemistry	Sustainable Chemistry: Beyond the Bench (#103)
(6) Agrochemistry, Environmental, and Geochemistry	Chemistry and Biology of Auxin, Strigolactone and their Interactions (#107)
(6) Agrochemistry, Environmental, and Geochemistry	Food Processing: Chemistry, Quality, Safety, Sustainability, and Value-added By-products (#400)

Wednesday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(7) Biological	Frontiers in Chromatin Biology and Chemical Epigenetics/Epigenomics (#151)
(7) Biological	Physiology and Metabolism of Extremophiles (#249)
(7) Biological	Frontiers of Iron Chemistry in Biology (#268)
(7) Biological	Luciferin/Luciferase Engineering (#410)
(7) Biological	The RNA World: From Prebiotic Chemistry to the Emergence of Complexity (#449)
(8) Materials & Nanoscience	Conjugated Polymers for Biological Applications (#43)
(8) Materials & Nanoscience	Molecular Adsorption on Metallic Interfaces: Beyond the Cartoons (#102)
(8) Materials & Nanoscience	Design, Synthesis and Applications of Advanced Porous Materials (#111)
(8) Materials & Nanoscience	Frontier and Perspectives in Molecular Spintronics (#127)
(8) Materials & Nanoscience	Specific Effect(s) in Chemical Reactions by Innovative Technologies (#157)
(8) Materials & Nanoscience	Natural to Nanosphere Lithographies: Two Decades of Self-assembled Advanced Materials (#177)
(8) Materials & Nanoscience	Frontiers of Organic Porous Materials: Structures, Properties and Applications (#223)
(8) Materials & Nanoscience	Nanomaterials for Nanomedicine (#289)
(8) Materials & Nanoscience	Advanced Materials for Photonics and Electronics: Fundamentals and Applications (#308)
(8) Materials & Nanoscience	Data Mining and Machine Learning Meets Experiment and First-Principles Simulation for Materials Discovery (#314)
(8) Materials & Nanoscience	The Physical Structure, Function of Biological and Bioinspired Soft Matter (#347)
(8) Materials & Nanoscience	Safety and Sustainability of Nanotechnology (#404)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Progress Toward a Lignocellulosic Biorefinery (#144)

Wednesday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Water-phase Catalysis for Energy and Chemicals Production (#182)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Current Status and Future Prospect of Polymer Electrolyte Fuel Cells (#188)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Artificial Photosynthesis: Reduction of Carbon Dioxide (#271)
(11) Connecting Chemistry to Society	The Evolving Nature of Scholarly Communication: Connecting Scholars with Each Other and with Society (#173)
(11) Connecting Chemistry to Society	Chemistry Education: International and Multicultural Perspectives (#365)

Thursday Morning

Kamehameha Halls I, II, and III (Convention Center)
10:00–12:00

Area	Symposium
(1) Analytical	Current Issues in Teaching Analytical Chemistry (#38)
(1) Analytical	Frontiers in Flow Injection Analysis and Related Techniques (#45)
(1) Analytical	Advances in Analytical Ion Mobility Separations (#61)
(1) Analytical	Immunoanalysis: Applications and Trends for Environmental Monitoring and Human Health (#94)
(2) Inorganic	Organo-Main Group Avenues toward Advanced Materials (#16)
(2) Inorganic	Molecular Catalysis of Water Splitting Reactions (#76)
(2) Inorganic	Frontiers of Organo-f-element Chemistry (#125)
(2) Inorganic	Electron Transfer and Electrochemistry of Inorganic and Organometallic Materials (#126)
(2) Inorganic	Non-covalent Interactions in Coordination Systems (#161)

Thursday Morning

Kamehameha Halls I, II, and III (Convention Center)
10:00–12:00

Area	Symposium
(2) Inorganic	Innovative Approaches in Bond-Cleavage and Bond-Forming Reactions at Late Transition-Metal Centres (#186)
(2) Inorganic	Nuclear Probes in Nanoscale Characterization (#254)
(2) Inorganic	Metal-containing ?-Conjugated Systems: Syntheses, Properties, Applications (#269)
(2) Inorganic	New Frontiers in Bioinorganic Chemistry (#356)
(3) Macromolecular	Polymer Gels as Advanced Soft Materials (#83)
(3) Macromolecular	Controlled Macromolecular and Supramolecular Architectures for Sustainability (#112)
(3) Macromolecular	Functional Materials Based on Organic-inorganic Hybrid Polymers (#221)
(4) Organic	Molecular and Supramolecular Photochemistry (#71)
(4) Organic	Molecular Function of Natural Products: Advances towards Chemical Biology (#237)
(4) Organic	Frontiers of Chirality in Organic Chemistry (#286)
(5) Physical, Theoretical & Computational	Synergistic Relationships between Computational Chemistry and Experiment (#9)
(5) Physical, Theoretical & Computational	Multiscale Couplings of Molecular Theory of Solvation: Fundamentals and Applications (#60)
(5) Physical, Theoretical & Computational	Recent Progress in Molecular Theory for Excited-state Electronic Structure and Dynamics (#142)
(5) Physical, Theoretical & Computational	Frontiers of Plasmon Enhanced Spectroscopy (#428)
(5) Physical, Theoretical & Computational	Developments in Spectroscopic Investigation of Intermolecular Interactions and Dynamics of Molecular Clusters (#438)
(5) Physical, Theoretical & Computational	Interplay between Chemistry and Dynamics in Biomolecular Machines (#441)

Thursday Morning

Kamehameha Halls I, II, and III (Convention Center)
10:00–12:00

Area	Symposium
(6) Agrochemistry, Environmental, and Geochemistry	UV Photochemistry for Water: Implications for Safe Water Disinfection and Oxidation Treatment Applications (#204)
(7) Biological	Advances in Biological Solid-State NMR (#120)
(8) Materials & Nanoscience	Organic, Inorganic and Hybrid Nanoparticles: Synthesis, Characterization, and Applications (#23)
(8) Materials & Nanoscience	Nanocrystal Synthesis, Characterization, Assembly and Applications (#34)
(8) Materials & Nanoscience	Mechanically Responsive Materials (#153)
(8) Materials & Nanoscience	Single-Molecule Function and Measurements (#408)
(8) Materials & Nanoscience	Self-assembled Biofunctional Nanomaterials (#433)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Nano Catalysis for Clean Energy and Environmentally Friendly Chemical Production (#81)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Dynamical Processes of Light Harvesting Surfaces (#178)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	New Generation of Electrochemical Energy Storage and Conversion System: Materials, Interface and In-situ Techniques (#250)
(10) Bench to Bedside: Chemistry of Health Care	Oligonucleotide Therapeutics: From Base Pairs to Bedsides (#8)
(10) Bench to Bedside: Chemistry of Health Care	Fragment-based Lead Discovery (#145)
(10) Bench to Bedside: Chemistry of Health Care	Chemistry of Molecular Imaging (#215)

Thursday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(1) Analytical	Supercritical Fluid Chromatography (SFC) for Analysis and Purification (#53)
(1) Analytical	On-site and In-vivo Instrumentation and Applications (#88)
(1) Analytical	Advances in FTIR Microspectroscopy: 3D Tomography to Nanoscale Imaging (#315)
(2) Inorganic	Functional Nanomaterials Based on Coordination Chemistry (#73)
(2) Inorganic	Coordination and Supramolecular Chemistry for Aqueous Metal Ion Separations (#97)
(2) Inorganic	Frontiers of Molecular Magnetism (#109)
(2) Inorganic	Transition Metal Complexes of N-Heterocyclic and Mesoionic Carbenes: Structure, Materials and Catalytic Applications. (#195)
(2) Inorganic	Photofunctional Chemistry Based on Metal Complexes and/or Supramolecules (#239)
(2) Inorganic	Novel Heme Proteins and Model Systems (#305)
(3) Macromolecula	New Perspectives of Synthetic and Biological Soft Matter (#57)
(3) Macromolecula	Polymer Interfaces: Design, Structure, Physical Properties and Applications (#194)
(3) Macromolecula	New Perspectives of Bioplastics for Environmental Benign Materials (#396)
(3) Macromolecula	Advances in Precision Polymer Synthesis Using Reversible Deactivation Radical Polymerization (#401)
(4) Organic	Reactive Intermediates and Unusual Molecules (#7)
(4) Organic	Electrochemical Reactions and Mechanisms in Organic Chemistry (#104)
(4) Organic	The Science and Strategy of Pharmaceutical Process Chemistry: Adapting to Global Regulatory Development Guidance on Process Impurities (#242)
(4) Organic	Molecular Self-Assembly and Functional Organic Nanostructures (#263)

Thursday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(4) Organic	Molecular Probes and Fluorophores for Biological Imaging (#280)
(5) Physical, Theoretical & Computational	Modeling and Analyzing Exciton and Charge Dynamics in Molecules and Clusters (#44)
(5) Physical, Theoretical & Computational	Chemistry of Atmospheric Aerosols (#56)
(5) Physical, Theoretical & Computational	Self-organization in Chemistry (#165)
(5) Physical, Theoretical & Computational	Single-molecule Fluorescence Imaging (#208)
(5) Physical, Theoretical & Computational	Practical Strategies for Modeling Non-Covalent Interactions (#372)
(5) Physical, Theoretical & Computational	Structure and Spectroscopy of Linear Polyenes: Finite and Infinite (#456)
(6) Agrochemistry, Environmental, and Geochemistry	Analysis of Flavors in Specialty Asian Foods (#58)
(6) Agrochemistry, Environmental, and Geochemistry	Complex Mineral Growth and Dissolution Reactions: Collaborative Experimental and Computational Perspectives (#225)
(6) Agrochemistry, Environmental, and Geochemistry	Opportunities and Advancements in Rice Research and Aquaculture Research (#282)
(6) Agrochemistry, Environmental, and Geochemistry	Status and Trends of Persistent Organic Chemicals in the Environment (#402)
(7) Biological	New Platforms for Natural Products Discovery (#18)
(7) Biological	Characterization and Applications of Food Enzymes (#59)
(7) Biological	Enzyme Engineering and Biocatalysis Applications (#222)
(7) Biological	Carbohydrate Recognition in Health and Disease (#342)
(7) Biological	Bioorthogonal Chemistry: Tools and Applications in Chemical Biology (#343)
(7) Biological	Small Molecule Interactions in Biomembranes (#418)
(8) Materials & Nanoscience	Nanowires: Synthesis, Fundamental Properties and Novel Device Applications (#51)

Thursday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(8) Materials & Nanoscience	Two-dimensional Nanosheets and Nanosheet-Based Materials: Synthesis, Characterization, Functionalization and Applications (#95)
(8) Materials & Nanoscience	Applications of Ultrasound to Nanoscience (#150)
(8) Materials & Nanoscience	Carbon Nanotubes: Preparation, Characterization and Applications (#227)
(8) Materials & Nanoscience	Self-organization of Membrane Systems (#259)
(8) Materials & Nanoscience	Membranes and Nanotechnologies for Energy and Environment Applications (#317)
(8) Materials & Nanoscience	Ceramic Materials and Processing for Advanced Applications (#341)
(8) Materials & Nanoscience	Design of Innovative Photochromic Applications (#399)
(8) Materials & Nanoscience	Advances in Organic Light-Emitting Diodes (#409)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Theory and Computation for Efficient Utilization of Energy and Resources (#163)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Challenges in Second Generation Biofuels: Processing, Stability, and Usage (#378)
(10) Bench to Bedside: Chemistry of Health Care	Advances in Polymers for Medicine (#52)
(11) Connecting Chemistry to Society	Green and Sustainable Chemistry Education for Tomorrow's Citizens of the World (#334)

Friday Morning

Kamehameha Halls I, II, and III (Convention Center)
10:00–12:00

Area	Symposium
(1) Analytical	New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)
(1) Analytical	Micro-& Nanofabricated Analytical Devices for Chemical, Biochemical & Biomedical Platforms (#129)
(1) Analytical	Ultrasensitive Assays for Proteins and Protein Modifications (#287)
(2) Inorganic	Telomeres and other G-quadruplex Structures as Targets for Metallodrugs (#459)
(2) Inorganic	Inorganic General Posters
(3) Macromolecular	New Frontiers in Polymer Crystallization (#96)
(5) Physical, Theoretical & Computational	Molecular Perspectives on Interfacial Electrochemistry and Electrocatalysis (#218)
(5) Physical, Theoretical & Computational	Interplay between Theory and Experiment in Catalytic Research (#277)
(5) Physical, Theoretical & Computational	Physical, Theoretical & Computational General Posters
(7) Biological	Biosynthesis of Natural Products (#27)
(7) Biological	Bioorganic Reaction Mechanisms (#224)
(7) Biological	Biological General Posters
(8) Materials & Nanoscience	Metal-oxo Clusters: Molecular Design from Monomers to Infinity (#79)
(8) Materials & Nanoscience	Luminescent Nanomaterials: Properties, Mechanisms, and Applications (#101)
(8) Materials & Nanoscience	Advances in Bioinspired and Biomedical Materials (#245)
(8) Materials & Nanoscience	Multi-scale & Synergistic Supramolecular Systems in Material and Biomedical Sciences (#357)
(8) Materials & Nanoscience	Synthesis, Structure and Functionalities of Ferroelectrics and Multiferroics (#432)
(10) Bench to Bedside: Chemistry of Health Care	Academic Drug Discovery (#69)
(10) Bench to Bedside: Chemistry of Health Care	Bench to Bedside: Chemistry of Health Care General Posters

Friday Morning

Kamehameha Halls I, II, and III (Convention Center)
10:00–12:00

Area	Symposium
(11) Connecting Chemistry to Society	Connecting Ionic Liquids to Societal Issues: Materials, Medicines, Energy, and Water (#113)
(11) Connecting Chemistry to Society	Active and Inquiry Learning in the Chemistry Classroom and Laboratory (#443)
(11) Connecting Chemistry to Society	Connecting Chemistry to Society General Posters

Friday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(1) Analytical	Optical Waveguide Techniques for the Analyses of Materials and Interfaces (#164)
(1) Analytical	Advanced Analytical Applications and Technical Developments of Soft X-Ray Spectroscopy (#303)
(1) Analytical	Vibrational Spectroscopy: New Developments and Applications in Biological and Medical Sciences (#375)
(1) Analytical	Advances in Terahertz Spectroscopy and Imaging (#413)
(2) Inorganic	Chemistry and Application of Boron Clusters (#152)
(2) Inorganic	Current Trends and Interconnectivities Among Fundamental and Applied Inorganic Fluorine Chemistry (#156)
(2) Inorganic	Activation and Transformation of Small Molecules Mediated by Early Transition Metal Complexes (#170)
(2) Inorganic	The Bio-Coordination Chemistry of Nitric Oxide and Its Derivatives: Mechanisms of NOx Generation, Signaling and Reduction in Biological Systems (#371)
(3) Macromolecular	Monomer Sequence Control: Using Nature's Strategy to Create 21st Century Polymers (#158)
(3) Macromolecular	Macromolecular Self-Assembly for Smart Biomaterials (#196)
(3) Macromolecular	Cyclic & Topological Polymers (#248)
(3) Macromolecular	Advanced Membrane Separations (#262)

Friday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(3) Macromolecular	Fusion Materials: Functional Self-Organized Materials Consisting of Fused Organic and Inorganic Components (#294)
(3) Macromolecula	Polymer Materials Performance, Degradation and Optimization (#369)
(4) Organic	Designed pi-Electronic Systems: Synthesis, Properties, Theory and Function (#25)
(4) Organic	Anion Receptors (#31)
(4) Organic	Natural Product-based Drug Discovery (#66)
(4) Organic	Molecular Containers (#99)
(4) Organic	Organic Reactions in Aqueous Media (#131)
(4) Organic	New Organosulfur Chemistry (#436)
(5) Physical, Theoretical & Computational	Advances in Quantum Monte Carlo (#80)
(5) Physical, Theoretical & Computational	Recent Advances in Dynamics of Confined Liquids (#123)
(5) Physical, Theoretical & Computational	Challenges in Plasmonic Photochemistry (#176)
(5) Physical, Theoretical & Computational	Recent Progress in Matrix Isolated Species (#199)
(5) Physical, Theoretical & Computational	Metal Ions and Protein Functions: Theoretical Models and Applications (#202)
(5) Physical, Theoretical & Computational	Dynamical Intermolecular Interactions for Biological Functions (#307)
(5) Physical, Theoretical & Computational	Interfacial Phenomena for Bubbles, Droplets, Films and Soft Matter (#403)
(6) Agrochemistry, Environmental, and Geochemistry	Chemicals of Emerging Environmental Concern: A Global Perspective (#19)
(6) Agrochemistry, Environmental, and Geochemistry	Chemical Ecology Applied to Sustainable Agriculture (#105)
(6) Agrochemistry, Environmental, and Geochemistry	Fate and Risks of Nanoparticles in Aquatic and Terrestrial Environments (#220)

Friday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(6) Agrochemistry, Environmental, and Geochemistry	Proteomics and Metabolomics in Agricultural, Environmental, and Public Health Sciences (#264
(6) Agrochemistry, Environmental, and Geochemistry	Analytical Development Relevant to Environmental Exposure and Effects (#288)
(6) Agrochemistry, Environmental, and Geochemistry	Advances in Functional Foods and Flavor Chemistry Research (#329)
(6) Agrochemistry, Environmental, and Geochemistry	Fukushima and Radiological Contaminated Environments World-wide: The Important Role of Environmental Chemistry and Radiochemistry in Remediation and Restoration (#374)
(6) Agrochemistry, Environmental, and Geochemistry	Radioactive Contaminants and Waste Management in the Environment (#390)
(7) Biological	Advances in Peptide and Protein Chemistry (#6)
(7) Biological	Heat Shock Proteins: The Next Target in the Disease Frontier (#91)
(7) Biological	Bio/chemical Approaches for Single Cell Biosensing Technologies (#257)
(8) Materials & Nanoscience	Chemistry and Applications of Graphene (#39)
(8) Materials & Nanoscience	Janus Materials: Design, Fabrication and Properties (#210)
(8) Materials & Nanoscience	Nitroxide Radicals: Synthesis and Functional Bio-/Nanomaterials (#309)
(8) Materials & Nanoscience	Supramolecular Assemblies at Surfaces: Nanopatterning, Functionality, Reactivity (#346)
(8) Materials & Nanoscience	Fundamentals and Applications of Nanomaterials for Energy Technologies (#348)
(8) Materials & Nanoscience	Application of Luminescent Materials for Radiation Detection (#442)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Nanostructured Oxides for Energy Harvesting and Water Splitting (#171)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Energy Storage in Chemical Bonds: Advances in Chemistry and Materials for Hydrogen Storage (#216)

Friday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Nanoporous Materials for Renewable Energy and Sustainability (#266)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Advances in Microwave Green Chemistry (#360)
(10) Bench to Bedside: Chemistry of Health Care	Nutraceuticals and Functional Food Ingredients: Chemistry and Health (#285)
(11) Connecting Chemistry to Society	Technology and Assessment Strategies for Improving Student Learning in Chemistry (#132)

Saturday Morning

Kamehameha Halls I, II, and III (Convention Center)
10:00–12:00

Area	Symposium
(1) Analytical	Development and Applications of Techniques for Electrochemical Analysis (#24)
(2) Inorganic	Inorganic Complexes for Solar Energy Harvesting (#256)
(2) Inorganic	Metal Mediated Polymerization (#292)
(2) Inorganic	Metal Coordination Sphere Design for Challenging Bond Transformations (#318)
(3) Macromolecula	Aggregation Induced Emission: Materials and Applications (#444)
(4) Organic	Recent Trends in Organocatalysis (#122)
(6) Agrochemistry, Environmental, and Geochemistry	Advanced Products from Lignin and Micro- or Nano-fibrillated Cellulose (#70)
(6) Agrochemistry, Environmental, and Geochemistry	Enzymes Essential to Biosphere Health: Bioremediation and Biogeochemical Cycling (#219)
(7) Biological	Biomolecular Structure and Dynamics: Recent Advances in NMR (#181)
(8) Materials & Nanoscience	Materials & Nanoscience General Posters
(10) Bench to Bedside: Chemistry of Health Care	Small Molecule Epigenetic Modulators (#146)

Saturday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(1) Analytical	Direct and Mediated Bioelectrocatalysis for Biosensors and Energy Conversion Applications (#89)
(1) Analytical	Novel Analytical Probes for In Vivo Optical Functional Imaging (#115)
(1) Analytical	Marine and Freshwater Toxins: Detection, Structure, and Pharmacology (#138)
(1) Analytical	Paper-Based Analytical Devices for Point of Need Measurements (#213)
(1) Analytical	Analytical Laser-Induced Breakdown Spectroscopy (LIBS) for Hazards Analysis, Forensics, and Health (#379)
(1) Analytical	Bacterial Identification by Mass Spectrometry (#389)
(1) Analytical	Advances in Analytical Techniques for Effective Food Allergen Management (#394)
(1) Analytical	Organized Surfactant Assemblies in Chemical Analysis and Separation Science: Fifty Years Later (#457)
(2) Inorganic	Experimental and Theoretical Actinide Chemistry: From Fundamental Systems to Practical Applications (#42)
(2) Inorganic	Metal-Organic Frameworks: Synthesis, Properties and Applications (#50)
(2) Inorganic	From Pnictides to Perovskites: Impact of Local Structure in Solid State Chemistry (#62)
(2) Inorganic	Accessing the Full Potential of Redox-Active Ligands: Reactivity and Applications (#87)
(2) Inorganic	Advances in Phosphorus Chemistry: Materials, Reactivity at Phosphorus, and Synthesis (#226)
(2) Inorganic	The Expanding Periodic Table: New Discoveries and Chemistry of the Heaviest Elements (#234)
(2) Inorganic	Advances in the Medicinal Applications of N-Heterocyclic Carbene Metal Complexes and Azolium Cations (#255)
(2) Inorganic	S-block Metal Chemistry (#304)
(2) Inorganic	Activation of Small Molecules by Electropositive Metals Related to Chemical Energy Conversion (#380)
(2) Inorganic	New Directions for Sensing Metals in Biology (#424)

Saturday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(3) Macromolecular	Dynamic, Reversible, and Self-healing Materials (#64)
(3) Macromolecular	Current Polyurethane Science (#133)
(4) Organic	New Green Techniques for Medicinal Chemistry (#148)
(4) Organic	Applications of C-H Functionalization (#169)
(4) Organic	Strategies and Tactics for Complex Molecule Synthesis (#174)
(4) Organic	Cooperative Cocatalysis with Two Different Metals (#270)
(4) Organic	Chemical Glycosylation: Methods and Mechanisms (#306)
(4) Organic	New Horizon of Process Chemistry by Scalable Reactions and Technologies (#426)
(4) Organic	Asymmetric Supramolecular Catalysis (#451)
(4) Organic	Synthetic Modulators of Protein-Protein Interactions (#461)
(5) Physical, Theoretical & Computational	Conformational Dynamics of Biomolecules and the Biomolecule-Solvent Interface (#98)
(5) Physical, Theoretical & Computational	Advances in Quantum Dynamics from Spectroscopy to Reactions (#384)
(5) Physical, Theoretical & Computational	Reactive Intermediates in Combustion and Atmospheric Chemistry (#419)
(5) Physical, Theoretical & Computational	Recent Experimental and Theoretical Advances in Studies of Liquid Interfaces (#437)
(6) Agrochemistry, Environmental, and Geochemistry	Human Exposure to Environmental Contaminants (#26)
(6) Agrochemistry, Environmental, and Geochemistry	Recycling of Polymeric Materials: Challenges and Perspectives (#36)
(6) Agrochemistry, Environmental, and Geochemistry	Chemistry of Integrated Water Treatment Systems for Halogenated Organics and Long-lived Radionuclides (#454)
(7) Biological	Functional Nucleic Acids: Chemistry, Biology, and Materials Applications (#10)
(7) Biological	Homeostasis of Transition Metal Ions in Biological Systems (#47)
(7) Biological	Life at Small Copy Numbers (#137)

Saturday Evening

Kamehameha Halls I, II, and III (Convention Center)
19:00–21:00

Area	Symposium
(7) Biological	Function, Chemistry, and Signaling of Glycolipids and Phospholipids (#273)
(7) Biological	Chemistry and Applications of Retinal Proteins: From Microbes to Humans (#395)
(8) Materials & Nanoscience	Development of Nano Devices and Nanotechnologies for Environmental Monitoring and Remediation (#124)
(8) Materials & Nanoscience	Functional Molecular Materials and Devices (#128)
(8) Materials & Nanoscience	Challenge for Rare Element-free Functional Materials (#291)
(8) Materials & Nanoscience	Self-organization: Novel Mesogens and Applications (#447)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Integrated Biomass Refinery by Precisely Designed Heterogeneous Catalysts (#54)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Artificial Photosynthesis: Photo-induced Water Splitting (#193)
(9) Chemistry of Clean Energy Conversion, Storage, and Production	Global Strategies for Algal Biomass for Bioenergy and Biorefinery (#407)
(10) Bench to Bedside: Chemistry of Health Care	In Vivo Chemical Strategies for Functional and Translation Studies of Biological Networks and Pathways (#212)
(10) Bench to Bedside: Chemistry of Health Care	Molecular Design in Medicine: Concept to Commerce (#295)
(10) Bench to Bedside: Chemistry of Health Care	Cancer-Targeted Delivery of Therapeutics and Diagnostics (#393)

STUDENT POSTER COMPETITION FINALISTS

Hawaii Convention Center, Kamehameha Exhibit Halls I, II & III
■ Tuesday, December 15, 12:00 Noon–2:00pm

Area 1 – Analytical

1	Microfluidic image-processing-based multipoint crystallization analysis. **Aoi Akiyama**	Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)
2	Early detection of anti-asparaginase to significantly increase remission rate in acute lymphoblastic leukemia therapy. **Alexandra Aubé**	New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)
3	Design and synthesis of a novel chemical crosslinker for protein structure determination. **Kayla Downey**	New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)
4	Digital microfluidic platform for UV-Vis absorbance spectroelectrochemistry. **Michael Dryden**	Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)
5	One-step modification and structuring of PDMS surfaces and its application in the bench-top fabrication of self-driven microfluidic channels. **Ayodele Fatona**	Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)
6	Optical nanoantenna for bacterial detection. **Maho Fukuda**	New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)
7	Development of protein concentration system based on pore-size control of molecular sieving gel by thermal-stimulus response. **Yudai Fukushima**	Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)
8	Plasmonic nanoprobes for sensing hydrogen peroxide in living systems. **Xin Gu**	Plasmonic Materials for Chemical Analysis (#450)
9	Microfluidic single cancer cells isolation and analysis device by simple manual operation for cytoscreening of cancer stem cells. **Yuya Hattori**	Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)
10	Asymmetric rhodamine-based fluorescence probes for multicolor in vivo imaging. **Ryu Iwatate**	Novel Analytical Probes for In Vivo Optical Functional Imaging (#115)
11	Novel nanofiber web-based dry electrodes for long-term biopotential monitoring. **Lu Jin**	(Bio-)Chemical / Electrochemical Sensors and Sensing Materials (#417)
12	Biomarkers research involved in salmonid diseases: An approach based on MALDI-MS coupled with data mining techniques. **Xaviera López Cortés**	Bacterial Identification by Mass Spectrometry (#389)
13	On-chip templated biosynthesis of unnatural and natural protein microarrays suitable for surface plasmon resonance imaging. **Gerald Manuel**	New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)
14	Evaluation of peptide-material interaction by force mapping method with an atomic force microscope. **Masahito Mochizuki**	New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)
15	Automatic assembly of non-spherical microscale particles using electroosmotic flow in a microfluidic device. **Hiroko Moriyama**	Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)
16	Paper test card for quantifying beta-lactam antibiotics. **Nicholas Myers**	Paper-Based Analytical Devices for Point of Need Measurements (#213)

Area 1 – Analytical

17	Evaluation of the intrinsic retention selectivity of hydrocarbonaceous and fluorocarbonaceous stationary phases by surface-bubble-modulated liquid chromatography. **Keisuke Nakamura**	Innovation in Chemical Sensing and Separation Systems toward Advanced Chemical Analysis (#159)
18	Parameters influencing the performance of inkjet-printed microfluidic paper-based analytical devices. **Riki Ot**a	Paper-Based Analytical Devices for Point of Need Measurements (#213)
19	Analysis of neuronal cell with atomic force microscopy. **Ikbum Park**	New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)
20	Current detection in microfluidic devices for measurement of cell deformability. **Mamiko Sano**	Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)
21	Shear flow ice chromatography. **Masaya Shimizu**	Innovation in Chemical Sensing and Separation Systems toward Advanced Chemical Analysis (#159)
22	Methods for quantitative analysis of submerged solids for application to deep-sea LIBS. **Tomoko Takahashi**	Analytical Laser-Induced Breakdown Spectroscopy (LIBS) for Hazards Analysis, Forensics, and Health (#379)
23	Design of bright fluorescent polymers for bioassays. **Yuka Takahashi**	(Bio-)Chemical / Electrochemical Sensors and Sensing Materials (#417)
24	Fluorescence polarization imaging for analyzing molecular interactions. **Osamu Wakao**	Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)
25	Transportation imaging of exosomes derived from stem cells and cancer cells. **Asami Yokoyama**	Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)
26	Formation of the SERS-active substrate and its application in catalysis and analytical detection. **Jingjing Zhao**	Development and Applications of Techniques for Electrochemical Analysis (#24)
27	NAIMS: Nanotip ambient ionization mass spectrometry. **Zhenpeng Zhou**	Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)

Area 2 – Inorganic

28	Synthesis and study of novel iron sulfide complexes as models for nitrogenase. **Nicholas Arnet**	Metal Coordination Sphere Design for Challenging Bond Transformations (#318)
29	Exploration of new anionic selenium based pincer ligands. **Bronte Charette**	Inorganic General Posters
30	Homoleptic Au(III) trications: A synthetic pathway to a novel class of Au(III) compounds. **Robert Corbo**	Metal Coordination Sphere Design for Challenging Bond Transformations (#318)
31	Synthesis, characterization, and unique catalytic activities of a fluorinated nickel enolate. **Ryohei Doi**	Innovative Approaches in Bond-Cleavage and Bond-Forming Reactions at Late Transition-Metal Centres (#186)
32	Ligand cooperation in the hydrogenation of N2O using PCP iridium pincer complexes. **Lauren Doyle**	Metal Coordination Sphere Design for Challenging Bond Transformations (#318)
33	Synthesis and catalytic activity of dimolybdenum-dinitrogen complex bearing PCP-type pincer ligands. **Aya Eizawa**	Activation and Transformation of Small Molecules Mediated by Early Transition Metal Complexes (#170)
34	Redox active ligands: Ligand-centered electrocatalytic proton reduction and hydrogen oxidation. **Andrew Haddad**	Accessing the Full Potential of Redox-Active Ligands: Reactivity and Applications (#87)
35	2:1 Coupling of terminal alkynes with secondary amines catalyzed by quinolinolato rhodium complexes. **Moe Hamada**	Innovative Approaches in Bond-Cleavage and Bond-Forming Reactions at Late Transition-Metal Centres (#186)
36	P-C bond oxidation via Baeyer-Villiger mechanism. **Gordana Ilic**	Advances in Phosphorus Chemistry: Materials, Reactivity at Phosphorus, and Synthesis (#226)
37	Optical responses of octanuclear gold clusters modifying thiolate ligands. **Mitsuhiro Iwasaki**	Photofunctional Chemistry Based on Metal Complexes and/or Supramolecules (#239)

Area 2 – Inorganic

38	Synthesis and structure of ladder-type Pd-halide chain complex. **Ryohei Kimura**	Functional Nanomaterials Based on Coordination Chemistry (#73)
39	Revival of frustrated Lewis pairs from shelf-stable complexes comprised of borane and N-phosphine oxide substituted imidazolylidene. **Takuya Kinoshita**	Lewis Acid/Base Pair Chemistry in Molecular Transformations, Catalysis and Energy Storage (#65)
40	Polysilane confined in coordination nanospaces. **Takashi Kitao**	Functional Nanomaterials Based on Coordination Chemistry (#73)
41	N2-splitting and functionalization in the coordination sphere of rhenium. **Isabel Klopsch**	Activation and Transformation of Small Molecules Mediated by Early Transition Metal Complexes (#170)
43	Studies on electrochemical hydrogen evolution from water catalyzed by bis(dithiolato)nickelate(II) complexes. **Keita Koshiba**	Molecular Catalysis of Water Splitting Reactions (#76)
44	Cooperative small molecule activation at the nickel-carbon double bond of nickel PCcarbeneP pincer complexes. **Etienne LaPierre**	Metal Coordination Sphere Design for Challenging Bond Transformations (#318)
45	Large spin-crossover [Fe4L4]8+ tetrahedral cage. **Li Li**	Functional Nanomaterials Based on Coordination Chemistry (#73)
46	Reaction dynamics for the C-H bond activation by iron(IV)-oxo complexes: Natural vs. biomimetic systems. **Binh Mai**	New Frontiers in Bioinorganic Chemistry (#356)
47	Ferrocenyl phosphonium cations as synthetically facile Lewis acids in organocatalysis. **Ian Mallov**	Inorganic General Posters
48	Copolymerization of ethylene with methyl acrylate by bisphosphine monoxide-palladium catalysts enabled by ligand-controlled insertion regioselectivity. **Yusuke Mitsushige**	Metal Mediated Polymerization (#292)
49	Effect of 5-aminolevulinic acid on cytochrome P450-based prodrug activation. **Mai Miura**	New Frontiers in Bioinorganic Chemistry (#356)
50	Electrocatalytic activation of CO2 by a series of rhenium complexes. **Kankana Mullick**	Activation and Transformation of Small Molecules Mediated by Early Transition Metal Complexes (#170)
51	Copolymerization of olefins and polar monomers by Pd/IzQO catalysts. **Ryo Nakano**	Transition Metal Complexes of N-Heterocyclic and Mesoionic Carbenes: Structure, Materials and Catalytic Applications. (#195)
52	Hydrogen ion beam irradiation effects on ZnO thin films studied by in-situ variable-temperature electrical resistivity measurements. **Ryo Nakayama**	From Pnictides to Perovskites: Impact of Local Structure in Solid State Chemistry (#62)
53	Synthesis of a novel molecular gear having a germanium junction and its gear slippage. Kazuma Okamura	Organo-Main Group Avenues toward Advanced Materials (#16)
54	Synthesis and analysis of new graphitic carbon nitride analogs. **Shota Okamura**	Electron Transfer and Electrochemistry of Inorganic and Organometallic Materials (#126)
55	Effective photosensitized energy transfer of nonanuclear terbium clusters using methyl salicylate derivatives. **Shun Omagari**	Photofunctional Chemistry Based on Metal Complexes and/or Supramolecules (#239)
56	Basicity of non-solvated boryl anion: Deprotonation of benzene. **Takuto Osato**	Organo-Main Group Avenues toward Advanced Materials (#16)
57	Reactivity of a Ga/P-based frustrated Lewis pair. **Josephine Possart**	Lewis Acid/Base Pair Chemistry in Molecular Transformations, Catalysis and Energy Storage (#65)
58	Carbodicarbene complexes of ruthenium: highly active catalysts for the hydrogenation of olefins. **Conor Pranckevicius**	Transition Metal Complexes of N-Heterocyclic and Mesoionic Carbenes: Structure, Materials and Catalytic Applications. (#195)
59	Toward C-H activation of hydrocarbons by rare earth NHC-complexes. **Julia Rieb**	Frontiers of Organo-f-element Chemistry (#125)
60	M2L4 coordination cages as potential drug delivery systems for anticancer agents. **Andrea Schmidt**	New Frontiers in Bioinorganic Chemistry (#356)
61	Enhancing electrocatalytic hydrogen evolution by nickel molecular catalysts with the aid of Lewis acids in aqueous media. **Hai Yan Shao**	Molecular Catalysis of Water Splitting Reactions (#76)

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63	Bright solid-state emission in disilane-bridged arenes including donor and acceptor moieties. **Masaki Shimada**	Organo-Main Group Avenues toward Advanced Materials (#16)
64	Electric conductive property of Hofmann-type coordination polymers including Pt-I chain pillars. **Sayuri Shimoda**	Metal-Organic Frameworks: Synthesis, Properties and Applications (#50)
65	Rare earth metal-mediated group transfer polymerization of vinylphosphonates: Tuning the metal ligand interaction via steric crowding at the rare earth center and novel highly efficient initiators from C-H bond activation. **Benedikt Soller**	Frontiers of Organo-f-element Chemistry (#125)
66	Characterization of a high-spin non-heme {FeN(H)O}8: Implications for the reacitivty of iron nitroxyl species in biology. **Amy Speelman**	The Bio-Coordination Chemistry of Nitric Oxide and Its Derivatives: Mechanisms of NOx Generation, Signaling and Reduction in Biological Systems (#371)
68	Harnessing weak interactions toward the synthesis of highly birefringent coordination polymers. **John Thompson**	Non-covalent Interactions in Coordination Systems (#161)
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70	Synthesis and reactivity of neutral diborenes – the alkene analogs. **Stefan Ullrich**	Organo-Main Group Avenues toward Advanced Materials (#16)
71	Z-scheme photosynthesis for H2 evolution from water forming a three-electron-reduced species. **Keiya Yamamoto**	Molecular Catalysis of Water Splitting Reactions (#76)
72	Synthesis of multinuclear manganese complexes having a cage-type ligand: Structural models of oxygen evolving center. **Shuhei Yonaga**	Molecular Catalysis of Water Splitting Reactions (#76)
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77	**Tough, thermoresponsive hydrogels. Jasmine Cubuk**	Macromolecular General Posters
78	Preparation of glucose-responsive shape-memory hydrogels using molecular complexes as dynamic crosslinks. **Masayoshi Hayashi**	Polymer Gels as Advanced Soft Materials (#83)
79	Copolymerization of epoxides with CO2 catalyzed by multinuclear cobalt complexes. **Yo Hiranoi**	Polymers from Renewable Sources and Sustainable Polymer Synthesis (#281)
80	Developmentof high thermoresistance and transparent polyurea films bioderived from 4-aminocinnamic acid. **Yusuke Ibuki**	Synthetic Biopolymers (#37)
81	Macroscopic artificial muscle powered by the microscopic sliding motion of [c2]daisy chain. **Kazuhisa Iwaso**	Polymer Gels as Advanced Soft Materials (#83)
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84	Hydrogel with a reliable deformation region in an aqueous environment. **Shinji Kondo**	Polymer Gels as Advanced Soft Materials (#83)

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87	Formation of dynamic biomolecular recognition sites in smart hydrogels by molecular imprinting and their recognition control. **Yoshiaki Kuriu**	Polymer Gels as Advanced Soft Materials (#83)
88	Substantial spatial heterogeneity and tunability of glass transition temperature observed with dense polymer brushes prepared by ARGET ATRP. **Tian Lan**	Polymer Interfaces: Design, Structure, Physical Properties and Applications (#194)
89	Synthesis and mechanical properties of joint-linker gels with reversible redox sol-gel transition. **Kazumasa Moriyama**	Polymer Gels as Advanced Soft Materials (#83)
90	Synthesis and electrochemical properties of radical polymer containing anionic group for a high energy density organic secondary battery. **Tomoaki Murata**	Polymers for Energy and Optoelectronic Devices (#361)
91	Physical hydrogels based on multifunctional polyurethanes via ionic or acidic crosslinking. **Mai-Thi Nguyen-Kim**	Polymer Gels as Advanced Soft Materials (#83)
92	Control of iterative double monomer addition for sequence-controlled vinyl polymers. **Kana Nishimori**	Monomer Sequence Control: Using Nature's Strategy to Create 21st Century Polymers (#158)
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96	Light-emitting polycyclic aromatic hydrocarbon synthesized by regioselective photocyclization and its application in optical waveguide. **Zijie Qiu**	Aggregation Induced Emission: Materials and Applications (#444)
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101	Activating polymer production with spinach leaves. **Siva Shanmugam**	Polymers from Renewable Sources and Sustainable Polymer Synthesis (#281)
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105	Self-oscillating vesicles: Spontaneous cyclic changes of supramolecular structures formed by synthetic diblock copolymers. **Ryota Tamate**	Polymer Gels as Advanced Soft Materials (#83)
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110	Living cationic polymerization via degenerative chain transfer on C–S bond. **Mineto Uchiyama**	Controlled Macromolecular and Supramolecular Architectures for Sustainability (#112)
111	Characterization and substrate specificity of a poly(lactate-co-3-hydroxybutyrate) depolymerase from soil bacterium. **Camila Utsunomia**	New Perspectives of Bioplastics for Environmental Benign Materials (#396)
112	Chiral crystals of inorganic-organic hybrids based on polyoxometallates and supramolecular cations. **Jun Xiong**	Functional Materials Based on Organic-inorganic Hybrid Polymers (#221)
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117	Barbiturated naphthalenes with flexible oligo(ethyleneglycol) side chains. **Keisuke Aratsu**	Molecular Self-Assembly and Functional Organic Nanostructures (#263)
118	Unprecedented alkali metal amide-catalyzed formal C(sp3)–H bond activation. **Wei Bao**	Applications of C-H Functionalization (#169)
119	Total syntheses of hyperforin, papuaforin A-C and formal synthesis of nemorosone: Toward the the total synthesis of ginkgolides. **Gabriel Bellavance**	Homogeneous Gold Catalysis: Methods, Theories and Applications (#192)
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121	U.V. light mediated synthesis of carbazoles using flow chemistry. **Antoine Caron**	Innovative Strategies for the Synthesis of Nitrogen Heterocycles (#74)
122	Functional poly(2-oxazoline)s possessing solvatochromic fluorescent pyrene dye and the development of fluorescent hydrogel. **Chia-Hsiu Chen**	Cognizance of Endangered Elements for Organic Synthesis (#415)
123	Light induced molecular machine: Ruthenocene-based supermolecular crystals. **Kai Jen Chen**	Molecular and Supramolecular Photochemistry (#71)
124	Regiochemistry-directed syntheses of polyhydroxylated alkaloids from chiral aziridine. **Jihye Choi**	Organic General Posters
125	Bioimaging of HER-2 specific affibody conjugated two-photon fluorescent probe for detection of breast cancer. **Ji-Woo Choi**	Molecular Probes and Fluorophores for Biological Imaging (#280)
126	Aldehyde-selective Wacker oxidations of allylic fluorides. **Crystal Chu**	Organic General Posters
127	Chemistry of tetra-, penta-, and hexacationic systems. **Makafui Gasonoo**	Reactive Intermediates and Unusual Molecules (#7)
128	Fate of NHC-stabilized dicarbon. **Dayne Georgiou**	Reactive Intermediates and Unusual Molecules (#7)
129	Synthesis and investigation of enzyme-triggered CO-releasing molecules for biological and pharmaceutical applications. **Anna-Lena Göderz**	Organic General Posters

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133	Asymmetric autocatalysis triggered by helical arrangement of chiral crystals of achiral organic compounds. **Yoshiyasu Kaimori**	Frontiers of Chirality in Organic Chemistry (#286)
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135	Synthesis and properties of binuclear paddlewheel-type complexes with azulene ligand. **Reiya Kawano**	Designed pi-Electronic Systems: Synthesis, Properties, Theory and Function (#25)
137	Pd-catalyzed asymmetric intermolecular addition of homopropargylic alcohol to alkoxyallene: Development and application. **Jungjoon Kim**	Homogeneous Gold Catalysis: Methods, Theories and Applications (#192)
138	Studies toward the total synthesis of pactamycin. **Taejung Kim**	Organic General Posters
139	Unified total synthesis of ryanoids. **Masaki Koshimizu**	Strategies and Tactics for Complex Molecule Synthesis (#174)
140	Enantioselective borylative dearomatization of indoles by copper(I) catalysis. **Koji Kubota**	Organoboron Chemistry: Applications in Organic Synthesis, Biology, and Materials (#100)
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142	Chiral phosphoric acid catalyzed 1,2-sulfur rearrangement/ enantioselective nucleophilic addition of dithioketal derivatives. **Feng Li**	Recent Trends in Organocatalysis (#122)
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144	α-Boryl aldoximes: Novel reagents for the synthesis of drug-like small molecules. **Sean Liew**	Organoboron Chemistry: Applications in Organic Synthesis, Biology, and Materials (#100)
145	Development of new synthetic reactions leading to organophosphorus compounds having chiral carbon centers. **Yuuki Maekawa**	Frontiers of Chirality in Organic Chemistry (#286)
146	Iron-catalyzed reaction of amides and alkynes via C–H bond activation. **Tatsuaki Matsubara**	Cognizance of Endangered Elements for Organic Synthesis (#415)
147	Development of hydroxyapatite-supported ruthenium-vanadium bimetallic catalyst for highly selective reduction of amides to amines. **Kazuya Miyagawa**	Cooperative Cocatalysis with Two Different Metals (#270)
148	Hierarchical construction of multistructural porous organic salts (POSs) through different networks of supramolecular clusters. **Tetsuya Miyano**	Organic Solid-State Chemistry: Structure, Property & Reactivity (#398)
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150	Solvent free chiral inversion of thalidomide and hydrolysis product of thalidomide. **Miri Nakamura**	Frontiers of Chirality in Organic Chemistry (#286)
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157	Mechanochromic luminescence properties of D-A-D type dibenzo[a,j]phenazine derivatives. **Masato Okazaki**	Designed pi-Electronic Systems: Synthesis, Properties, Theory and Function (#25)
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159	Design and synthesis of solution processable, narrow band gap, near-IR absorbing small molecules. **Abby-Jo Payne**	Designed pi-Electronic Systems: Synthesis, Properties, Theory and Function (#25)
160	Metal-catalyzed amination processes in continuous flow synthesis. **Henri Piras**	Prospects for Flow Chemistry (#29)
161	Dehydration mechanism of Ciprofloxacin HCl and its implication to physicochemical properties. **Okky Putra**	Organic Solid-State Chemistry: Structure, Property & Reactivity (#398)
162	Identification of biosynthetic enzymes for MPIase, a glycolipozyme essential for membrane protein integration. Ryo Sato	Molecular Function of Natural Products: Advances towards Chemical Biology (#237)
163	Total syntheses of T988 B and C. **Soichiro Sato**	Innovative Strategies for the Synthesis of Nitrogen Heterocycles (#74)
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170	Toward the realization of "Molecular n-Bit Memory": Preparation and dynamic redox behaviors of novel electron donors containing multiple dyrex units. **Hitomi Tamaoki**	Designed pi-Electronic Systems: Synthesis, Properties, Theory and Function (#25)
171	Synthesis of multisubstituted pyrroles via copper-catalyzed condensation of imines and diazocarbonyl compounds. **Simon Tan**	Innovative Strategies for the Synthesis of Nitrogen Heterocycles (#74)
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175	Synthetic challenges and characterization during the realization of polyyne metalloporphyrin complexes consisting of axial binding. **Vroni Walter**	Reactive Intermediates and Unusual Molecules (#7)
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206	Electronic structure of a metal-organic super container molecule by single point DFT. **Wendi Sapp**	Photocatalysis and Charge Transfer at Interfaces and Nanomaterials (#344)
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208	Effects of the alkynyl substituents on the geometrical and electronic structures of "Magic-Number" Au_{13} cluster. **Mizuho Sugiuchi**	Frontiers of Metal Clusters and Nanostructures: From Fundamental Properties to Functionalities (#168)
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216	Biomonitoring persistent organic pollutants and emerging contaminants in breast milk from Korea. **Sunggyu Lee**	Human Exposure to Environmental Contaminants (#26)

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222	Availability of woody biomass degraded by mushrooms as ingredient of fermented total mixed ration for feeding dairy cattle. **Naoya Nagatani**	Recycling of Polymeric Materials: Challenges and Perspectives (#36)
223	Pesticide residues and dietary risk assessment of pesticides in fruits and vegetables in Beijing, China from 2012 to 2014. **Canping Pan**	Human Exposure to Environmental Contaminants (#26)
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231	Artificial division of codon boxes to encode nonproteinogenic amino acids along with 20 proteinogenic ones. **Yoshihiko Iwane**	Advances in Peptide and Protein Chemistry (#6)
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290	Design of full-color thermally activated delayed fluorescence emitters based on benzonitrile derivatives and their application in organic light-emitting diodes. **In Seob Park**	Advanced Materials for Photonics and Electronics: Fundamentals and Applications (#308)
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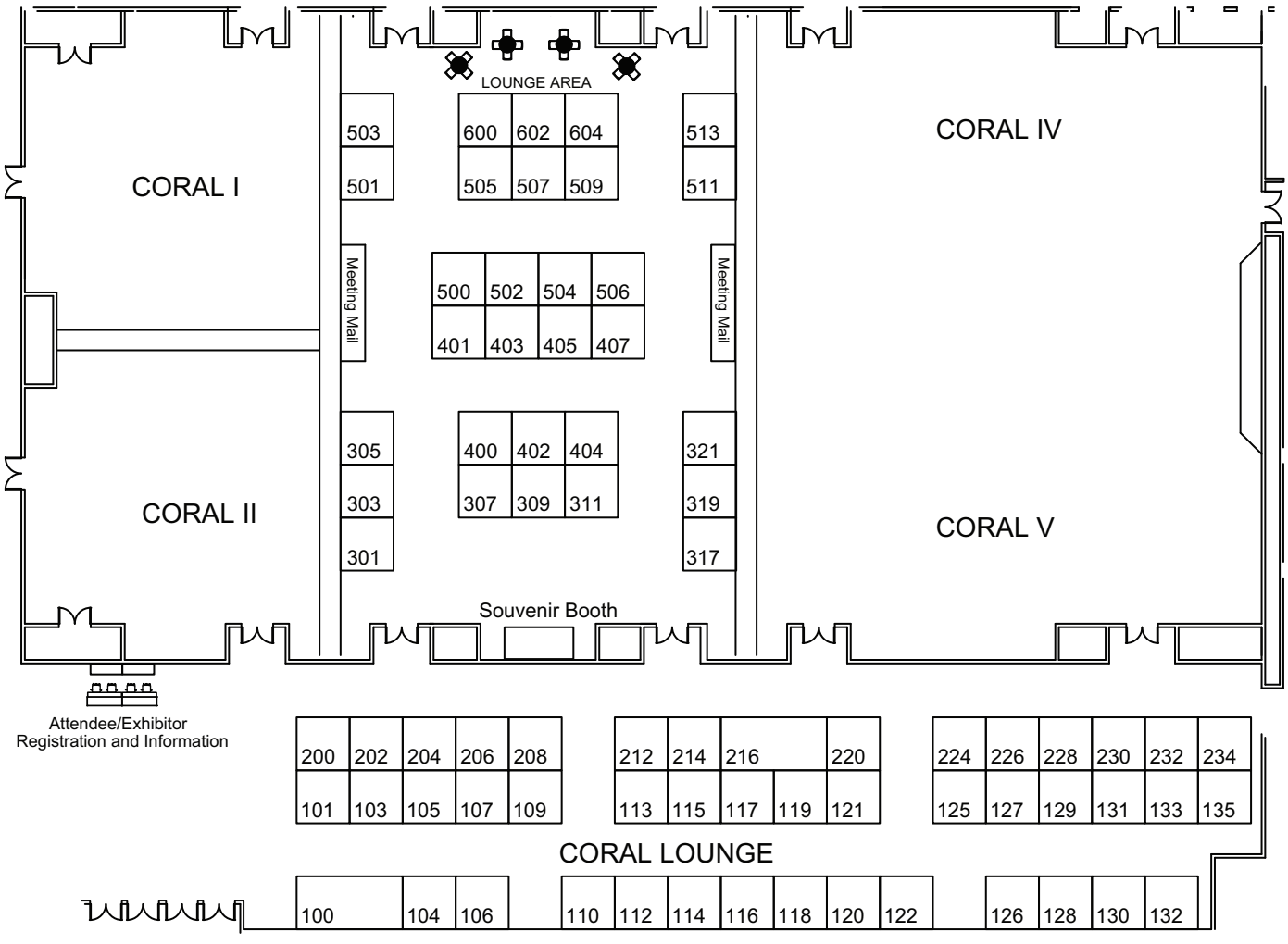
University Science Books **Booth # 402**
Phys Chem for the Chem Sciences, Chang/Thoman
X-Ray Crystallography, by Girolami
Principles of NMR Spectroscopy, by Goldenberg
Principles of Descriptive Inorg Chem, by Wulfsberg

X-Ability Co., Ltd. **Booth # 127**
Winmostar
XA-CUDA-QM
XA-Chem-Suite

Zaiput Flow Technologies **Booth # 228**
liquid-liquid separator
back pressure regulator

PACIFICCHEM EXPO 2015

December 15–20, 2015
Hilton Hawaiian Village
Honolulu, Hawaii



Plenary

Tuesday Evening

Sheraton Waikiki
Hawaii Ballroom

Plenary Lecture

Presiding: P. Stang
19:00. The Disappearing Spoon. S. Kean

ANYL

Area 1 – Analytical

Tuesday Morning

Marriott Waikiki Beach
Waikiki Bllrm III

New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)

Organized by: S. Krylov, D. Wilson, W. Zhong, H. Wang
Presiding: S. Krylov, W. Zhong

8:00 Opening remarks
8:05 – 1. Microscale thermophoresis: measuring biomolecule affinities by the molecule movement in a thermal gradient. **D. Braun**
8:35 – 2. Kinetic separation: A conceptual platform for development of homogeneous kinetic affinity method. **S.M. Krylova**, R. Yufa, J. Bao, S. Beloborodov, M. Kanoatov
9:05 – 3. Selection of aptamers using a dual-partitioning approach. **S. Li**, J. Ashley, K. Ji
9:25 – 4. Capillary electrophoresis-systematic evolution of ligands by exponential enrichment selection using modified nucleic acid libraries. **M. Kuwahara***
9:45 – 5. Multiple applications of CE In aptamers selection. **F. Qu***
10:05 Break
10:20 – 6. Novel designs for electrokinetic noncovalent interaction studies: An overview on powerfull methodologies for the analysis of a wide range of chemical, biochemical, biological, and colloidal systems. G. Ramirez Garcia, F. d'Orlyé, C. Perreard, **A. Varenne***
10:40 – 7. Chromatographic capillary electrophoresis (CCE): A method for kinetic study of intermolecular interaction. **K. Miyabe**, Y. Shimazaki
11:00 – 8. New trends in affinity capillary electrophoresis (ACE) to study interactions in between biological macromolecules and drugs. **R.H. Neubert***
11:20 – 9. Study of protein-methylated DNA interaction by affinity capillary electrophoresis coupled laser-induced fluorescence. **H. Wang***
11:40 – 10. Therapeutic antithrombin: Molecular interaction studies based on affinity capillary electrophoresis and capillary electrophoresis-mass spectrometry. **M. Taverna***, A. marie, t. Tran-Maignan, E.P. bianchini, D. Borgel, r. urbain, j. Plantier, F. Saller, G.W. Somsen, E. DOMINGUEZ VEGA

Marriott Waikiki Beach
Milo III

Frontiers in Flow Injection Analysis and Related Techniques (#45)

Organized by: T. Imato, G. Christian, K. Grupan, S. Kolev, A. Sabarudin

8:00 Opening Remarks
8:05 – 11. ICFIA history: Promoting international collaborations. **G.D. Christian***
8:30 – 12. Blueprint for the universal flow analyzer. **J. Ruzicka**
8:55 – 13. Online fractionation and determination of mercury in environmental solids using a sequential injection approach with atomic fluorescence detection. Y. Zhang, M. Miro*, **S.D. Kolev***
9:20 – 14. Enhanced chemiluminescence of peroxynitrous acid by carbon nanoparticles and its application in flow injection analysis. **J. Lin**, H. Chen, Z. Lin
9:45 – 15. Measurement of octanol-water partition coefficient by zone fluidics. **D. Nacapricha***, P. Wattanasin, P. Saetear, P. Wilairat, S. Teerasong
10:10 Break
10:25 – 16. Conducting polymers for bacterial detection: Applications to sensors and trapping agents. D.Q. Le, T. Kinoshita, A. Morishita, S. Tokonami, T. Nishino, H. Shiigi, **T. Nagaoka***
10:50 – 17. Monitoring of ppbv-level volatile sulfur compounds by continuous gas absorbing and miniaturized flow analysis method. **K. Toda***, S. Yunokihara
11:15 – 18. Improvements in flow-injection NMR as a tool for high-throughput sample analysis. **P. Krolikowski***, S. Hollis, R. Kautz, D. Strand
11:35 – 19. Flow-based chemical analysis using streams driven by centrifugal force. H. Tagami, R. Ishimatsu, K. Nakano, Y. Chen, Z. Chen, P. Rattanarat, P. Teengam, O. Chailapakul, **T. Imato**

Marriott Waikiki Beach
Kona Moku Bllrm C

Advances in Analytical Ion Mobility Separations (#61)

Organized by: A. Shvartsburg, F. Misaizu, T. Pukala
Presiding: A. Shvartsburg

8:00 Introduction to Symposium
8:10 – 20. Stand-alone high resolution ion mobility spectrometer and its appliation in explosives detection and air monitoring. **H. Li***
8:40 – 21. Development of trap ion mobility system for separation. **T. Sugai***, H. Yasuhiro, H. Matsubayashi, R. Jinnouchi
9:10 – 22. Ion collision cross section measurements in ion traps: Initial results. **W. Xu***, M. He, L. Mao
9:40 Break
10:00 – 23. Development of on-site hybrid instrument based on ion mobility spectrometry and arrayed electrochemical sensors against chemical warfare agents in vapor. **Y. Seto***, H. Nagashima, T. Nagoya, T. Kondo, T. Satoh, T. Ohmori, K. Tsuge, N. Nakano, H. Sugiyama, T. Nishide, A. Ishizaki, K. Daikuhara, Y. Kawahara, M. Kidera, T. Urabe, H. Tanuma
10:30 – 24. Tandem ion mobility mass spectrometry – using light and collisions to change the shape of molecular ions. B. Adamson, N. Coughlan, P. Markworth, **E. Bieske***
11:00 – 25. Novel approach for high IMS resolution using structures for lossless ion manipulations (SLIM). **Y.M. Ibrahim***, A.M. Hamid, S.V. Garimella, R.V. Norheim, G.A. Anderson, R.D. Smith
11:30 – 26. Characterising a t-wave enabled multi-pass cyclic ion mobility separator. **K. Giles***, R. Iizuka

Marriott Waikiki Beach
Milo I

Immunoanalysis: Applications and Trends for Environmental Monitoring and Human Health (#94)

Organized by: S. Gee, I. Kennedy, H. Ohkawa, T. Xu, T. Prapamontol
Presiding: T.-. Prapamontol

8:00 Introduction
8:05 – 27. Immunoassay, an alternative or complimentary technique to study pesticide contamination: A perspective from an environmental toxicology lab in Chiang Mai, Thailand. **T.-. Prapamontol***, S.-. Hongsibsong, S. Thiphom, S. Gee, B. Hammock
8:30 – 28. Role of immunoassay in human biomonitoring. **S. Gee**, B. Hammock
8:55 – 29. Immuno-analytical approach to the detection of endocrine disrupting chemicals in environment and food: Success, challenges, and limitations. **N.A. Lee***
9:20 – 30. Develop an ELISA kit to detect Endosunfan and cyclodien pesticides residues in agricultural products. **A.Q. Bui**
9:45 – 31. Highly specific fluorescence immunoassay developed for detection of diisobutyl phthalate in edible oil samples. S. Zheng, P. Wu, D. Lai, **S. Zhao**
10:05 Break
10:20 – 32. Development of an immunoassay and biosensor for the detection of the phenylpyrazole insecticide fipronil and its metabolite. **N. Vasylieva**, K. Ahn, B. Barnych, S. Gee, B. Hammock*
10:40 – 33. Fast and sensitive detection of a neonicotinoid insecticide imidacloprid with a reagentless immunoassay reagent, Quenchbody. **J. Dong**, S. Zhao, H. Jeong, K. Okumura, H. Ueda*
11:00 – 34. Biologically validating ELISAs for use in environmental monitoring of Cry proteins. **V.C. Albright**, R.L. Hellmich, J.R. Coats*

Marriott Waikiki Beach
Kona Moku Bllrm A

Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)

Organized by: Y. Baba, H. Crabtree, S. Jacobson, J. Ramsey, K. Otsuka, D. Chung
Presiding: K. Otsuka

8:00 Introductory Remarks
8:05 – 35. High performance microscale liquid phase separations of biomolecules. Y. Fukushima, T. Naito, T. Kubo, **K. Otsuka***
8:30 – 36. Micro and extended-nano ELISA: Practical application and future. **T. Kitamori***
8:55 – 37. Stabilizing nanoporous structures for biomolecule separation. **J. Harrison***, N. Shaabani, M. Azim, Y. Zhou, A. Jemere
9:20 – 38. Novel solid-phase microextraction and capillary electrochromatographic column techniques for pharmaceutical analysis. **Z. Chen***
9:45 Break
10:00 – 39. Rapid isolation of circulating tumor cells with microfiber fabric and vacuum system. **M. Takai**
10:25 – 40. Application of nanoplasmonics-based microfluidic sensors for highly sensitive biomarker detection. **J. Choo***
10:50 – 41. Spaciotemporal control of bioassembly by electrochemical lithography. **M. Nishizawa**
11:15 – 42. Unique separations for aromatic compounds by a C_{60}-fullerene bonded silica-monolithic capillary in liquid chromatography. **T. Kubo***, M. Tsuzuki, T. Naito, K. Otsuka
11:30 – 43. Urinary iodine status determination by capillary electrophoresis: A robust assay for continuous monitoring of iodized salt programs for epidemiological studies. **P. Britz-McKibbin***, A. Nori de Macedo
11:45 – 44. Low-aspect-ratio micropore sensors: possibilities and limitations. **M. Tsutsui***, A. Arima, K. Yokota, M. Taniguchi, T. Kawai

Marriott Waikiki Beach
Milo IV / V

Innovation in Chemical Sensing and Separation Systems toward Advanced Chemical Analysis (#159)

Organized by: T. Hayashita, P. Dasgupta, B. Cho, A. Tong, T. Okada, W. Zhong, H. Li, H. Chang
Presiding: T. Hayashita, W. Zhong

8:00 Session Introduction
8:05 – 45. Electrophoretic separation of single molecules using thermoplastic nanocolumns. **S.A. Soper***
8:35 – 46. Single bubble microextraction coupled with capillary electrophoresis. S. Cho, **D. Chung***
8:55 – 47. Microfluidic systems integrating on-chip sample preparation with capillary electrophoresis. **A.T. Woolley***, S. Kumar, M. Sonker, V. Sahore, R. Knob, A. Nielsen
9:15 – 48. Direct quantification of cancer antigen biomarkers by fluorescent measurement. **H. Li***, S. Ho, D. Xu, R. Wong, M. Wong
9:35 Break
9:45 – 49. Fabrication of luminescence-based sensor arrays for protein sensing. **X. Zhang***
10:15 – 50. Carbon nanodots as sensitive probes and potential drugs. **H. Chang***
10:35 – 51. Novel fluorescent materials for biochemical applications. **J. Ouyang**
10:55 – 52. Fluorogenic sensors for detection of intracellular reactive oxygen species. **W. Zhong***, Y. Liu, F. Si
11:15 – 53. Ultrasensitive detection of biomolecules using aggregation of functionalized gold nanoparticles. **T. Zako***, T. Bu, M. Maeda
11:35 Concluding Remarks

Marriott Waikiki Beach
Kona Moku Bllrm B

Symposium on Petroleomics: Molecular Level Understanding of Petroleum for Environmental Science and Petroleum Engineering (#247)

Organized by: S. Kim, Y. Harvey, A. McKenna

8:00 Introductory remark
8:05 – 54. Introducing petroleomics into molecule-based kinetic models. **M.T. Klein***
8:30 – 55. Characterization, kinetic modeling, and informatics of heavy petroleum fractions. **R. Tanaka***, T. Suzuki, K. Hagiwara, T. Takada, S. Teratani
8:55 – 56. Application of volcano plots for quantitative visualization and comparison of a set of two spectra obtained by high-resolution mass spectrometric analysis of crude oils. **M. Hur***, S. Kim, R. Beasley, A.M. McKenna, R.P. Rodgers, A. Marshall, E.S. Wurtele
9:20 – 57. Identifying intermolecular interactions in polycyclic aromatic hydrocarbons: DFT calculations and photoacoustic spectroscopy measurements. **F. Spillebout***, K.H. Michaelian, D. Bégué, J.M. Shaw
9:45 Break

*** Principle Author**

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10:00 – 58. Sulfur compounds in petroleum: New findings for geochemistry and refining. **Q. Shi***, M. Wang, Y. Zhang, S. Zhao, C. Xu
10:25 – 59. Novel aspect of structural elucidation of petroleum using supercritical fluid chromatography and atmospheric pressure photon-initiated hydrogen/deuterium exchange mass spectrometry. **Y. Cho**, Y. Kim, S. Kim*
10:50 – 60. Joint characterization of asphaltenes and heavy oils using measured and computed infrared and Raman spectra, and enthalpies of solution for molecules and nanoparticles. **J.M. Shaw***
11:15 – 61. New method for determining composition of complex crude mixture. **T. Miao***

Marriott Waikiki Beach
Waikiki Bllrm I

Magnetoanalytical Science: Separation, Characterization and Imaging (#320)

Organized by: H. Watarai, I. Fritsch, C. Fuh
Presiding: I. Fritsch, C. Fuh

8:00 Introductory Remarks
8:05 – 62. Prospects of magnetoanalytical science: Application of magnetophoresis and magneto-optical spectrometry. **H. Watarai***
8:30 – 63. Magnetoanalytical analysis using functional nanoparticles. **C. Fuh***, C. Li, S. Yang, J. Chan, Y. Su, H. Tsai
9:05 – 64. Analysis of magneto-optical property change of a single diamagnetic crystal due to the inclination in a microscopic region. **Y. Mizukawa**, M. Iwasaka
9:30 – 65. Developments of *in-situ* optical observation devices utilizable under high magnetic fields. **N. Hirota***, H. Okada, T. Ode, M. Kiyohara, M. Tanokura, A. Nakamura, J. Ohtsuka, H. Wada
9:55 Break
10:10 – 66. Attraction and repulsion – applications of magnetism for bioanalysis in lab on a chip devices. **N. Pamme**
10:45 – 67. Simulation study for material motion induced by magnetic force in fluid. **H. Okada***, N. Hirota, S. Nishijima
11:10 – 68. Magnetic actuation of droplets with or without super paramagnetic particles on superhydrophobic surfaces for digital microfluidic applications. L. Mats, F. Logue, P. Agrawal, **R.D. Oleschuk***
11:35 – 69. Structural change of single-walled carbon nanotubes prepared in magnetic fields. **A. Hamasaki***, J. Uchimura, S. Ozeki, A. SAKAGUCHI, Y. TAKASHIMA

Tuesday Afternoon

Marriott Waikiki Beach
Waikiki Bllrm III

New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)

Organized by: S. Krylov, D. Wilson, W. Zhong, H. Wang
Presiding: H. Wang, D.J. Wilson

13:00 Opening statement
13:05 – 70. Exploring the kinase-substrate interactions by new phosphoproteomics techniques. **H. Zou***, M. Ye, Y. Bian, M. Dong
13:35 – 71. DNA-protein interaction as applied to detection of specific proteins and DNA lesions. **C. Le***, F. Li, Y. Lin, A. Newbigging, R. Paliwoda, H. Peng, M. Reid, C. Wang, Z. Wang, X. Yan, H. Zhang
14:05 – 72. Turning electric field induced bacterial aggregation into advantage for the study of interactions between bacteria and macromolecules. N. Sisavath, P. Got, G. Charrière, D. Destoumieux-Garzon, **H. Cottet***
14:25 – 73. Affinity microcolumns as new tools for examining the binding and rates of protein interactions with drugs and hormones. **D.S. Hage***, X. Zheng, S. Beeram, Z. Li, M. Podariu, M. Brooks
14:45 – 74. Partial-filling capillary electrophoresis using lectins and exoglycosidases for profiling glycoprotein glycans. **S. Suzuki**
15:05 Break
15:20 – 75. Analysis of amyloid protein aggregation using microchannel electrophoresis. **C. Hestekin***, S. Paracha
15:40 – 76. Microchip immunoaffinity analysis of a serum biomarker for cancer. **A.T. Woolley***, J.V. Pagaduan, K. O'Neill
16:00 – 77. Determination of acid dissociation constants of phenolphthalein and its derivatives under degradation. **T. Takayanagi***
16:20 – 78. RNA aptamer based assay for thrombin through affinity capture and subsequent enzymatic activity analysis. **Q. Zhao**
16:40 – 79. Single molecule analysis of polysaccharides using a solid state nanopore. **M. Takemasa**, M. Fujita, M. Maeda

Marriott Waikiki Beach
Milo III

Frontiers in Flow Injection Analysis and Related Techniques (#45)

Organized by: T. Imato, G. Christian, K. Grupan, S. Kolev, A. Sabarudin

13:00 – 80. Advances in high speed ion chromatography. **C. Lucy***
13:25 – 81. Over 10 000 peptide identifications from the HeLa proteome using single-shot capillary zone electrophoresis-tandem mass spectrometry. L. Sun, G. Zhu, X. Yan, Y. Zhao, A. Herbert, M. Westphall, M. Rush, M. Champion, J. Coon, **N. Dovichi**
13:50 – 82. Ultrarapid determination of Cr(VI) by stop-flow sequential injection analysis coupled with electrochemical detection using polyaniline-graphene quantum dots-modified screen-printed carbon electrode. **O. Chailapakul**, E. Punrat , C. Maksuk , S. Chuanuwatanakul , W. Wonsawat
14:15 – 83. Advances in chemiluminescence detection for flow analysis. **P.S. Francis***
14:40 Break
14:55 – 84. Flow analyses utilizing periodically varying flow rate: Feedback-based flow ratiometry, and amplitude modulated multiplexed flow analysis. **H. Tanaka***, M. Takeuchi
15:20 – 85. Catalytic flow-injection analysis method using oxidation reaction of *N*-(3-sulfopropyl)-3,3',5,5'-tetramethylbenzidine. **M. Kurihara***
15:45 – 86. Speciation of heavy metals in soil sample by sequential extraction used all injection system. **H. Itabashi***, M. Mori, M. Sasaki, H. Shinozaki
16:10 – 87. Monolith: Its applications to flow chemistry. **A. Sabarudin**

Marriott Waikiki Beach
Kona Moku Bllrm C

Advances in Analytical Ion Mobility Separations (#61)

Organized by: A. Shvartsburg, F. Misaizu, T. Pukala
Presiding: F. Misaizu

13:00 – 88. Ion mobility with a focus on field asymmetric waveform ion mobility spectrometry (FAIMS) as an ion filtering tool to aid mass analysis. **S. Prasad***, M.W. Belford, J. Dunyach
13:30 – 89. Differential ion mobility-mass spectrometry for the separation and structure elucidation of isomeric lipids. **S. Blanksby**, A. Maccarone, T.W. Mitchell
14:00 – 90. Resistively heated temperature programmable gas chromatography with differential mobility spectrometry. M.R. Jacobs, T. Blackstock, R. Gras, J. Luong, **R.A. Shellie***
14:30 – 91. Advances in high-resolution differential ion mobility separations and integration with ETD. **A. Shvartsburg***, A. Bowman, M. Baird, J. Kaszycki, G. Anderson
15:00 Break
15:20 – 92. Multistage differential mobility spectrometry at ambient pressure with ion transformations for enhanced measurement specificity. **G.A. Eiceman**
15:50 – 93. Differential mobility spectrometry for enhanced selectivity in LC-MS analysis of algal biotoxins. **M.A. Quilliam**, E. Kerrin, D. Beach*
16:20 – 94. Combining IMS and OMS techniques with gas-phase HDX-MS/MS measurements for ion structure characterization. **S.J. Valentine***, J. Arndt, M. Khakinejad, S. Ghassabi Kondalaji

Marriott Waikiki Beach
Milo I

Immunoanalysis: Applications and Trends for Environmental Monitoring and Human Health (#94)

Organized by: S. Gee, I. Kennedy, H. Ohkawa, T. Xu, T. Prapamontol
Presiding: I.R. Kennedy

13:00 – 95. Development of an ELISA to detect clenbuterol in pork using a new approach for hapten design. **A.Q. Bui***
13:30 – 96. Principles for design of lateral flow devices for rapid testing for organic and biological chemicals. **I.R. Kennedy***, A.N. Crossan, F. Sanchez-Bayo
14:00 – 97. Immunochromatography: Current advances and trends for agro-product safety. **P. Li**, **Q. Zhang**, z. zhang
14:30 – 98. New multianalyte lateral flow assays for control of toxic contaminants. **B.B. Dzantiev***, A.V. Zherdev, N.A. Taranova, A.N. Berlina
14:55 Break
15:10 – 99. Highly sensitive and rapid immunoassay with a novel extraction solution containing a surfactant and a disulfide bond cleaving reagent. **Y. Oyama**, M. Shoji, T. Honjoh*
15:40 – 100. Phage-borne anti-immunocomplex peptides and nanopeptamers for noncompetitive detection of small analytes. G. Lassabe, A. González-Techera, L. Vanrell, H. Kim, S. Gee, B. Hammock, **G. Gonzalez-Sapienza***
16:05 – 101. One step noncompetitive detection of 3-PBA based on anti-immunocomplex peptide-alkaline phosphatase fusion protein. **J. Dong**, A. González-Techera, S. Gee, G. González-Sapienza, B. Hammock
16:30 – 102. Application of new signal probes in immunoassays. **y. zhang***, w. sheng, s. wang

Marriott Waikiki Beach
Kona Moku Bllrm A

Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)

Organized by: Y. Baba, H. Crabtree, S. Jacobson, J. Ramsey, K. Otsuka, D. Chung
Presiding: Y. Baba, A. van den Berg, T. Yasui

13:00 Introductory Remarks
13:05 – 103. Nano- and quantum-biodevices for cancer diagnosis, cancer therapy, and iPS cell based regenerative medicine. **Y. Baba***
13:30 – 104. Formation of lipid nanoparticles using microfluidic devices. **M. Tokeshi***
13:55 – 105. Real-time detection of biomolecules in live animals. **H.T. Soh***
14:20 – 106. Decoding biological information with quantum chemistry. **M. Taniguchi***
14:45 Break
15:00 – 107. Biomimetic microfabrication for bioanalysis or life science application – lipid vesicles or tubules. **T. Kim***
15:25 – 108. Nanowire devices for analyzing biomolecules. **T. Yanagida**
15:50 – 109. Nanostructures for biomolecule analysis. **T. Yasui***, N. Kaji, T. Yanagida, M. Kanai, S. RAHONG, K. Nagashima, T. Kawai, Y. Baba
16:15 – 110. Integrated microfluidic biochip for label-free isolation of a single cancer cell in blood and for measurement of drug responses on the cell. A. Khamenehfar, T.V. Beischlag, **P.C. Li***
16:30 – 111. Micro- and nanochamber array devices for a single molecule and nucleus analysis. **N. Kaji***, T. Yasui, Y. Baba
16:45 – 112. Development of a single molecular tunnel-current based identification method toward nucleotide sequencing. **T. Ohshiro**, M. Tsutsui, K. Yokota, T. Kawai, M. Taniguchi*

Marriott Waikiki Beach
Milo IV / V

Innovation in Chemical Sensing and Separation Systems toward Advanced Chemical Analysis (#159)

Organized by: T. Hayashita, P. Dasgupta, B. Cho, A. Tong, T. Okada, W. Zhong, H. Li, H. Chang
Presiding: T. Hayashita, W. Zhong

13:00 Introductory Remarks
13:05 – 113. Digital LAMP on a SD chip for point-of-care genetic analysis. **D. Chiu**
13:25 – 114. Surface-bubble-modulated liquid chromatography: A new strategy for manipulating chromatographic retention by pressure-induced change in the volume of stationary nanobubbles. **M. Shibukawa***, K. Nakamura, S. Saito
13:45 – 115. Variation of plasmonic sensor systems for fluid samples. **N. Fukuda***, K. Nomura, M. Fujimaki, H. Ushijima
14:05 – 116. Admittance detection in microsystems: Old wine in a new bottle?. **P.K. Dasgupta***, M. Zhang
14:35 – 117. Chirality sensing using coordination polymers of Ag(I) with thiol ligand. Q. Zhang, N. Chen, Z. Li, **Y. Jiang***
14:55 Break
15:05 – 118. Guest-induced supramolecular chilarity in ditopic azoprobe-cyclodextrin complexes in water. **T. Hayashita***, K. Nonaka, M. Yasui, T. Hashimoto
15:25 – 119. Photoresponsive fluorescent molecules in solution and solid state. **A. Tong**, Y. Xiang, K. Li, L. Peng
15:45 – 120. Mitochondrial targeting apoptosis by antitumor theranostic prodrug. R. Kumar, H. Jung, Y. Lee, W. Shin, J. Jang, S. Uhm, K. Sunwoo, W. Kim, S. Koo, **J. Kim***
16:05 – 121. Fluorescence sensors for species of biological and environmental interest. **T.D. James***
16:25 – 122. Sensing of biomedically relevant species in live tissues by two-photon microscopy. **B. Cho***
16:55 Closing Remarks

Marriott Waikiki Beach
Kona Moku Bllrm B

Symposium on Petroleomics: Molecular Level Understanding of Petroleum for Environmental Science and Petroleum Engineering (#247)

Organized by: S. Kim, Y. Harvey, A. McKenna

*** Principle Author**

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13:00 Introductory Remark
13:05 – 123. Molecular insight into oil spill weathering helps advance high magnetic field FT-ICR mass spectrometry. **A.M. McKenna***, N.K. Kaiser, C.L. Hendrickson, R.P. Rodgers, C.M. Reddy, R.K. Nelson, K. Lemkau, L. Nyadong, D.L. Valentine, Y.E. Corilo, D.C. Podgorski, G.T. Blakney, J.T. Savory, J.P. Quinn
13:30 – 124. True boiling point (TBP) based fractionation of crude oil: Detailed chemical and toxicological characterization. **U. Yim***, S. Ha, A. Loh, W. Shim
13:55 – 125. Closer look at petroleum and the environment using Fourier transform ion cyclotron resonance mass spectrometry. **M.P. Barrow**
14:20 – 126. Differentiating natural and anthropogenic sources of bitumen–derived organic compounds to water resources surrounding the Canadian oil sands. **C. Sun***, J. Martin*, . Shotyk, . Poesch, N. Sinnatamby
14:45 Break
14:55 – 127. Lignin-derived alicyclic aliphatic structures incorporated into kerogen and petroleum. **P.G. Hatcher**, B.E. Hartman, N. DiDonato, D.C. Waggoner
15:20 – 128. Potential of FTir for characterizing vacuum distillates. C. Sanchez*, **H. Yarranton**, M. Mapolelo, S. Mahavadi, S. Andersen
15:45 – 129. Seeing is believing - but your petroleum is not what you see!. **J.T. Andersson***
16:10 – 130. Understanding solar induced transformation of crude oils using high resolution ion mobility spectrometry coupled to FT-ICR MS. P. Benigni, K. Sandoval, C.J. Thompson, M.E. Ridgeway, M.A. Park, P. Gardinali, **F. Fernandez-Lima**
16:35 – 131. Supramolecular assembly model for asphaltene aggregation: Mechanistic insights from computational modeling. **S. Stoyanov**, A. Kovalenko

Marriott Waikiki Beach
Waikiki Bllrm I

Magnetoanalytical Science: Separation, Characterization and Imaging (#320)

Organized by: H. Watarai, I. Fritsch, C. Fuh
Presiding: H. Watarai, M. Zborowski

13:00 – 132. Magnetic cytosmear for specialized cytological analyses in global health and disease. **M. Zborowski***, L.R. Moore, J.J. Chalmers
13:35 – 133. Chip-scale magnetoresistive platforms for human health diagnostics. **M.D. Porter***, J. Park, C. Lim, J. Beck, A. Skuratovsky, C. Young, B. Blackley, G. Khanderao, J. Granger, M. Granger
14:00 – 134. Magnetic particle Imaging: Recent developments and translational applications in cardiovascular disease and molecular imaging of cancer. **K.M. Krishnan**
14:35 – 135. Plasmonic-magnetic nanorods for imaging and therapeutics. **J. Chen**
15:00 Break
15:15 – 136. Magneto-resonance approaches for antiviral drug designing. **O. Prakash***, D. Takahashi, K. Chang, Y. Kim
15:40 – 137. Nanoscale magnetometry using the nitrogen-vacancy centre in diamond. **L. Hollenberg**
16:15 – 138. Materials and In-fiber devices for magneto cardiography and magneto encephalography applications. **P. Gangopadhyay***

Wednesday Morning

Marriott Waikiki Beach
Waikiki Bllrm III

New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)

Organized by: S. Krylov, D. Wilson, W. Zhong, H. Wang
Presiding: H. Wang, W. Zhong

8:00 Opening Statement
8:05 – 139. Protein-protein interactions, networks, and structures: New tools for in vivo discovery. **J.E. Bruce***, J.D. Chavez, A. Navare, D. Schweppe, X. Wu, C. Zheng
8:35 – 140. Use of the conditional two-hybrid system to analyse methylation-dependent interactions and protein interaction codes. **M. Wilkins**
9:05 – 141. Fluorogenic dyes for screening of protein-nanoparticle interactions. **W. Zhong**, J. Ashby, Y. Duan
9:25 – 142. Responsive nanogels for biomolecular separations. **L.A. Holland***
9:45 – 143. Investigation of complex matrix effect on solid phase microextraction for biological sample analysis. **R. Jiang**, F. Zhu, G. Ouyang*
10:05 Break
10:20 – 144. Characteristic evaluation of PEG-based hydrogels for protein recognition using molecularly imprinting technique. **T. Kubo**, S. Arimura, T. Naito, K. Otsuka*
10:40 – 145. Generalized model on the effects of nanoparticle on fluorophore fluorescence in solution. **D. Zhang**
11:00 – 146. Evaluating the selectivity of functionalized squarylium cyanine dyes towards saccharides and sialic acids. **C.L. Colyer**, K. Ouchi, T. Maeda, H. Nakazumi, M. Shibukawa, S. Saito*
11:20 – 147. Covalent peptides to probe protein-protein interactions and modulate signal transduction inside cells. **J. Xia***
11:40 – 148. Ligand/receptor modified hydrogel particles as probes for biomolecular interactions at surfaces. A. Calameño, H. Wang, T. Radke, T. Pompe, L. Hartmann, **S. Schmidt***

Marriott Waikiki Beach
Kona Moku Bllrm B

Current Issues in Teaching Analytical Chemistry (#38)

Organized by: T. Wenzel, C. Lucy, G. Dicinoski
Presiding: G. Dicinoski, C. Lucy, T. Wenzel

8:00 Introductory Remarks
8:05 – 149. What are the most effective teaching methods for an undergraduate laboratory program?. R. Pullen, **G. Dicinoski***, B.F. Yates, N. Brown, J. Smith
8:35 – 150. Incorporating analytical research experience into the undergraduate curriculum. **K. Thurbide**
9:05 – 151. Advancing science and engineering through laboratory learning: ASELL. **K.F. Lim**
9:35 – 152. Using digital tools to foster active learning. **C.R. Harrison**
10:05 Break
10:20 – 153. Free resources for teaching analytical chemistry. **C. Lucy***
10:50 – 154. Two-sided story: Challenges and successes in implementing active learning laboratory experiments for an undergraduate analytical chemistry course. **A.G. Cavinato***
11:10 – 155. Use of project-based learning and technology to further engage students in quantitative analysis. **S.C. Russell***
11:30 – 156. Some teaching approaches to stimulate critical thinking in analytical chemistry. **D. Beauchemin**
11:50 Concluding Remarks

Marriott Waikiki Beach
Milo III

Frontiers in Flow Injection Analysis and Related Techniques (#45)

Organized by: T. Imato, G. Christian, K. Grupan, S. Kolev, A. Sabarudin

8:00 – 157. Microfluidic devices for controlling the environment around dorsal root ganglion neurons and collecting stimulated release of transmitters and peptide. **J.V. Sweedler***, E.G. Tillmaand, N. Yang, M.A. Makurath, S.S. Rubakhin
8:25 – 158. Membraneless vaporization unit coupled with flow analysis system for determination of volatile compounds. **N. Ratanawimarnwong***, T. Pluangklang, W. Al-ahmad, D. Nacapricha, P. Wilairat
8:50 – 159. Instrument-free paper microfluidic flow sensors using a mobile phone for potentiostatic control and electrochemiluminescence detection. **C.F. Hogan***
9:15 – 160. Determination of biological samples by flow analysis and its potential to medical support. **N. Teshima***, H. Murakami
9:40 Break
9:55 – 161. Electrodialytic ion-extraction device-ion-exclusion chromatography of silicate ion. **M. Mori***, Y. Kurosawa, H. Kojima, N. Nakatani, S. Ohira, K. Tsunoda, H. Itabashi
10:20 – 162. Flow injection analysis of β-secretase activity by using of immobilized recombinant fusion β-secretase and application of the system for the inhibitor. **Y. Iida***
10:45 – 163. Flow immunoassay based on carbon nanodots. **R. Ishimatsu**, K. Nakano, T. Imato
11:05 – 164. Specific fluid behavior of the mixed solutions in a micro-space and its application. **S. Fujinaga**, M. Hashimoto, K. Tsukagoshi, J. Mizushima

Marriott Waikiki Beach
Kona Moku Bllrm C

Advances in Analytical Ion Mobility Separations (#61)

Organized by: A. Shvartsburg, F. Misaizu, T. Pukala
Presiding: A. Shvartsburg

8:00 – 165. Analysis of the three-dimensional shape of polyatomic ions by ion mobility spectrometry. **T. Wyttenbach**, C. Bleiholder, M.T. Bowers*
8:30 – 166. Structural characterisation of biomolecular assemblies by chemical cross-linking and ion mobility-mass spectrometry. M. Graetz, A. Button, **T.L. Pukala***
9:00 – 167. Integrated ion mobility and mass spectrometry methods for structural proteomics. **B. Ruotolo***
9:30 – 168. Probing structural dynamics and aggregation of human islet amyloid polypeptide using Ion Mobility Mass Spectrometry. **H.I. Kim***, S.C. Lee, S. Akashi, M. Lim
10:00 Break
10:20 – 169. Understanding biopolymer structures and folding in solution from studies of naked ions in the gas phase. **D.E. Clemmer***
10:50 – 170. Intact membrane proteins released from detergent micelles under vacuum: Combining IMS/MS, in silico collision-induced dissociation and molecular dynamics simulations. F. Montenegro, M. Barrera, S. Torres, **N.P. Barrera***
11:20 – 171. HDX-TIMS-MS reveals kinetic intermediates of globin proteins. C. Harrilal, J. Molano-Arevalo, E.R. Schenk, J. Miksovska, **F. Fernandez-Lima**

Marriott Waikiki Beach
Milo I

Immunoanalysis: Applications and Trends for Environmental Monitoring and Human Health (#94)

Organized by: S. Gee, I. Kennedy, H. Ohkawa, T. Xu, T. Prapamontol
Presiding: T. Xu

8:00 – 172. Single domain heavy chain antibodies (nanobodies or VHH): Monoclonal antibody replacement?. **B. Hammock***, S. Gee
8:25 – 173. Environmental and human exposure monitoring for tetrabromobisphenol A by immunoassays based on a variable domain of heavy chain antibody. **T. Xu***, J. Wang*, C. Bever*, S. Gee*, Q.X. Li, B. Hammock
8:50 – 174. Synthetic biology immunosensors: Whole-cell biosensors based on surface displayed nanobodies. **K.M. Polizzi***, H. Lai, N. Kylilis, P.S. Freemont
9:10 – 175. Nanobody based ELISA for protein and small molecule detection using a polymeric enzyme as the label. **D. Li**, Y. Cui, S. Gee, Y. Ying, B. Hammock
9:30 – 176. Single domain antibodies to haptens: Selection strategy and unusual binding properties. S. Tabares, M. Pirez, L. Wogulis, D. Wilson, B.M. Brena, **G. Gonzalez-Sapienza***
9:50 Break
10:05 – 177. Camelid derived VHHs as new generation immunoanalysis reagent for environmental checmicals - aflatoxin as an example. **A. Wei***, J. Herron, X. Wang, A. Zinkl
10:30 – 178. Development of visual screening examination kit for cadmium by immunochromatography using anti-(Cd-EDTA) antibody. H. ARAI*, K. NAKAMURA, **Y. YOSHIDA**, K. TAWARADA
10:55 – 179. ELISA coupled with solid phase microextraction on a modified polysiloxane waveguide. G. Mackey, K. Flynn, **R. Brown***
11:15 – 180. Detection of the tuberculosis antigenic marker lipoarabinomannan in infected patient sera by gold nanoparticle labeling and surface-enhanced Raman scattering. **M.D. Porter***, A. Crawford, L. Laurentius, T.S. Mulvihill, J. Granger, J. Spencer, D. Chatterjee, K. Hanson
11:35 – 181. Detection of β-agonists by noble metal nano-materials based surface-enhanced Raman scattering immunochromatographic assay. **A. Deng**

Marriott Waikiki Beach
Kona Moku Bllrm A

Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)

Organized by: Y. Baba, H. Crabtree, S. Jacobson, J. Ramsey, K. Otsuka, D. Chung
Presiding: J. Ramsey, S.A. Soper, D. Spence

8:00 Introductory Remarks

*** Principle Author**

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8:05 – 182. Rapid electronic identification of individual molecules with single nanometer-scale pores. **J. Kasianowicz***, A. Balijepalli, J. Benjamini, J. Robertson, H. Wang, J. Forstater, J. Reiner
8:30 – 183. Interfacing nanofluidic devices to the real world: Analyzing drug-induced damage in single DNA molecules isolated from circulating tumor cells. **S.A. Soper***
8:55 – 184. Nanofluidic devices for the manipulation and characterization of DNA: One molecule at a time. L.D. Menard, O.A. McCrate, M.A. Tycon, **J. Ramsey***
9:20 – 185. Microengineered intestine for biomedical assays. **N. Allbritton**
9:45 Break
10:00 – 186. Biomimetic channels and channel networks. **A. Manz**
10:25 – 187. Enhanced, rugged organ-on-chip systems with 3D-printed devices. **D. Spence**
10:50 – 188. Compact microfluidic systems for low-cost chemical and biological analyses. **C.J. Backhouse***
11:15 – 189. Nanomechanical devices as a molecular sensing platform. T. Biswas, N. Miriyala, T. Thundat, K. Beach, **J.P. Davis***
11:30 – 190. Development of microfluidic plasma separation device for whole blood immunoassay. **H. Shimizu**, M. Kumagai, E. Mori, K. Mawatari, T. Kitamori*
11:45 – 191. Bioinspired conducting polymers to couple cells electrically at high selectivity. Q. Pan, Y. Zhang, **B. Zhu***, Y. He

Hawaii Convention Center
Halls I, II, III

Innovation in Chemical Sensing and Separation Systems toward Advanced Chemical Analysis (#159)

Organized by: T. Hayashita, P. Dasgupta, B. Cho, A. Tong, T. Okada, W. Zhong, H. Li, H. Chang
Presiding: T. Hayashita, W. Zhong

Poster Session
10:00 – 12:00

192. siRNA separation and identification by capillary polymer electrophoresis. C. Liu, Y. Yamaguchi*, **X. Dou**
193. Development of temperature-responsive solid-phase extraction column for biologocal sample pretreatment. **M. Akimaru***, K. Okubo, Y. Hiruta, H. Kanazawa
194. Effects of terminal group and chain length on temperature-responsive chromatography utilizing Poly(*N*-isopropylacrylamide) via RAFT polymerization. **Y. Nagumo***, Y. Hiruta, H. Kanazawa
195. Application of quinoline oligoamide foldamer for chiral HPLC stationary phase. **H. Noguchi**, V. Maurizot , M. Takafuji*, I. Huc, H. Ihara*
196. Ice grain boundary as a size-selective electrophoretic separation field. **A. Inagawa**, T. Okada
197. Shear flow ice chromatography. **M. Shimizu**, M. Harada, T. Okada
198. Chiral separation with composite-type stationary phase. **Y. Iimura**, T. Okada
199. Designing novel potentiometric sensors based on nanostructured TiO_2 electrodes for selective determination of biologically important transition metals in real samples. **M. Hariri***, S. Morin
200. Adsorption behavior of Cu(II)-ammonia complex to gel-like solid polyol compounds through dehydration condensation reaction. **T. Fujimori***, H. Mabuchi, K. Yoshimura
201. Efficient recovery of rare metals ions with calix[4]arene derivatives by using droplet-based microreactor system in nitric acid media. R. Sathuluri, M. Maeki, K. Ohto, **M. Miyazaki**
202. New approach toward fast and efficient DNA aptamer selection for microbial cells using polymer-enhanced capillary transient isotachophoresis. **K. Hirose***, M. Tsuchida, K. Yoshimoto, C.L. Colyer, M. Shibukawa, S. Saito
203. Evaluation of the intrinsic retention selectivity of hydrocarbonaceous and fluorocarbonaceous stationary phases by surface-bubble-modulated liquid chromatography. **K. Nakamura***, S. Saito, M. Shibukawa
204. Development of an off/on fluorescence probe for carbonic anhydrase IX based on twisted intramolecular charge transfer (TICT) state. **S. Takahashi***, K. Hanaoka, Y. Urano
205. Recognition and optical sensing of phenylurea pesticides by carboxylate anion. **R. Kato***, H. Okumura, K. Ito, T. Hattori
206. Preparation and characterization of anion sensing polymer nanofibers and its anion sensing properties in methanol and methanol-water. **H. Kahara***, R. Kato, T. Hattori, Y. Ishii
207. Visual measurement of contaminants using a thixotropic gel. **T. Saito***
208. Laser trapping induced microparticle formation in thermoresponsive polymer/alcohol/water ternary system and its application for ultratrace analysis. **R. Nohara**, A. Miura, N. Kitamura
209. Recognition function of phosphate derivatives by supramolecular dipicolylamine azoprobe/dendrimer complexes in water. **T. Hashimoto**, A. Koshino, Y. Tsuchido, T. Hayashita*
210. Development of fluorescent probe possessing dipicolylamine for selective ion recognition in water. **Y. Torii**, M. SAWADA, S. Fujiwara, T. Hashimoto, T. Hayashita*
211. Design and function of dipicolylamine fluorescent probes for ion recognition in water. **M. SAWADA**, Y. Torii, H. KOBAYASHI, T. Hashimoto, T. Hayashita*
212. Substituent effect on recognition of phosphate derivatives by dipicolylamine azoprobe/cyclodextrin complex sensor. **S. MINAGAWA**, T. UEMURA, T. Hashimoto, T. Hayashita*
213. Long-time nonadiabatic molecular dynamics of boronic acid fluorophore. **O. Kobayashi***, S. Nanbu
214. Development of supramolecular rotaxane sensors possessing ion recognition function by biscrown ether structure. **M. OKANIWA**, S. MURAYAMA, S. Fujiwara, Y. Tsuchido, T. Hashimoto, T. Hayashita*
215. Evaluation of sugar adsorption gel based on phenylboronic acid azoprobe/cycldextrin complexes. **T.G. Bekele**, T. Yamada, T. Suzuki, T. Hashimoto, T. Hayashita*
216. Design of saccharide recognition material based on boronic acid fluorophore/cyclodextrin supramolecule complex. **T. Suzuki**, Y. Tsuchido, T. Hashimoto, T. Hayashita*
217. Selective sugar recognition by fluorinated boronic acids fluorophore/cyclodextrin complexes in water at neutral pH condition. **K. Sugita**, Y. Tsuchido, T. Hashimoto, T. Hayashita*
218. Saccharide recognition by using amphiphilic phenylboronic acid sensor. **Y. Tsuchido**, T. Suzuki, R. Sato, T. Hashimoto, T. Hayashita*
219. Design and function of dipicolylamine modified β-cyclodextrin for phosphate anion sensing in water. **S. Fujiwara**, T. Yamada, H. KOBAYASHI, T. Hashimoto, T. Hayashita*
220. Design and function of supramolecular dipicolylamine-modified cyclodextrins. **T. Yamada**, S. Fujiwara, H. KOBAYASHI, T. Hashimoto, T. Hayashita*
221. Development of bacteria detection sensor based on phenylboronic acid/dendrimer complex supramolecular in water. **R. Horiuchi**, Y. Tsuchido, H. KOBAYASHI, T. Hashimoto, T. Hayashita*
222. Development of fluorescent probe for pathogenic bacterial detection. **Y. Kasai**, H. KOBAYASHI, Y. Tsuchido, T. Hashimoto, T. Hayashita*
223. Novel electrochemical molecular recognition system using metal complexes assembled on gold nanoparticles. **A. Endo***, S. Yoshimoto, T. Hashimoto, T. Hayashita
224. Electrochemical molecular recognition of the dopamine with the ruthenium complexes assembled on metal nanoparticles. **A. Sunata**, A. Endo, T. Hashimoto, T. Hayashita*
225. Molecular recognition using a β-cyclodextrin assembled on the gold electrode by impedance spectroscopy (EIS). **N. Ishiguro**, T. Hashimoto, A. Endo, T. Hayashita

Marriott Waikiki Beach
Waikiki Bllrm II

Fundamentals and Applications of Atomic Spectrometry (#160)

Organized by: N. Furuta, G. Hieftje, R. Sturgeon
Presiding: G.M. Hieftje

8:00 – 226. Instruments of change in atomic mass spectrometry: Progress, predictions, and science applications. **D. Koppenaal***, S.J. Ray, G.M. Hieftje, R. Marcus
8:35 – 227. Near field enhanced ionization time-of-flight mass spectrometry for nanometer scale surface analysis. **W. Hang**
9:10 – 228. Distance of flight mass spectrometry: New capabilities for atomic MS. **S.J. Ray***, E. Dennis, G.M. Hieftje, C. Enke, C. Barinaga, D. Koppenaal
9:45 Coffee break
10:05 – 229. Nanoparticle and microparticle measurements using single particle-, time integrated-, and laser ablation-ICP-MS. **J.W. Olesik***, A.T. Wilson, C. Sun, A. Lutton
10:40 – 230. Effects of desolvation and particle vaporization on sp-ICP-MS measurement. B. Chun, **W. Chan***
11:15 – 231. Pushing the limits in nanomaterials analysis: Characterization of single nanoparticles using spICP-MS and CE-spICP-MS. **C. Engelhard***, I. Strenge, B. Franze

Hawaii Convention Center
Halls I, II, III

Symposium on Petroleomics: Molecular Level Understanding of Petroleum for Environmental Science and Petroleum Engineering (#247)

Organized by: S. Kim, Y. Harvey, A. McKenna

Poster Session
10:00 – 12:00

232. Quantitative observation of change in ring type distribution of UV and natural degraded oil samples. **D. Kim**, S. Ha, U. Yim, W. Shim, S. Kim*
233. Application of molecular dynamic simulation for theoretical collisional cross-section calculations of long-chain alkyl aromatic compounds. **D. Lim**, A. AHMED, S. Kim*
234. Combining chromatographic fractionation and FT-ICR MS analyses for more detailed molecular level identification of crude oil compounds. **J. Ha**, D. Kim, S. Kim*
235. Source characterisation of polycyclic aromatic hydrocarbons (PAHs) in sediments and soils from Khuzestan province, Iran, using multivariate data analysis (CHEMSIC - chemometric analysis of selected ion chromatograms). **J.S. Lübeck**, K.G. Poulsen, S.B. Knudsen, M. Soleimani, J.H. Christensen*
236. Characteristic curvature evaluation of anionic surfactants for enhanced oil recovery applications. **A.B. Mejia***
237. Suppression of tar emission by enhancing volatile-char interaction during coal gasification at low temperature. **Y. Kawabata**, T. Wajima, H. Nakagome, S. Hosokai, Y. Suzuki, H. Sato, K. Matsuoka
238. Phenol-selective mass spectrometric analysis of petroleum fractions. **H. Zhu***, J. McIndoe

Marriott Waikiki Beach
Waikiki Bllrm I

Magnetoanalytical Science: Separation, Characterization and Imaging (#320)

Organized by: H. Watarai, I. Fritsch, C. Fuh
Presiding: I. Fritsch, N. Pamme

8:00 – 239. Expanding lab-on-a-chip applications for redox-magnetohydrodynamic microfluidics through polymer-modified electrodes and enhanced current-magnet relationships. F.Z. Khan, B.J. Jones, C.K. Nash, **I. Fritsch***
8:35 – 240. Electrochemical detection of magnetic field-induced agglomeration of solution-phase Fe_3O_4 nanoparticles. **K. Tschulik***, R.G. Compton
9:00 – 241. Magnetic enrichment for ultratrace electrochemical detection of hybrid Pt-decorated iron oxide nanoparticles. **K.J. Stevenson***, D. Robinson
9:25 – 242. Effects of magnetic field and metal nanoparticles on photoelectrochemical reactions of porphyrin-viologen linked compound-metal nanoparticle composite films. **H. Yonemura***, T. Niimi, S. Yamada
9:50 Break
10:05 – 243. Chiral surface formation by galvanostatic magnetoelectrodeposition. **I. Mogi***, R. Aogaki, K. Watanabe
10:30 – 244. Tailored magnetic fields for controlling the electrochemical deposition of metal. **G. Mutschke***, S. Mühlenhoff, X. Yang, K. Eckert, K. Tschulik, M. Uhlemann, J. Froehlich, A. Bund
10:55 – 245. FT-IR spectroscopic study on a magnetically treated aqueous solutions using principal component analysis. K. Suzuki, T. Hasegawa*, **F. KIMURA**, T. Shimoaka, T. Kimura*
11:20 – 246. Development of Faraday rotation imaging microscope with pulsed magnetic field. **M. Suwa**, S. Tsukahara, H. Watarai
11:45 Closing Remarks

Hawaii Convention Center
Halls I, II, III

(Bio-)Chemical / Electrochemical Sensors and Sensing Materials (#417)

Organized by: K. Suzuki, P. Buhlmann, D. Citterio, O. Niwa, M. Winnik, K. Mitsubayashi

Poster Session
10:00 – 12:00

247. Electrically conductive Fe-PDMS polymer composites for temperature sensing applications in microfluidic devices. **A.A. Agarwal***, M. Pallapa, J.C. Leung, **P. Rezai***
248. Reagentless sensor using "plastic oxidase" by molecularly imprinted polymer including redox group. **Y. YOSHIMI***, H. Ohira
249. Water-soluble polymers for the selective sensing of mercury ions with pH-driven controllable detection sensitivity and time. **S. Kim**, A. Balamurugan, H. Lee*

*** Principle Author**

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250. Development of fluorescence probe for cellular imaging utilizing a temperature-responsive polymer. **A. Yamada***, J. Wang, Y. Hiruta, H. Kanazawa
251. Hollow polymer nanocapsules - new platform for application as optical sensors. **M. Kim**, S. Dergunov, E. Lindner, E. Pinkhassik
252. Label-free cancer cell detection using conducting polymer film. **K. Numada**, H. Shiigi, T. Nagaoka, I. Nakase, S. Tokonami*
253. Design of bright fluorescent polymers for bioassays. **Y. Takahashi**, T. Toyama, R. Kato, Y. Hiruta, Y. Shindo, K. Oka, M. Takai, N. Iwasawa, D. Citterio, K. Suzuki*
254. Colorimetric analysis of chirality using poly(phenylacetylene) with chiral amide receptors. **Y. Mato***, S. Umeda, K. Tsuda, T. Satoh, T. Kakuchi, R. Sakai
255. Chiral discrimination of optically active carboxylic acids using polydiacetylene with chiral amino groups at the side chain. **R. Sakai***, Y. Mato, S. Umeda, K. Tsuda, T. Satoh, T. Kakuchi
256. Ratiometric detection of protein kinase activity with a fluorescent polyion complex nanoparticle that incorporates an internal standard. **T. Nobori***, S. Shiosaki, A. Kishimura, T. Mori, Y. Katayama
257. Plasmonic full color sensor by use of multilayered metallic nanoparticle sheets. S. Shinohara, D. Tanaka, K. Okamoto, **K. TAMADA***
258. Colorimetric DNA detection by invasive reaction coupled with nicking endonuclease-assisted nanoparticles amplification. **B. Zou**
259. Fluorescent core-shell-type labeling nanoparticles for immunoassays. **K. Osada**, Y. Katayama, K. Suzuki, D. Citterio*
260. Sensing microbes using Au substrates modified with artificial siderophore-Fe^{3+} complexes. **T. Inomata***, H. Ido, T. Murase, T. Ozawa, H. Masuda
261. Determination of cholera toxin based on β-galactose derivative functionalized Au surface. **D.T. Jeong***, K. Ahn, W. Lee
262. Highly sensitive and stable biosensing probes based on Ag containing nanoheterostructures. **A.T. Dao***, D.M. Mott, S. Maenosono
263. Bioluminescent sensing of toxic substance in environmental water by using luminous *Escherichia coli*. **H. Karatani***, D. Okamoto, Y. Ihara
264. Synthetic coelenterazine derivatives for bioluminescence applications. **R. Nishihara**, S. Kim, T. Nakajima, M. Sato, S. Nishiyama, N. Iwasawa, D. Citterio, K. Suzuki*
265. Electrogenerated chemiluminescent sensor for hydrogen peroxide based on a cyclometalated Ir(III) complex. **I. Shin**, H. Kim, J. Hong
266. Electrogenerated chemiluminescence sensor based on sol-gel incorporated CdSe/ZnS quantum dot. **S. Nam***, W. Lee
267. Design of bright chemiluminescent dyes for bioanalysis. **M. Sumiya***, M. Iwama, M. Yokoo, S. Nishiyama, D. Citterio, K. Suzuki*
268. Design and synthesis of novel coelenterazine derivatives with high functionality. **M. Abe**, R. Nishihara, T. Nakajima, M. Sato, S. Kim, N. Iwasawa, D. Citterio, S. Nishiyama, K. Suzuki*
269. Design and synthesis of novel red-shited firefly luciferin analogs. **Y. Ikeda**, T. Toyama, Y. Adachi, N. Iwasawa, D. Citterio, S. Nishiyama, K. Suzuki*
270. Metal ion-zeolite composite gas sensors for the selective detection of hydrocarbons. **D.C. Pugh***, S.M. Hailes, I.P. Parkin
271. Fiber-optic biochemical acetone gas sensor (bio-sniffer) for assessment of lipid metabolism from exhaled breath. **M. Ye**, P. Chien, K. Toma, T. Arakawa, K. Mitsubayashi*
272. Fiber-optic biosensor with a UV-LED excitation system for sensitive determination of sorbitol-induced diabetic complications. **T. Gessei**, Y. Takimoto, A. Monkawa, T. Arakawa, K. Mitsubayashi*
273. Trace water determination by means of fiber optic gas sensor with metal organic framework as a sensing material. **S. Ohira**, Y. Miki, M. Endo, N. Nakamura, Y. Hirose, K. Toda
274. Highly sensitive and rapid gas biosensor for formaldehyde. **Y. Takimoto**, T. Gessei, N. Jo, A. Monkawa*, T. Wada, N. Sanari
275. Atomically precise doping interrupted chalcogenide-based semiconductor zeolitic analog with tunable photo-/electrochemical property. **Y. Liu**
276. Detection of heavy metal ions and phosphates using organic field effect transistors functionalized with dipicolylamine derivatives. **T. Minami***, T. Minamiki, Y. Sasaki, S. Tokito
277. Development of biocompatible ion sensors based on sol-gel glass modified chemically with oligoethylene glycol derivative. **H. Ishigaki***, S. Yajima, M. Tanaka, K. Kimura
278. Colorimetric chelating reagents for serum iron and copper based on charged quinone structures. **R. Endo**, Y. Kaneko, K. Kina, N. Iwasawa, S. Nishiyama, D. Citterio, K. Suzuki*
279. On-chip DNA methylation analysis by a bulge specific immuno-recognition. **R. Kurita***, H. Yanagisawa, K. Yoshioka , O. Niwa
280. Multiplexed profiling of cell surface glycans in MALDI-MS by DNA labeling and signal amplification. **Z. He***, J. Lin
281. Observation of conformational changes of a functional RNA by using a quartz crystal microbalance with energy dissipation technique. **H. Furusawa**
282. Characterization of the DNA aptamer which binds to CD4 and its application for detection of CD4-expressing cells. **K. Yano***, T. Shibata, Y. Sato, H. Kubo, T. Shimizu, A. Shiratani, M. Shimizu, A. Sato
283. Toward DNA-detecting FET devices with ligand-immobilized gate surface. **A. Michikawa**, R.K. Verma, N.B. SABANI, K. NAKATANI
284. PEP-on-DEP: A realistic biosensor chip for unreachable biomarker-based diagnostics. **M. Biyani***, K. Kawai, M. Chikae, M. Biyani, H. Ushijima, K. Kitamura, T. Yoneda, Y. Takamura
285. 2D ATP imaging based on CCD type pH sensor modified with ATPase. **S. Endo**, A. Kono, R. Kato, K. Sawada, T. Hattori*
286. 2-Propanol fluorometric biosensor based on secondary-alcohol dehydrogenase (S-ADH) for clinical diagnosis of ketoacidosis. **P. Chien**, M. Ye, K. Toma, T. Arakawa, K. Mitsubayashi*
287. Circularly permuted fluorescent protein-based indicators for citrate. **Y. Honda**, K. Kirimura
288. Visualization of toxic substance in environmental water by using blue fluorescent *Escherichia coli*. **Y. Ihara**, D. Okamoto, H. Karatani*
289. Bioinspired post-polymerization modifications of molecularly imprinted protein recognition nanocavity for acquiring signal transducing function of binding events into fluorescence change. **H. Sunayama**, T. Takeuchi
290. Detection of protein kinase activity using chemical and electrochemical sensors. I. Shin, S. Lee, H. Rhee, **J. Hong***
291. LSI-based microelectrode array chip device with 400 addressable sensors toward electrochemical imaging of stem cells. **Y. Kanno**, K. Ino*, C. SAKAMOTO, K. INOUE Y., M. MATSUDAIRA, A. SUDA, R. KUNIKATA, H. Abe, H. Shiku, T. Matsue*
292. Evaluation of plasticized potentiometric membranes for ion-selective electrodes by pulsed NMR analyses. **T. Moriuchi***, Y. Urahama
293. Electrodeposition of copper oxide/polypyrrole/reduced graphene oxide as a nonenzymatic glucose biosensor. **P. Woi***, P.M. Nia, Y. Alias
294. Oxygen-dependent behavior of the amperometric signals of glucose oxidase enzyme electrodes. **N. Halder***
295. Electrochemical immunochromatography integrated with microperiodic array-based sensor for bioanalyses. **W. Iwasaki***, R. Sathuluri, O. Niwa, M. Miyazaki
296. Novel nanofiber web-based dry electrodes for long-term biopotential monitoring. **L. Jin**, Y. Ahn, K. Kim*, T. Oh, E. Woo
297. Selective nitrogen doped carbon thin film electrode for electrochemical biosensor. **T. Kamata**, D. Kato, O. Niwa*
298. Design of polyion complex sensor arrays that fingerprint secretomic signatures of cells for markerless and noninvasive cell evaluation. **S. Tomita***, K. Yoshimoto, R. Kurita, O. Niwa
299. Non-invasive mouth guard biosensor for continuous measurement of saliva glucose. **T. Arakawa**, Y. Kuroki, H. Nitta, S. Takeuchi, T. Sekita, S. Mizukuchi, K. Mitsubayashi*
300. Interdigital capacitors for monitoring the quality of ethanol lended gasoline using imprinted titania coatings. **A. Mujahid**, **M. Irshad**, W.u. Zaman, T. Hussain, A. Afzal, N. Iqbal
301. Direct imaging of acetylcholine with a novel fMRI nanosensor. **Y. Luo***, H.A. Clark
302. Development of a high-contrast fluorescence microscopy based on polarization techniques using an optical interference mirror slide. **M. Yasuda***, T. Akimoto
303. Novel "dead volume-free" spotter aspirating and dispensing nanolitter-level samples and its applications to bioanalysis. **H. Aoki**
304. Detection of biomarkers via aptamer based binding events. **M.F. Ali***, S. Sitaula, J. Grennell, C. Dunlock

Hawaii Convention Center
Halls I, II, III

Plasmonic Materials for Chemical Analysis (#450)

Organized by: D. Boudreau, J. Masson, A. Haes, J. Shumaker-Parry, M. Fan
Presiding: D. Boudreau, J. Masson

Poster Session
10:00 – 12:00

305. Free-standing gold nanoparticle films as flexible SERS sensors. **L. Pruden**, J.S. Shumaker-Parry
306. Identifying uranium speciation in environmental samples using Raman and SERS. **G. Lu***, T.Z. Forbes, A.J. Haes
307. Surface plasmon resonance imaging (SPRi)-based biosensors for small-molecule metabolites detection. **Y. Cao**, M. McDermott*, B. Griffith, D.S. Wishart
308. Molecularly imprinted polymeric ionic liquids films for surface plasmon resonance sensing of energetic materials in aqueous media. **T. Havard***, J. Masson, A.R. Schmitzer
309. Single particle study of plasmonic bimetallic nanoparticles. **J. Zhao***, S. Thota, S. Chen, Y. Zhou, S. Zou
310. Quantitative SERS measurements with internal reference. **Y. Zhou**, P. Joshi, R. Ding, T. Ozkaya Ahmadov, P. Zhang*
311. Laser assisted deposition of fluorescent nanoparticles on glass and plastic substrates. **A. Pinchuk***, K. Jiang, K. Culhane
312. High sensitive inspection chip for influenza virus based on the local surface plasmon resonance. **A. Monkawa***, Y. Takimoto, T. Gessei, T. Nakagawa, E. Kazawa
313. Preserving prismatic shapes of photodeveloped silver nanoparticles during storage. **S. Angela**, G.P. Lee, D.S. Thomas, N.A. Lee*
314. Fine-tuning nanoshells for multiplex analysis. **R.G. Sobral-Filho***, A. Brito-Silva, A.G. Brolo
315. Light-transmittable ultrasmooth gold film for gap mode tip-enhanced raman scattering spectroscopy and its applications. **M. Oguchi**, M. Mochizuki, T. Yano, M. Hara, T. Hayashi*
316. Nanoindentation of inside gold nanoshell for fluorescence-like strong SERS tag. **J. Kim**
317. Thin silica shell-coated silver nanoparticles assembled structure for aniline detection. **B. Jun**
318. Plasmonic nanoprobes for sensing hydrogen peroxide in living systems. **X. Gu**
319. Detection of counter ions using thiol molecules adsorbed on silver nanoparticles. **M. Futamata***
320. Fabrication of flexible plasmonic nanocone array surfaces with broadband antireflectivity and tunable hydrophobicity for photovoltaic, catalytic, and biosensing applications. **H.M. Fung***, A.M. Maley, R.M. Corn
321. Sustainable nanostructures for plasmonic purposes. **O.R. Clarke***, C.L. Brosseau
322. Metal-enhanced fluorescence from silver nanowires with high aspect ratio on planar surfaces for biosensing applications. **K. Aslan***, B. Abel, E. Bonyi, H.E. Unalan, S. Coskun
323. Plasmonic materials for SERS and SEIRA sensor systm. **Y. Nishijima***, S. Suda, G. Seniutinas, S. Juodkazis

Hawaii Convention Center
Halls I, II, III

Analytical General Posters
10:00 – 12:00

Theory and Fundamental Science
324. New viewpoint of potential-dependent component of EDL. **X. Zhao***, J. Chen, Z. Sha, X. Wang, N. Tang
325. Kinetics of diffusion-limited sorption in the mesoporous silica gel/water system by single microparticle injection and confocal fluorescence microspectroscopy. **T. Sato**, K. Nakatani
326. Kinetic analysis of chelate extraction at water microdroplet/oil interface by microelectrochemistry and confocal fluorescence microspectroscopy. **N. Sawada**, T. Sato, K. Nakatani*
327. Syntheses and properties of iridium(III) complexes with boronic acid ligands and their reactivity towards D-fructose. **M. Takata***, T. Sugaya, K. Ishihara
328. Relative kinetic reactivities of boronic acid and boronate ion. **Y. Suzuki**, D. Matsukawa, T. Sugaya, K. Ishihara*

Analysis of Material Structure and Properties
329. Application of the superhydrophobic biomimetic chip in SERS analysis. Z. Yu*, Y. Jung*, **Q. Cong***
330. Water state and gelling process of methyl cellulose thermo reversible hydrogels containing polyethylene glycol and salt. **H. Eguchi***, E. SHIMODA, T. SUZUKI, Y. Nishimoto
331. Characterization and drying property of laccol lacquer. **R. Lu**
332. Liquid-liquid phase transition of hydroxylamine-doped water confined within MCM-41 pores, observed by DSC and Raman spectroscopic measurements. **S. Yoshidome***, Y. Ito, A. Nagoe, T. Sugimoto, H. Fujimori
333. Adsorption behavior of metal ions onto modified mesoporous silicate MCM-41 having Schiff base structure. **S. Oshima**, Y. Watanabe, K. Fujinaga, G. Stevens, Y. Komatsu
334. Phase transition behavior of acetonitrile−water mixture confined in mesopores. **M. Nakada**, T. Takashi, H. Yoshida

*** Principle Author**

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335. Effect of composite material on deposition behavior of electroless Ni plating. **T. Suzuki***, R. Suzuki, K. Noda
336. Study of SEI layer formed on graphite anodes in a lithium ion battery using NMR, XPS, and FTIR spectroscopy. **S. Jung***, S. Kang

Analytical Techniques and Methods
337. Electrocapillary curves at the polarized nitrobenzene/electrolyzed alkaline water interface. **K. Arai***, M. Okajima, M. IKeda
338. Physicochemical properties prediction of atmospheric distillates (199-371°C+) from its raw crude oils by FTIR-ATR and multivariate analysis. **B. Murcia***
339. Development of rapid direct analysis method for plasticizers in polyvinyl chloride (PVC) product using direct analysis in real time–orbitrap mass spectrometry (DART–OTMS). **Y. Abe***, M. Yamaguchi, M. Mutsuga, H. Akiyama
340. Development of flow-balanced ICP torch for low gas consumption and oxide decrease. **N. Yarie***, H. Inoue, K. Kakegawa, H. Miyahara, A. Okino
341. Development of sample collected method using a pyrolyzer. **R. OZAKI**, T. HONDA
342. Amperometric zirconia-based sensor attached with $NiFe_2O_4$ sensing-electrode for selective NO_2 detection. **S. YOSHIDA**, H. Ikeda, S.A. Anggraini, N. MIURA*
343. Potentiometric YSZ-based gas sensor by using graphite as a novel sensing-electrode. **T. Fujii**, H. Ikeda, S.A. Anggraini, N. MIURA*
344. Evaluation of electropolymerized poly(o-phenylenediamine)-coated microelectrode arrays for oxygen sensing applications. **M. Patrick***, D. Paul
345. X-ray fluorescence rapid analysis by fusion bead method for materials on Ni extraction process. **S. Kim***, S. Jung, S. Kim
346. Development of an absolute quantification method for food additives in processed foods by ^{1}H quantitative NMR. **T. Ohtsuki***, K. Sato, Y. Abe, A. Tada, N. Sugimoto, H. Akiyama
347. ^{27}Al NMR quantitative analysis of hydrolysis equilibria for solution containing aluminum polynuclear complex. **G. Sakata**, H. Maki, M. Mizuhata
348. AQARI vs. PULCON: A comparison of qNMR: Internal and external reference methods. **N. Sugimoto***, M. Takada, K. Ishizuki, T. Ohtsuki, A. Tada, Y. Nishizaki, T. Suematsu, T. Miura, Y. Yamada, T. Horinouchi, R. Koike, T. Kato, T. Togawa, H. Akiyama
349. Development of visual analysis of fluoride using test paper with On-OFF color change reaction. **S. Fukiage**, A. Manaka*, M. Tafu, M. Irie, S. Igarashi
350. Use of a rotating disc electrode with ferricyanide to detect deficiencies in swollen nafion membranes. **M.K. Reynolds***, D. Paul
351. Immobolization of glucoamylase on cellulose supports by covalent binding for increased saccharification stability. **T. Sakamoto**, R. Harada, M. Sakata*
352. Analysis of electrode reactions in a coulometric flow cell for on-line redox derivatization liquid chromatography. **K. Saitoh***, H. Tsujimoto, H. Asamoto, M. Shibukawa, T. Nakagama
353. Development of photothermal heterodyne-interferometric detection method as micro-HPLC detector. **M. Isoda**, M. Fukuma, A. Harata*
354. Role of diffusion in band broadening of large particles in capillary electrophoresis. **A. Khodabandehloo***, D.D. Chen
355. Condensed phase membrane introduction mass spectrometry - direct electron ionization (CP-MIMS-DEI): A novel approach for the direct, on-line measurement of PAHs in aqueous samples. V. Termopoli, G. Vandergrift, L. Magrini, G. Famiglini, P. Palma, E.T. Krogh, A. Cappiello, **C.G. Gill**
356. Recent advances of LIBS diagnosis for plasma facing materials in fusion devices. **H. Ding***

Environmental, Forensic and Toxicological Analysis
357. Development of new microanalytical method by Gecko Tape: Analysis of lacquer film. **Y. NAGAI**, Y. KAMIYA, T. HONDA
358. Comprehensive analysis using THM-GC/MS of excavated relics at the Jomon period. **A. Watanabe**, T. HONDA
359. Speciation of metal complexes with biodegradable chelants in solution by LC-Q-TOF-MS. **M. Takemura**, H. Sawai, I.M. Rahman, K. Kudo, T. Maki, H. Hasegawa
360. Investigations of the influence of cations on humic acid and biomembrane interaction. **R. Williams***, H. Olivier, R.L. Cook
361. VOC-adsorption and desorption properties of charcoal prepared from woody biomass. **N. Inomata***, T. TSUGOSHI, T. OKABE, Y. Nishimoto
362. Nontargeted screening and mapping the distribution of organo-brominated compounds in sediments of Lake Michigan. **h. peng***, c. chen, J. Sun, D. Saunders, G.P. Codling, M. Hecker, S. Wiseman, P.D. Jones, J. Giesy
363. Analytical study of excavated and natural whetstone at the Owari Domain Upper Mansion site. **Y. Aoyanagi***, M. TAKAOKA, Y. Nishimoto
364. New method for determing styrene oligomers from debris polystyrene and how they contribute to ocean contamination. **K. Koizumi***, H. Sato, H. Katsura, B. Kwon, S. Chung, N. Maximenko, K. Takatama, K. Saido
365. Diversity analysis of trace elements in precious coral using μ-XRF. **K. Kudo***, H. Sawai, T. Maki, Y. Tamenori, T. Yoshimura, N. Iwasaki, H. Hasegawa
366. Behavior of phosphate adsorption on zirconium-loaded activated carbon, and its application for phosphate recovery from seawater. **T. Wajima***
367. Localization of radioactive and nonradioactive cesium in brown rice grains contaminated by fallout from the Fukushima Daiichi Nuclear Power Plant accident. **M. Kato**, Y. Okada, S. Hirai, S. Saito, M. Shibukawa*
368. Use of fermented bark as a soil amendment for cadmium and cesium uptakes in rice. **S. Kobayashi***, M. Mori, T. Ito, H. Itabashi, K. Hatano
369. Harmful-reagent-free separation and concentration system of minor or trace element using melting of a eutectic. **Y. Nishimoto***, T. TAKEI, Y. SUZUKI
370. Determination of trace cadmium in environmental samples by flame atomic absorption spectrometry with preconcentration using sodium dodecyl sulfate/activated carbon. **M. Furukawa**, S. Kaneco*, H. Katsumata, T. Suzuki
371. Development of a DNA-based biosensor for rapid detection of *Renibacterium salmoninarum*. **T.N. Keohokalole-Look***, A.M. Olivo, B. Mandella, A.G. Cavinato
372. Sampling method for *p*-nitrophenol in diesel exhaust emissions from actual vehicles meeting the newest regulation. **K. KOSHIKA***
373. Effect of salt stress on the accumulation level of mineral and vitamin C in *Ulva pertusa*. **A. Yamamoto***, M. Moriyama, M. Kurotani
374. Adsorption properties of banana fiber to metal ions. **T. Kajiyama***, K. Arai, H. Kokusen
375. Examination of quantification methods of quercetin in food additives and reagents using ^{1}H quantitative NMR. **A. Tada***, N. Sugimoto, Y. Nishizaki, S. Matsuda, H. Kawasaki, K. Ishizuki, T. Ohtsuki, M. Tahara, T. Suematsu, Y. Yamada, H. Akiyama
376. Effects of preparation techniques on availability of health-promoting components and properties of carrots and blueberries. **L. Yu**, B. Gao, L. Yu*
377. Method development and validation for furan analysis in eight different types of food matrices using SPME-GC/MS. **s. Jeong**, Y. SEOK, h. Song, J. Her, K. Lee
378. Quick determination of migration of bisphenol A by an on-line disk and HPLC. **Y. Wang***, **X. Chen***, **Y. Jiang***, **H. Kang***, **F. Luo***
379. Ultrasensitive on-site detection of Aflatoxin (AF) using surface enhanced Raman spectroscopy (SERS) and gold-coated superparamagnetic nanoparticles. **J. Neng***, J. Tan, P. Sun
380. Route attribution of fentanyl using chemical attribution signatures. D. Mew, B. Mayer, A. DeHope, **A.M. Williams**
Corrosion
381. Examination of optimization condition-for electroless nickel plating process on copper. **N. Saito***, R. Suzuki, K. Noda
382. Effect of Ion species on dissolution behavior of Cu in acid solution. **K. Sawanobori***, R. Suzuki, K. Noda
383. Effect of alloy elements on corrosion resistance of Co-Cr alloy. **R. Suzuki***, R. Hirata, K. Noda
384. Electrochemical behavior in galvanized steel exposed under steel. **D. Yamanaka***, K. Noda
385. Localized corrosion behavior of type 304 and 316 stainless steels under stress loading environment. **T. Izuhara**, K. Noda
386. Surface reaction of stainless steel in atmospheric environment. **M. Abe***, Y. Hirohata, K. Noda
387. Measuring method for corrosion behavior of metal material in low concentration solution. **Y. Yagi**, R. Suzuki, K. Noda
388. Effect of oxide film thickness on corrosion of Ti. **K. Ooniwa**, R. Suzuki, K. Noda

Pharmacological and Biochemical Applications
389. Authentication of common Chinese medicine using Fourier Transform Infrared (FTIR) spectrometer. **M. Cheng***, **T. Law**, **A. Singh**, Y. Chan, S. Ip
390. Membrane permeabilization and biological activity of fluoro-ioxoprofen. **N. Yamakawa***, T. Mizushima
391. Polyacrylamide gel electrophoresis oriented toward the identification of metalloproteins. **S. Saito***, M. Shibukawa
392. Mannose-recognizable chemosensor using gold nanoparticles functionalized with pradimicin, a nonpeptidic mannose-binding natural product. **M. Enomoto***, Y. Igarashi, M. Sasaki, H. Shimizu
393. imCorrect: New UHRMS signal handling approach for more accurate elemental composition determination. W. Chang*, Y. Huang*, **Y. Chen**
394. Discrimination of *Polygonatum* species using ^{1}H NMR- and UPLC-QTOF MS-based metabolite profiling. **Y. Jung**, M. Lee, G. Hwang*
395. Desorption electrospray ionization mass spectrometry (DESI-MS) as a tool for classification of pediatric brain tumors. **N.V. Schwab***, I.A. Cardinalli, P.H. Vendramini, M.N. Eberlin
396. Mass spectrometer for skin-surface compounds using dual desorption/ionization plasmas. **M. Aida***, K. Kakegawa, T. Nagoya, H. Miyahara, Y. Seto, A. Okino
397. Simple and versatile non-hybridization method for genetic diagnosis based on direct discrimination of single base mutation by capillary electrophoretic separation of single-stranded DNA. **T. Takahashi***
398. Development of Thio-tag magnetic bead for rapid and selective separation of thiol-containing biomolecules. **M. Kawaguchi***, N. Koretake, E. Kinoshita-Kikuta, E. Kinoshita, T. Koike
399. Protein separation technique using silica-based anion exchange chromatography. **T. Jikyo***, M. Kawai
400. Comparing multistep IMAC and multistep TiO_2 methods for comprehensive phosphopeptide enrichment. X. Yue, **A.B. Hummon**
401. Chemical reaction induced multimolecular hyperpolarization technique for early-stage cancer diagnosis. **Y. Lee***
402. Monitoring of 57 erectile dysfunction drugs and their analogs in foods and dietary supplements by LC-MS/MS. **S. Cho**, J. Lee, J. Jeong, H. Park, J. Do, S. Heo, J. Jo, S. Park, C. Yoon, S. Baek
403. Peroxidase-like activity of natural iron corrosion powder and its application of H_2O_2 and glucose detection. **T. Kojima***
404. Development of deep ultraviolet-excitation photothermal heterodyne-interefer-ometer combined with capillary HPLC for label-free analysis of biologically-relevant molecules. **K. Aoki**, M. Isoda, A. Harata*
405. Structural and functional analysis of E-cadherin-binding aptamer that forms parallel type G-quadruplex containing three long loops. **R. Maruyama**, K. Yoshimoto
406. Thermodynamic stability of water-BSA-guanidine hydrochloride system. **R. Midorikawa***, T. Hanada, M. Takayanagi, A. Nagoe, T. Sugimoto, H. Fujimori

Wednesday Afternoon

Marriott Waikiki Beach
Waikiki Bllrm III

New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)

Organized by: S. Krylov, D. Wilson, W. Zhong, H. Wang
Presiding: D.J. Wilson, W. Zhong

13:00 Opening statement on MS-based assays
13:05 – 407. New MS tools for the discovery and characterization of protein-carbohydrate interactions. **J. Klassen**
13:35 – 408. Native mass spectrometry of biomolecular complexes as a tool for protein structural biology. **J. Loo***
14:05 – 409. Microdroplet fusion mass spectrometry for fast kinetic analysis. **J. Lee**, H. Nam, R.N. Zare*
14:25 – 410. Quantitative mass spectrometric assessment of proteomic and phosphoproteomic changes that accompany exposure of human cells to low doses of ionizing radiation. X. Yue, A. Schunter, **A.B. Hummon**
14:45 – 411. Using charge migration to probe interactions in the dissociation of gas-phase protein complexes. S. Fegan, **M. Thachuk**
15:05 Break
15:20 – 412. Lipid imaging of invertebrate model systems by mass spectrometry. **N.T. Phan***, A. Mohammadi, M. Dowlatshahi Pour, A.G. Ewing, J.S. Fletcher
15:40 – 413. Higher order structural analysis of protein therapeutics by covalent labeling/mass spectrometry. N. Borotto, E. Graban, **R.W. Vachet***
16:00 – 414. Paratope and epitope structural elucidation of antigen-antibody complexes using HDX and top/middle down subzero LC-ETD-MS/MS. **C.H. Borchers***
16:20 – 415. Identifying how protein interactions alter the structure of parkin, an E3 ligase in early-onset Parkinson's disease. **G.S. Shaw***, J.D. Aguirre, T.E. Condos, K.R. Barber
16:40 – 416. Time-resolved electrospray mass spectrometry (TRESI-MS) for dynamic characterization of function-related transitions in intrinsically disordered proteins. S. Zhu, P. Liuni, D. Resetca, P. Gunning, **D.J. Wilson***

*** Principle Author**

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Marriott Waikiki Beach
Kona Moku Bllrm B

Current Issues in Teaching Analytical Chemistry (#38)

Organized by: T. Wenzel, C. Lucy, G. Dicinoski
Presiding: G. Dicinoski, C. Lucy, T. Wenzel

13:00 Introductory Remarks
13:05 – 417. The Analytical Sciences Digital Library - an electronic resource supporting problem-based learning. **C.K. Larive***
13:35 – 418. Development of E-learning modules that incorporate active learning exercises in the undergraduate analytical chemistry curriculum. **T. Wenzel**
14:05 – 419. Theoretical or technique classification in teaching analytical chemistry? A recent discussion in Chinese universities. **X. Zhang***
14:35 – 420. Threshold learning outcomes for undergraduate science degrees in Australia. **B.F. Yates***, S.M. Jones
15:05 Break
15:20 – 421. Teaching analytical chemistry in International College of Osaka University. **H. Watarai***
15:50 – 422. "Jigsaw" classroom model and project-based labs in upper-division chemistry courses. **A.V. Krivoshein***
16:10 – 423. Effect of curricular restructuring and the implementation of the "flipped classroom" method on student engagement, outcomes, and retention in quantitative chemical analysis. **A.D. Marchetti***
16:30 – 424. Promoting the gradual development of process skills in analytical chemistry courses at a primarily undergraduate institution. **N.J. Ronkainen***
16:50 Concluding Remarks

Marriott Waikiki Beach
Milo III

Frontiers in Flow Injection Analysis and Related Techniques (#45)

Organized by: T. Imato, G. Christian, K. Grupan, S. Kolev, A. Sabarudin

13:00 – 425. Microfluidic droplet systems for high-throughput analysis and sensing: Updates on continunous flow analysis. **R. Kennedy**
13:25 – 426. Flow analysis based on optical devices fabricated by organic thin films. **T. Imato***
13:50 – 427. Spectrophotometric flow injection analyses for the inhibitory assay of xanthine oxidase and the assay of oxidant scavenging capacity. **T. Takayanagi***, A. Kimura, K. Matsumoto, T. Yabutani
14:15 – 428. Electrodialytic ion transfer for sample pretreatment, separation and preconcentration for ionic solute analysis. **S. Ohira***, K. Nakamura, T. Yamasaki, P.K. Dasgupta, K. Toda
14:40 Break
14:55 – 429. Electrochemical flow-through cell fabricated with track-etched microporous membrane electrodes and its applications in flow analysis. **H. Mizuguchi***
15:20 – 430. Bringing flow injection analysis to the semantic web. **S.J. Chalk**
15:40 – 431. Organic polymer-based monolith for fast, efficient, and environmentally friendly separation of DNA sample. **A.N. Tasfiyati***, E. Malis, S.P. Sakti, E.D. Iftitah, A. Sabarudin*
16:00 – 432. Fusion of oil droplets in a microfluidic device using optical tweezers. **M. Mitsunobu**, S. Kobayashi, N. Takeyasu, T. Kaneta*
16:20 Closing Remarks

Marriott Waikiki Beach
Kona Moku Bllrm C

Advances in Analytical Ion Mobility Separations (#61)

Organized by: A. Shvartsburg, F. Misaizu, T. Pukala
Presiding: T.L. Pukala

13:00 – 433. Ion mobility calculations using quantum mechanics and electronic surface representation for biological objects into the mega Dalton range. **Y. Alexeev***, J. Insley, D.G. Fedorov, A. Shvartsburg
13:30 – 434. Structures and CO-adsorption reactivities of nickel oxide cluster ions studied by ion mobility mass spectrometry. **K. Ohshimo**, S. Azuma, T. Komukai, R. Moriyama, M. Nakano, F. Misaizu*
14:00 – 435. Advancing neuropeptidomic research via novel application of ion mobility mass spectrometry (IM-MS). **L. Li***, C. Jia, C. Lietz, Q. Yu
14:30 – 436. State-selective ion mobility in helium at very low temperature, isomer dependent mobility of small molecular ions in helium at room temperature, and theoretical model calculation of molecular ion mobility in air. **H. Tanuma**
15:00 Break
15:20 – 437. Geometrical structures of alkali-halide cluster ions investigated by ion mobility-mass spectrometry. K. Ohshimo, T. Takahashi, R. Moriyama, M. Nakano, **F. Misaizu***
15:50 – 438. Pharmaceutical applications of ion mobility spectrometry (IMS): Chemical reaction monitoring and isomeric analysis. **S.X. Li***
16:20 – 439. Determination of solid-derived fungal species by ion mobility spectrometric analysis of microbial volatile organic compounds for conservation technology of cultural heritage. **T. Takeuchi***, T. Kimura, M. Masuda, S. Tsuri, T. Suzuki, Y. Nakamura, T. Sugai, T. Akashi, H. Fujimiya

Marriott Waikiki Beach
Milo I

Immunoanalysis: Applications and Trends for Environmental Monitoring and Human Health (#94)

Organized by: S. Gee, I. Kennedy, H. Ohkawa, T. Xu, T. Prapamontol
Presiding: S. Gee

13:00 – 440. Can nanobiotechnology fulfill in vitro diagnostic challenges?. **M. MARCO***
13:30 – 441. Multiplexed immunosensors for niche applications. **F.S. Ligler***, B.M. Cummins, G.M. Walker, M. Lochhead, C. Hammett-Stabler, K. Caddell, J. Yeh
14:00 – 442. Molecular and cellular diagnostics via microfluidics biotechnology. **L. Qin***
14:20 – 443. Application for mycotoxin measurement in food using Q-body and quartz crystal microbalance. **Y. Sugita-Konishi***, T. Yoshinari, H. Ohashi, R. Abe, R. Kaigome, M. Wagatsuma, Y. Kamata, H. Ohkawa
14:50 – 444. Repetitive immunosensing with a highly stable protein monolayer and surface acoustic wave device for allergen monitoring. **K. Toma**, D. Miki, N. Yoshimura, K. Miyajima, T. Arakawa, H. Yatsuda, K. Mitsubayashi*
15:10 Break
15:25 – 445. Environmental monitoring by validated immunochemical methods. N. AbdelShafi, C.Y. Véliz Montes, P. Carl, C. Knizia, H. Hoffmann, S. Schmidt, S. Andrade Roquette, L. Oberleitner, S. Gärtner, **R.J. Schneider***
15:45 – 446. Nanofield effect transistors-based label-free immunosensors. **A. Mulchandani**
16:05 – 447. Micro-optofluidic ELISA for rapid cytokine detection toward drug susceptibility test. **R. Usuba***, M. Yokokawa, A. Llobera, S. Murata, N. Ohkohchi, H. Suzuki
16:25 Concluding remarks

Marriott Waikiki Beach
Kona Moku Bllrm A

Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)

Organized by: Y. Baba, H. Crabtree, S. Jacobson, J. Ramsey, K. Otsuka, D. Chung
Presiding: L. Baker, P.W. Bohn, S.C. Jacobson

13:00 Introductory Remarks
13:05 – 448. Bipolar electrode coupling of nanoscale electron transfer reactions to remote luminogenic reporter reactions. C. Ma, L. Zaino, D. Han, W. Xu, E. Foster, **P.W. Bohn**
13:30 – 449. Thiol-ene-based microfluidic devices as versatile tools for pharmaceutical analysis. J.P. Lafleur, A. Jönsson, S. Senkbeil, **J.P. Kutter***
13:55 – 450. Nanopipettes as versatile tools for ion conductance measurements. **L. Baker***
14:20 – 451. Nanofluidic devices for characterizing virus capsids and their assembly products. **S.C. Jacobson***, Z.D. Harms, L. Selzer, A. Zlotnick
14:45 Break
15:00 – 452. Direct separation and analysis of cells mediated by transient molecular interactions in microfluidic devices. **R. Karnik***
15:25 – 453. Paper microfluidics: classic principles with new applications. **B. Lutz***
15:50 – 454. Hydrogel microengineering for biomedical applications. **S. Takeuchi***
16:15 – 455. Electrical single virus detection using transimpedance circuit integrated nanofluidic chip. **T. Yamamoto***
16:30 – 456. Digital microfluidic platform for UV-Vis absorbance spectroelectrochemistry. **M.D. Dryden***, A.R. Wheeler

Marriott Waikiki Beach
Waikiki Bllrm II

Fundamentals and Applications of Atomic Spectrometry (#160)

Organized by: N. Furuta, G. Hieftje, R. Sturgeon
Presiding: C. Engelhard

13:00 – 457. Is there no better emission source than the ICP?. **G.M. Hieftje***, S.J. Ray, A.J. Schwartz, G. Chan, Y. Cheung
13:35 – 458. Extending the application range of provenance determination based on isotopic analysis. **F. Vanhaecke***, L. Balcaen, E. Bolea-Fernandez, P. Degryse, V. Devulder, A. Gerdes, L. Lobo, A. Mage, M. Resano, A. Rua-Ibarz
14:10 – 459. Time-resolved spectroscopic studies of dielectric barrier discharges used as ambient desorption/ionization sources for mass spectrometry. **P.B. Farnsworth***, W.C. Ellis, M. Heywood, C. Reininger
14:45 Coffee break
15:05 – 460. Determination of Pu isotopic composition using SF-ICP-MS for radiation impact assessment of Fukushima nuclear accident released Pu in the marine environment. **J. Zheng***, T. Aono, K. Tagami, S. Uchida, M. Yamada
15:40 – 461. Arsenic speciation in food samples. **K. Chiba***, T. Narukawa
16:15 – 462. Improved sample introduction system for inductively coupled plasma spectrometry. A. Al Hejami, T. Anderlini, **D. Beauchemin***

Marriott Waikiki Beach
Milo IV / V

(Bio-)Chemical / Electrochemical Sensors and Sensing Materials (#417)

Organized by: K. Suzuki, P. Buhlmann, D. Citterio, O. Niwa, M. Winnik, K. Mitsubayashi
Presiding: E. Bakker, K. Suzuki

13:00 Opening remarks
13:05 – 463. Design of artificial bioluminescent probes towards bioluminescence imaging. **K. Suzuki***, R. Nishihara, S. Kim, T. Nakajima, M. Sato, D. Citterio, S. Nishiyama
13:20 – 464. New sensors and probes with ion-selective nanospheres. **E. Bakker***, X. Xie, J. Zhai
13:50 – 465. Fluorescent graphene oxide-based optical biosensor for the selective and sensitive detection of neurotransmitters. **S. Jeon**, S. Kwak, D. Yim, J. Ju, J. Kim*
14:10 – 466. Fluorescence sensing of double-stranded RNAs by triplex-forming peptide nucleic acid probes possessing thiazole orange as fluorescent universal base. **T. Sato**, Y. Sato, S. Nishizawa
14:30 – 467. Development and applications of "Mass Spectrometry Sensor" based on paper spray ionization of microdroplets. **J. Lin***, W. Liu
15:00 Break
15:10 – 468. Ligase-assisted signal-amplifiable DNA sensing using photon upconversion nanoparticles. P. Wang, T. Ozkaya Ahmadov, C. Lee, **P. Zhang***
15:30 – 469. Ultrasensitive aptamer-based colorimetric and SPR biosensors for the detection of protein biomarkers, viruses, and small chemicals. **M. Gu***
15:50 – 470. Cavitas sensor and Sniff-camera for human biosensing. **K. Mitsubayashi**
16:20 – 471. Microbiosensor for the detection of methane in environmental samples. **Y. Chen**, Y. Zhang, T. Yu*
16:40 – 472. 3D cell co-culture platform on a microfluidic chip to mimic cancer niche and its application in multi-drug resistance research. **S. Wang***, J. Lin

Marriott Waikiki Beach
Waikiki Bllrm I

Plasmonic Materials for Chemical Analysis (#450)

Organized by: D. Boudreau, J. Masson, A. Haes, J. Shumaker-Parry, M. Fan
Presiding: A.J. Haes

13:00 – 473. Plasmons as photonic intermediaries in redox photochemistry. **M. Moskovits***
13:40 – 474. Flexible plasmonic substrates for SERS detection of small molecules: The impact of adsorption equilibrium. **L. Tay***, J. Hulse, M. Laflamme, J. Fraser
14:00 – 475. Design and properties of anisotropic plasmonic materials. **A. Ianoul**
14:20 – 476. Controlling and designing plasmonic sensors at the single particle level. **E. Ringe***
14:40 – 477. Colloidal plasmonic metal nanocrystals. **J. Wang***
15:00 Health break
15:20 – 478. New methods in plasmonic biosensing: SPR phase imaging, nanoring/nanocone arrays, and single nanoparticle SPR microscopy. **R.M. Corn***
15:40 – 479. Grating-coupled propagating surface plasmon/localized plasmon hybrid excitations and their plasmonic device applications. **A. Baba***, K. Shinbo, K. Kato, F. Kaneko

*** Principle Author**

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16:00 – 480. Probing the localized plasmon decay for nanostructures with complex geometries using atomic layer deposition. **C. Lancaster**, J.S. Shumaker-Parry
16:20 – 481. Imaging plasmons with compressive hyperspectral microscopy. L. Lu, L. Anderson, J. Hafner, **K.F. Kelly***
16:40 – 482. Surface-enhanced sensing and imaging analysis based on nanoplasmonic aperture arrays. **D. Kim**

Wednesday Evening

Marriott Waikiki Beach
Kona Moku Bllrm A

Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)

Organized by: Y. Baba, H. Crabtree, S. Jacobson, J. Ramsey, K. Otsuka, D. Chung
Presiding: Y. Baba, K. Otsuka, T. Yasui

19:00 – 483. Development of electroosmotic pumps based on materials for LC columns. **T. Naito**, A. Kunisawa, S. Futagami, T. Kubo, K. Otsuka
19:15 – 484. Molecular diffusion-based switching system using microelectrode array for evaluation of respiration activity of 3D cultured cells. **K. Ino**, Y. Yamada, H. Shiku, T. Matsue
19:30 – 485. Novel method of immobilizing antigens on gold electrode for immunosensing. **U. Nguyen**
19:45 – 486. Rapid and low-cost detection of epithelial growth factor receptor mutations in lung cancer cells. **T. Kasama***, T. Hase, N. Nishiwaki, N. Yogo, M. Sato, M. Kondo, N. Kaji, M. Tokeshi, Y. Hasegawa, Y. Baba
20:00 – 487. 2D control of ionic transport and electrochemical reaction in nanofluidics using a highly focused electric field of an electron-beam. **H. Miyazako***, K. Mabuchi, T. Hoshino
20:15 – 488. Electrical and optical detection of fine particulate matter ($PM_{2.5}$) based on microfluidic system for environmental monitoring assessment. **S. RAHONG**, T. Yasui, H. Yasaki, T. Yanagida, M. Kanai, K. Nagashima, N. Kaji, T. Kawai, Y. Baba
20:30 – 489. Detection of countable-number of molecules by integrating ELISA in extended-nano space. **R. Ohta***, K. Mawatari, K. Shirai, H. Shimizu, T. Kitamori
20:45 – 490. Metal ion sensor using thermo-responsive gel enclosing photonic crystal on a microchip. **K. SAGA**, K. Morikawa, T. Tsukahara *

Hawaii Convention Center
Halls I, II, III

Fundamentals and Applications of Atomic Spectrometry (#160)

Organized by: N. Furuta, G. Hieftje, R. Sturgeon
Presiding: N. Furuta

Poster Session
19:00 – 21:00

491. Particle to gas conversion and gas to particle conversion for analysis of atmospheric aerosols by ICP-MS. **T. Nakazawa**, R. Fukushi, N. Furuta*
492. Source apportionment of size-classified airborne particulate matter by multi-element fingerprinting. **A. Iijima***, H. Sato, A. Kuribara, S. Kudo, N. Furuta
493. Stability of silicic acid complex with positive ions in silica scale. **M. Tanaka***, H. Ariga, K. Takahashi
494. Elucidation of the origin of suspended particles in the Sumida River Estuary. **K. Uonomi**, T. Nakazawa, N. Furuta*
495. Novel approaches to improve preconcentration efficiency by using "bifunctional" extractant: Synthesis and application of 1-(dithiocarboxy)proline for preconcentration of trace elements by extraction/elution. **M. Murakami***, M. Hirano, K. Itoh
496. Sequential extraction and speciation of potentially toxic elements in sediments and water. **A.A. Ambushe***, T.W. Godeto
497. Speciation analysis of iodine in the Kanda River water by IC-ICPMS and ESI-MS. **H. Masuda**, T. Nakazawa, N. Furuta*
498. Speciation analysis of bromine in tap water by IC-ICPMS and ESI-MS. **M. Seto***, T. Nakazawa, N. Furuta
499. Development of undersized (12.5 mm diameter) glass beads for X-ray fluorescence determination of 34 components in 200 mg of igneous rock. **S. Ichikawa***, H. Onuma, T. Nakamura
500. Non-destructive and three-dimensional bulk analysis using high energy muonic X-rays for archeological artifacts. **K. Ninomiya***, M.K. Kubo, T. Nagatomo, W. Higemoto, N. Kawamura, P. Strasser, K. Shimomura, Y. Miyake, S. Sakamoto, A. Shinohara, T. Saito
501. Analysis of arsenic in hair fraction by inductively coupled plasma-mass spectrometry. **S. Suzuki***, Y. Suzuki, M. Kasamatsu, Y. Seto
502. Element concentration in digestive gland and branchial hearts of cephalopods in East China Sea. **Y. Harada**, K. Tsuchiya, M. Tanaka*
503. Commercial development of a palladium isotope-based cell barcode for use in CyTOF cell assays. **D. Majonis***, M. Konrad, G. Wong, G. Behbehani, A. Terekidi, N. Qian, K. Askarpour, O.I. Ornatsky, V.I. Baranov, T. George, D.R. Bandura, S.D. Tanner
504. Application of ICP-MS to forensic discrimination of trace physical evidence. **M. Kasamatsu**, Y. Suzuki, S. Suzuki, Y. Seto
505. Sources of vermilion collected from ancient Japanese tombs, based on the trace elements and lead isotopes. **K. Takahashi***, T. Minami, S. Imazu, Y. Sahoo, M. Kitagawa, M. Kidera
506. Temporal changes in the fractionation index explained by the changes of size distribution of ablated particles. **R. Machida**, T. Nakazawa, N. Furuta*
507. Detection capability of laser ablation inductively coupled plasma mass spectrometry (LA-ICPMS) for elements from flame retardants in plastics. **M. Ohata***, Z. Yanbei, N. Itoh, T. Otake, N. Hanari
508. Precise and accurate determination of Sn in NIST 610 glass standard by laser ablation in liquid with isotope dilution ICPMS. **M. Fujiwara**, Y. Sakuraba, R. Machida, T. Nakazawa, N. Furuta*
509. High spatial resolution analysis of elemental concentrations in ferromanganese nodule using LA-ICP-MS. **J. Hirata**, M. Tanaka*
510. Study on hazardous elements in soils by using iron particles-assisted gas plasma induced by transversely excited atmospheric CO_2 laser. **A. Khumaeni**, Z. Lie, K. Kagawa

Hawaii Convention Center
Halls I, II, III

Magnetoanalytical Science: Separation, Characterization and Imaging (#320)

Organized by: H. Watarai, I. Fritsch, C. Fuh
Presiding: I. Fritsch, C. Fuh, H. Watarai

Poster Session
19:00 – 21:00

511. Magnetic field effects on CVD growth process of single-walled carbon nanotubes. **Y. TAKASHIMA**, A. Hamasaki, J. Uchimura, A. SAKAGUCHI, S. Ozeki*
512. Cryogen-free 25T superconducting magnet for magneto-science. **K. Watanabe***, S. Awaji, H. Oguro
513. Development of anisotropic nanocomposite gel using a high magnetic field. **M. Yamato***, K. Suzuki, N. Hirota
514. Effect of amorphous region on crystalline orientation in Poly(L-lactide)/Poly(DL-lactide) blend films under magnetic field with annealing process. **R. NAKAYAMA**, H. IKAKE, M. TAKADA, Y. MUROGA, K. Kurita, S. SHIMIZU, S. KURUMI, K. SUZUKI, K. TAKAHASHI, K. Watanabe
515. Effects of magnetic treatment water on silica gel formation. **K. Kaida**, S. Sasahara, A. Hamasaki, S. Ozeki*
516. Freezing potential of ionic liquids and magnetic field effects on it. **H. Otsuka**, A. Hamasaki, S. Ozeki*
517. Interaction between aluminium ion and glycolic acid under acidic conditions. **T. Taketadu***, M. Etou, Y. Okaue, T. Yokoyama
518. Kinetic analysis of two-stage magnetic rotation for the uric acid crystal. **Y. Takeuchi***, E. Beaugnon , M. Iwasaka

Thursday Morning

Marriott Waikiki Beach
Milo III

Development and Applications of Techniques for Electrochemical Analysis (#24)

Organized by: J. Chen, D. Arrigan, C. Hu, B. Liu, K. Maeda

8:00 Opening
8:05 – 519. Voltammetry at a single nanoelectrode. **J. Chen***, K.J. Aoki
8:25 – 520. Polarography with dropping carbon fluid electrodes. **H. Tatsumi***
8:45 – 521. Dynamic behavior of electric double layer impedance. **K.J. Aoki**
9:25 – 522. Double layer effect on electrode kinetics affected by nanostructures on the electrode surface. **Y. Kitazumi***, O. Shirai, M. Yamamoto, K. Kano
9:45 – 523. Surface wave: Revisited. **M. Yamamoto**, K. Kano
10:05 Break
10:20 – 524. Investigations of interfacial electrochemistry in ionic liquids by SPM. **B. Mao***
10:40 – 525. Influence of electrode geometry on the voltammetric behaviour of the nanoholes electrode arrays. **M. Atighilorestani***, A.G. Brolo
11:00 – 526. Instrumental considerations related to surface electrochemical processes occurring under potentiostatic and potentiodynamic conditions: The platinum oxide example. **J. van Drunen**, A. McMath, J. Kim, G. Jerkiewicz*
11:20 – 527. Voltammetric detection of Co and Ni in urine samples. **M. Wajrak***, W. Lonsdale, J. Mate

Hawaii Convention Center
Halls I, II, III

Current Issues in Teaching Analytical Chemistry (#38)

Organized by: T. Wenzel, C. Lucy, G. Dicinoski

Poster Session
10:00 – 12:00

528. Development of a novel coffee roasting process using green coffee bean grinder for energy reduction. **h. Song**, S. Lee, J. Her, K. Lee

Hawaii Convention Center
Halls I, II, III

Frontiers in Flow Injection Analysis and Related Techniques (#45)

Organized by: T. Imato, G. Christian, K. Grupan, S. Kolev, A. Sabarudin

Poster Session
10:00 – 12:00

529. Determination of trace phosphate by ICP/AES using novel polyallylamine type adsorbent packed in column. **T. Sumida***, Y. Yano, M. Yamashita, Y. Okazaki, H. kawakita, T. Fukutomi
530. Microflow system using PDMS microchip with chemiluminescence detection for investigation of nanoparticle-metal interaction. **P. Inpota**, W. Jeamsaksiri, W. Sripumkhai, P. Sunintaboon, P. Wilairat, D. Nacapricha, R. Chantiwas*
531. Application of a flow-injection spin-trapping ESR method for evaluating the alkoxy radical elimination capacity (AREC) of selected antioxidants. **A. Nakajima**, T. Yamashita, T. Yamaguchi, K. Kawai, Y. Miyake, K. Kanaori, K. Tajima*
532. Quartz crystal microbalance sensing of catechin. **Y. Kobayashi***, T. Saito
533. Pretreatment of phosphorus compounds by electrogenerated cobalt(III) ions and its evaluation by flow injection analysis. **H. Tanaka**, H. Kubo, M. Takeuchi
534. Nitric acid gas generator. S. Nakagawa, **H. Tanaka**, M. Takeuchi*
535. Automatic on-line solid-phase extraction-ICP-MS exploiting sequential injection analysis for ultratrace vanadium determination in human urine sample. **A. Inoguchi**, A. Ayala Quezada, H. Murakami, N. Teshima*
536. Determination of gaseous isoprene by flow injection analysis with a fluorometric detection. **Y. Yoshino**, H. Murakami, N. Teshima*
537. Differentiating organic and conventional grown oregano using ultraperformance liquid chromatography mass spectrometry (UPLC-MS), headspace gas chromatography with flame ionization detection (headspace-GC-FID), and flow injection mass spectrum (FIMS) fingerprints combined with multivariate date analysis. **B. Gao**, L. Yu
538. A flow method for prepararion of a gold nanoparticle-polyamide nanohybrid using reverse micelles adsorbed on glass surfaces. **M. Takemoto**, T.H. Hasanin, Y. Okamoto, S. Ishizaka, T. Fujiwara*
539. Use of a novel chromosensor and sequential injection system for fluorometric determination of mercury(II). **N. Choengchan***, A. Petchamnan, K. Chantalakhana, P. Thongyoo, D. Nacapricha
540. Electrochemical flow-through cell fabricated with nanohole shaped gold electrode. **N. Yoshikawa**, S. Sato, T. Sato, G. Hayakawa, M. Iiyama, H. Mizuguchi
541. On-line pretreatment flow injection system for direct and simultaneous measurement of iodide and creatinine in human urine. **J. Sitanurak**, P. Inpota, T. Mantim, N. Ratanawimarnwong, P. Wilairat, D. Nacapricha*
542. Development of the novel FRET substrate for β-secretase activity assay. **M. Adachi**, Y. Iida*

Marriott Waikiki Beach
Milo I

Supercritical Fluid Chromatography (SFC) for Analysis and Purification (#53)

Organized by: L. Miller, A. Rajendran, T. Bamba

8:00 – 543. Advances in supercritical fluid chromatography. **L. Miller***

*** Principle Author**

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8:20 – 544. Correlation of retention factors for chiral separation in supercritical fluid chromatography in the presence of co-solvent. **T. Funazukuri***, T. Sugihara, Y. Ohono, M. Taguchi
8:50 – 545. Method-transfer in SFC - how similar it is to HPLC method-transfer strategies?. **A. Tarafder***
9:20 – 546. Application of supercritical fluid chromatography (SFC) in contract research organization (CRO). **B. Su***
9:50 Break
10:00 – 547. Separation of polar biological compounds using enhanced-fluidity liquid chromatography, a subclass of subcritical chromatography. **S. Olesik**, M. Beres, R. Bennett
10:30 – 548. Supercritical fluid chromatography triple-quadrupole mass spectrometry-based methodology for highly-sensitive and high-throughput analysis of multiresidue pesticides. **Y. Izumi**, E. Fukusaki, T. Bamba*
11:00 – 549. Application of SFE-SFC coupling for purification activities in drug discovery processes. **K. Gahm***
11:30 – 550. Development of novel Poly(vinylpyridine)-based SFC column. **K. Nagai**, S. Shinkura, T. shibata, A. Ohnishi

Hawaii Convention Center
Halls I, II, III

Advances in Analytical Ion Mobility Separations (#61)

Organized by: A. Shvartsburg, F. Misaizu, T. Pukala
Presiding: T.L. Pukala

Poster Session
10:00 – 12:00

551. Structure variation between vanadium oxide cluster cations and anions analyzed by ion mobility mass spectrometry. **J.W. Wu**, R. Moriyama, M. Nakano, K. Ohshimo, F. Misaizu*
552. Ions of singly protonated enantiopure tryptophan, phenylalanine, and methionine in keV and eV collisions with chiral target gas. **M. Larsson**, K. Kulyk*, O. Rebvrov, M. Ryding, M. Stocket, J. Alexander, E. Uggerud, H. Cederquist
553. Structures and chemical compositions of gas phase chromium oxide cluster anions studied by ion mobility-mass spectrometry. **R. Moriyama**, R. Sato, T. Komukai, M. Nakano, K. Ohshimo, F. Misaizu*
554. Structures and CO-adsorption reactions of cobalt oxide cluster ions investigated by ion mobility mass spectrometry. **M. Nakano**, R. Moriyama, K. Ohshimo, F. Misaizu

Marriott Waikiki Beach
Kona Moku Bllrm B

On-site and In-vivo Instrumentation and Applications (#88)

Organized by: J. Pawliszyn, G. Ouyang, M. Lee

8:00 Opening remarks
8:05 – 555. Liquid chromatographic instrumentation for on-site and point-of-care analysis. **M.L. Lee***, S. Sharma, A. Plistil, H.E. Barnett, S.D. Stearns, P.B. Farnsworth, A.J. Alpert, H. Tolley
8:25 – 556. Portable LC platforms: Concepts, technical issues, applicability. Y. Li*, M. Dvorák*, N. Nuchtavorn*, P. Nesterenko*, R. Stanley*, **M. Macka***
8:45 – 557. Simple, flow-based quantitation of nucleic acid biomarkers in microfluidic devices. **A.T. Woolley***, D. Chatterjee, V. Sahore
9:05 – 558. Chip-scale sensors and handheld detector for real-time chemical vapor detection. **L. Zang***
9:25 – 559. Air monitoring of persistent organic pollutants with passive air samplers in King George Island, Antarctica. **Q. Zhang***, Y. Li, G. Jiang
9:45 – 560. Applying process analytical technology (PAT) tools to early active pharmaceutical ingredient (API) development. **S.X. Li***
10:05 Break
10:20 – 561. Online assessment of lubricant quality using fiber coupled fluorescence spectroscopy. **H. Loock***, N.L. Andrews, J.Z. Fan, H. Omrani, A. Dudelzak
10:40 – 562. Visible spectrometry with stacked transmission gratings. **A. Scheeline**
11:00 – 563. On-site instrument for automated monitoring of bacteria in water. **R. Brown***, C. Dunkinson, M. Douma, J. Zhou
11:20 – 564. In situ SERS detection of multiclass insecticides on plant surfaces. **L. He***
11:40 – 565. Real-time monitoring of fish stress response on threat behavior by using wireless biosensor system. **A. Aoki***, H. Wu, T. Arimoto, T. Nakano, T. Murata, H. Ren, H. Endo

Hawaii Convention Center
Halls I, II, III

Immunoanalysis: Applications and Trends for Environmental Monitoring and Human Health (#94)

Organized by: S. Gee, I. Kennedy, H. Ohkawa, T. Xu, T. Prapamontol
Presiding: S. Gee

Poster Session
10:00 – 12:00

566. Detection of influenza virus by an immunosensor combining liposome and electrochemiluminescence on Au electrode modified with binary self-assembled monolayers. **Y. Katayama***, Y. Mitoma, E. Hihumi, N. Egashira
567. Detection of influenza viruses by using oligonucleotide-based sialic acid-modified nanoparticle. **D. Akamatsu**, M. Yamabe, Y. Ebara*
568. Develop ELISA KIT detecting melamine residues in feed and milk products in Vietnam. **H. Vu Thi***, A.Q. Bui*
569. Ultra highly sensitive detection of *Edwardsiella ictaluri* using high-gradient immunomagnetic separation with a polymerase chain reaction. **H. Wu***, K. Sugata*, H. Ohnuki, H. Ren, H. Endo
570. Isolating alpaca-derived V_HH antibodies to small molecule targets: Anecdotes from 7 experiments. **C.S. Bever**, J. Dong, Y. Cui, J. Wang, Z. Majkova, G. Gonzalez-Sapienza, S. Gee, B. Hammock
571. Highly sensitive SERS-based competitive immunoassay for detection of estradiol in human serum. **R. Wang**, **J. Jeon**, J. Choo*
572. Immunoanalysis of triclosan: Assay characterization, use and various formatting. **C.S. Bever**, A.A. Rand, K. Ahn, S. Gee, B. Hammock
573. Production of monoclonal antibody and development of an immunochromatographic assay for the rapid detection of histamine in fish samples. **L. Luo**, **Z. Xu**
574. Western blot with selective monoclonal antibodies induced by heat semi-denatured Bt Cry1Ac protein. **Z. Cao**, W. Zhang, B. Wang*
575. Synthesis of artificial antigens for four phthalate esters and determination by immunoassay. **D. Lai**, S. Zheng, S. Zhao
576. Highly sensitive immunoassay based on surface-enhanced Raman scattering for detection of bisphenol A. L. Zhang, **S. Zhao**
577. Particulate air pollution, dose response studies using particles of known composition. **G. Agnes**, S. Fenwick, X. Jia

Marriott Waikiki Beach
Kona Moku Bllrm A

Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)

Organized by: Y. Baba, H. Crabtree, S. Jacobson, J. Ramsey, K. Otsuka, D. Chung
Presiding: H.J. Crabtree

8:00 Introductory Remarks
8:05 – 578. Microfluidic chip performance as a function of surface roughness. **H.J. Crabtree***, A. Ghobeity, M. Papini, J. Spelt
8:30 – 579. Silica-based microstructured fibers as customizable microfluidic conduits for chromatographic, electrophoretic, and mass spectrometric applications. Y. Fu, K. Bachus, G.T. Gibson, S. Morency, Y. Messaddeq, **R.D. Oleschuk***
8:55 – 580. Miniaturised solventless electrophoretic sample enrichment and clean-up. A. Wuethrich, J. Quirino, **P.R. Haddad***
9:20 – 581. IR transparent microfluidic devices. **C. Henry**, A. Krummel, S. Noblitt, B. Lehmkuhl, M. Barich
9:45 Break
9:55 – 582. Quantitative analysis of multiple microRNAs at the single-cell level. **S. Krylov**, W. David, F. Ghasemi
10:20 – 583. Using COTS materials to create cost-effective microfluidic systems using overhead transparencies and laser print, cut, and laminate fabrication. **J. Landers**, B. Thompson*, S. Krauss, J. DuVall, D. Haverstick
10:45 – 584. High throughput, microfluidic inertial migration-based cyanobacteria concentrator. L. Wang, **D.S. Dandy**
11:00 – 585. One-step modification and structuring of PDMS surfaces and its application in the bench-top fabrication of self-driven microfluidic channels. **A. Fatona**, Y. Chen, M.A. Brook, J. Moran-Mirabal*
11:15 – 586. Solid phase extraction of large volume samples on a flow-through centrifugal microfluidic devices. **E.J. Templeton**, C. Skinner, E.D. Salin*
11:30 – 587. High-throughput screening at the picoliter scale by combining dip pen lithography with Inkjet printing. G. Arrabito, F. Cavaleri, V. Vetri, S. Di Maro, S. Cosconati, E. Novellino, C. Pellerito, V. Militello, M. Leone, **B. Pignataro***
11:45 – 588. OMCVD grown AuNPs on polymers substrates for biosensing application. **S. Mittler***, S. Kandeepan

Marriott Waikiki Beach
Waikiki Bllrm II

Fundamentals and Applications of Atomic Spectrometry (#160)

Organized by: N. Furuta, G. Hieftje, R. Sturgeon
Presiding: N. Furuta

8:00 – 589. Recent advances in mass cytometry. **D.R. Bandura***, O.I. Ornatsky, D. Majonis, T. Closson, M. Sullivan, A.V. Loboda, Y. Wei, V.I. Baranov, S.D. Tanner
8:35 – 590. Characterization and detection of nanoparticles using ICP-MS. **H. Lim***
9:10 – 591. Selenium and mercury speciation in blue tilapia from an aquaponic system. S. Smith*, M. Schmale, **J. Caruso**, K. Savage, G. Delanoy, J. Devin, . Boemker, M. Shank, J. Landero-Figueroa
9:45 Coffee break
10:05 – 592. Investigation of different sample introduction systems for the analysis of discrete sample volumes using ICPTOFMS. **D. Guenther***, **A. Graham Gundlach**, **B. Hattendorf**, **L. Hendricks**
10:40 – 593. ICP-MS based strategies for the analysis of trace metals and biomarkers in cells. **B. Hu**, B. Chen, M. He
11:15 – 594. Liquid sampling-atmospheric pressure glow discharge (LS-APGD) microplasma: Addressing diverse challenges in both OES and MS analysis. **R. Marcus***, L. Zhang, S. Jones, E. Hoegg

Marriott Waikiki Beach
Kona Moku Bllrm C

Ultrasensitive Assays for Proteins and Protein Modifications (#287)

Organized by: C. Le, H. Zou, N. Dovichi
Presiding: C. Le, F. Li

8:00 – 595. Femtogram proteomics: Bottom-up analysis of *E. coli* tryptic digests. **N. Dovichi***, L. Sun, G. Zhu, Y. Zhao, S. Mou, X. Yan, M. Champion
8:40 – 596. Cellular heterogeneity measured via high-throughput single cell mass spectrometry imaging and profiling. **J.V. Sweedler***, T. Ong, M.A. Makurath, E.T. Jansson, T. Comi, S.S. Rubakhin
9:20 – 597. Using mass spectrometry to understand posttranslational modifications in the misfolding of the cystic fibrosis transport regulator (CFTR). **J.R. Yates***, S. Pankow, C. Bamberger
10:00 – 598. Proteome identification goes deep and fast while quantification goes accurate and precise. **Y. Zhang**
10:40 – 599. High sensitivity mass spectrometry assays of disease-induced post-translational modifications. **J.E. Van Eyk***, Q. Fu , Z. Chen
11:20 – 600. Array-mass spectrometry hybrid platform to analyze protein modifications. **W.A. Tao***

Marriott Waikiki Beach
Waikiki Bllrm III

Advances in FTIR Microspectroscopy: 3D Tomography to Nanoscale Imaging (#315)

Organized by: K. Gough, M. Martin, M. Chen
Presiding: K.M. Gough, M.C. Martin

8:00 Introduction
8:02 – 601. From nano-FTIR spectroscopy toward infrared nanotomography. **R. Hillenbrand**
8:32 – 602. Committing SINS at the ALS: Ultrabroadband infrared nanospectroscopy and imaging. **H.A. Bechtel**, E. Muller, M.C. Martin, M.B. Raschke
9:02 – 603. Observations of a core-shell structure in single electrospun poly[(R)-3-hydroxybutyrate-*co*-(R)-3-hydroxyhexanoate] (PHBHx) nanofibers by AFM-IR spectroscopy and imaging. **J.F. Rabolt***, L. Gong, B. Chase, I. Noda
9:32 – 604. Understanding heterogeneity in plasmonic metal oxide nanocrystals. **D.J. Milliron**, R. Johns, A. Agrawal, H.A. Bechtel
10:00 – 605. Introducing nano-FTIR: Imaging and spectroscopy at 10nm spatial resolution. **T. Gokus***, F. Huth, A. Huber
10:20 Break
10:30 – 606. Infrared nanospectroscopy, a high resolution tool to explore chromatin composition. **B.R. Wood***, E. Lipiec, W. Kwiatek, J. Miszyk, F. Ruggeri, G. Dietler, C. Adiba, A. Kulik

*** Principle Author**

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11:00 – 607. Infrared spectral tomography: 3D IR images now in full color. **M.C. Martin***
11:20 – 608. Mosaic tomographic imaging of individual cells employing a novel tomography accessory for infrared microscopes. **C.R. Findlay**, N. Pogorzelec, C. Mundy, K.M. Gough*
11:40 – 609. Synchrotron infrared 3D confocal spectral imaging based on nonlinear reconstruction algorithm. **M. Chen***, H. Zhu, Y. Tong, T. Ji, W. Peng, Z. Zhang, T. Xiao

Marriott Waikiki Beach
Milo IV / V

(Bio-)Chemical / Electrochemical Sensors and Sensing Materials (#417)

Organized by: K. Suzuki, P. Buhlmann, D. Citterio, O. Niwa, M. Winnik, K. Mitsubayashi
Presiding: P. Buhlmann, O. Niwa

8:00 – 610. Cucurbit[*n*]uril-functionalized water-stable FET sensors. **I. Hwang***, K. Kim*
8:20 – 611. Electrochemical sensing in biological samples with fluorous receptor-doped membranes. A.J. Dittmer, **P. Buhlmann***
8:50 – 612. Electrochemical lipopolysaccharide detection using zinc complex-based probes and sputtered nanocarbon film electrode. **D. Kato***, Y. Suzuki, K. Yoshioka , T. Kamata, S. Sasaki, M. Todokoro, O. Niwa
9:10 – 613. Coreactant-free and supersensitive sensing for Cu^{2+} by graphene oxide amplified electrochemiluminescence of graphitic carbon nitrid. **B. Xia**
9:30 – 614. Fabrication of patterned graphene electrode with a transfer process assisted by a parylene thin film. **Y. Ueno***, K. Furukawa, T. Teshima, M. Takamura, H. Hibino
10:00 Break
10:10 – 615. Impedimetric detection of telomerase activity in cancer cells. **D.C. Diaz-Cartagena***, L. Cunci, E.M. Diaz-Diaz, M. Martinez-Vargas, C.I. Gonzalez, C.R. Cabrera
10:30 – 616. Graphene/polymer nanocomposites for sensitive biomolecular detection and medical diagnostics. **N. Rodthongkum***
10:50 – 617. Novel nitric oxide (NO) release materials/methods that improve the biocompatibility/antimicrobial activity and in vivo analytical performance of intravascular electrochemical sensors. **M.E. Meyerhoff***, A.K. Wolf, H. Ren, Y. Qin, X. Wang, K. Cha, W. Wen
11:20 – 618. Collagen/graphene nanocomposite-based sensor for enantio-recognition of chiral molecules. **R. Mohd Zawawi***, B. Kasinathan
11:40 – 619. Electrochemiluminescence biosensor for detection of cancer biomarkers on bipolar electrode array chip. M. Wu*, H. Chen*, **J. Xu***

Marriott Waikiki Beach
Waikiki Bllrm I

Plasmonic Materials for Chemical Analysis (#450)

Organized by: D. Boudreau, J. Masson, A. Haes, J. Shumaker-Parry, M. Fan
Presiding: M. Fan

8:00 – 620. Smart enzymatic Ag/Au bimetallic nanoshells for nanoplasmonic biosensing. **Y. Jin***
8:40 – 621. Enhanced SPR measurements for the detection of clinically relevant molecules in crude biofluids. **K.S. McKeating**, J. Masson*
9:00 – 622. Metal decorated cellulose nanocrystals: A water dispersible SERS substrate. **M. McDermott**, R. Du
9:20 – 623. Detection of influenza virulence biomarkers by SERS. **R.A. Dluhy**
9:40 – 624. Selective plasmonic enhancements for molecular detection. **Z.D. Schultz***
10:00 Health break
10:20 – 625. Microdialysis SPR: Sensing in whole blood and biofluids. **J. Masson**, J. Breault-Turcot
10:40 – 626. Dialing up refractive index sensitivity: Compositional control within bimetallic plasmonic materials. **A.F. Smith***, R.G. Weiner, S. Harvey, S.E. Skrabalak
11:00 – 627. Ex-situ and in-situ single-particle monitoring of temperature-dependent structural evolution in galvanic replacement reactions. **Y. Park**, c. Lee, S. Ryu, H. Song*
11:20 – 628. Listening to proteins with extraordinary acoustic Raman (EAR). **R. Gordon**
11:40 – 629. Gold nanoparticle-polymer sensor arrays for biomedical applications. **V.M. Rotello***

Thursday Afternoon

Marriott Waikiki Beach
Kona Moku Bllrm A

New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)

Organized by: S. Krylov, D. Wilson, W. Zhong, H. Wang
Presiding: S. Krylov, D.J. Wilson

13:00 – 630. Focal molography: Coherent detection of biomolecular interactions. **C. Fattinger***
13:30 – 631. Single-molecule mechanochemical sensing. **H. Mao***
14:00 – 632. Beyond the image: Napping protein interactions and oligomerization in living cells using fluorescence fluctuation and single molecule methods. **P.W. Wiseman***
14:20 – 633. Novel optical detection system for monitoring dissolved oxygen quenched-fluorescence and materials movements caused-deflection in plant activities. **X. Wu***, X. Wu, T. Inoue, H. Kubo
14:40 – 634. New structural bioinformatics tools to characterize interactions in biomacromolecular complexes based on large database data. **J. Koca***, R. Svobodova Varekova, D. Sehnal, C. Ionescu, S. Geidl, L. Pravda, D. Jaiswal, V. Horsky, M. Wimmerova
15:00 – 635. Atomic force microscopy for immunohaematology. **N. Yeow***, R. Tabor, G. Garnier
15:20 – 636. General steric trapping strategy reveals an intricate cooperativity network in the intramembrane protease GlpG under native condition. **R. Guo**, K. Gaffney, X. Huang, H. Hong*, Z. Yang, M. Kim, W. Hubbell
15:40 – 637. Spatial distribution of nanoscale flexible chains as a protein terminal model visualized by 3D scanning force microscopy. **H. Asakawa***, K. Takao, N. Inada, T. Fukuma*
16:00 – 638. Detection of temperature, pH value and several biocomponents in vivo with novel fluorescent probes based on triaryl boron compounds and other intramolecular charge transfer compounds. **G. Yang**
16:20 – 639. Peptide-water crystal studies using THz waveform techniques. **D.F. Plusquellic**

Marriott Waikiki Beach
Milo III

Development and Applications of Techniques for Electrochemical Analysis (#24)

Organized by: J. Chen, D. Arrigan, C. Hu, B. Liu, K. Maeda

13:00 – 640. Theoretical prediction of the Gibbs energy of transfer of organic ions across the oil/water interface. **T. Osakai**
13:30 – 641. Manipulating and detecting ions in confined spaces for novel electroanalytical methodologies. **E. Bakker**, M. Cuartero, M. Ghahraman Afshar, G. Crespo
14:00 – 642. Reductive deposition of gold nanofibers at the liquid-liquid interface between highly hydrophobic ionic liquid and water. **T. Kakinami***, N. Nishi, K. Amano, T. Sakka
14:20 – 643. Electrochemical surface plasmon resonance to probe structure dynamics and electrochemical reactions at ionic liquid interface. **N. Nishi***, Y. Ikeda, K. Amano, T. Sakka
14:40 – 644. Electrolytic extraction of ionic species using the thin layer electrolysis cell for the ion transfer at the liquidlliquid interface. **Y. Yoshida***, J. UCHIDA, K. HOSOYA, K. Maeda
15:00 – 645. Propagation and synchronization of potential oscillations between two oscillation sites in the liquid membrane system. Y. Yamaguchi, Y. Yoshida, **K. Maeda***
15:25 Break
15:40 – 646. Salt on a chip: miniaturised ionic liquid systems. **C. Zhao**, C. Gunawan, M. Ge, R. Gondosiswanto
16:00 – 647. Effect of concentration and current density on zinc electrodeposition in ionic liquid electrolyte including bromide anion at high temperature. **C. Li**, K. Nishikawa, J. Moon, K. Kanamura
16:20 – 648. Nitrogen-doped graphene conductive catalyst for highly efficient dye-sensitized solar cells. **H. Chen***, E. Bi, X. Yang, L. Han
16:40 – 649. Formation of the SERS-active substrate and its application in catalysis and analytical detection. **J. Zhao**, K. Zhang, J. Ji, B. Liu*

Marriott Waikiki Beach
Milo I

Supercritical Fluid Chromatography (SFC) for Analysis and Purification (#53)

Organized by: L. Miller, A. Rajendran, T. Bamba

13:00 – 650. Application of supercritical fluid chromatography/mass spectrometry to metabolic profiling. **T. Bamba***
13:30 – 651. Advantages of supercritical fluid chromatography are more than green chemistry. **L.T. Taylor**, M. Ashraf-Khorassani
14:00 – 652. Combining the expertise of academics, industrials, and manufacturers to develop an achiral SFC-MS screening strategy for impurity profiling of drug candidates. **C. West**, E. Lemasson, S. Bertin, H. Boiteux, P. Hennig, E. Lesellier
14:30 – 653. Marriage of SFC and mass spectrometry: An old romance rekindled. **J. Van Antwerp**
15:00 Break
15:15 – 654. Preparative phospholipid fractionation using near- and supercritical fluid chromatography. **F. Montanes***, S. Tallon
15:45 – 655. Separation of closely related pharmaceuticals by supercritical fluid chromatography in support of organic synthesis. **E.L. Regalado***, C. Welch

Marriott Waikiki Beach
Kona Moku Bllrm B

On-site and In-vivo Instrumentation and Applications (#88)

Organized by: J. Pawliszyn, G. Ouyang, M. Lee

13:00 – 656. In situ, in vivo characterisation of human tissues and associated mcrobiota by rapid evaporative ionization mass spectrometry – the iKnife. **Z. Takats***
13:25 – 657. Miniature mass spectrometry systems for analysis of tissue and biofluid samples. **Z. Ouyang***, Y. Ren, X. Wang, R. Zou, Y. Su, Y. Xia, R.G. Cooks
13:45 – 658. Sub-millimeter linear ion traps to address space-charge limits in portable mass spectrometry. **D. Austin**
14:05 – 659. Detection of gaseous compounds by needle trap sampling and direct thermal-desorption photoionization mass spectrometry: Concept and demonstrative application to breath gas analysis and ship exhaust. **R. Zimmermann**, J. Kleeblatt, J. Schubert, T. Streibel
14:25 – 660. Robust and compact active capillary plasma ionization source: design and applications. **R. Zenobi***
14:45 – 661. Chemical biopsy based on SPME approach: A new medical tool. **J. Pawliszyn**
15:05 Break
15:20 – 662. Determination of chemicals in individual small organisms and single cells using nanolayer probe. **T. Luan***
15:40 – 663. In situ analysis of volatile and semi-volatile organic compounds with applications for geospatial mapping of atmospheric contaminants by membrane introduction mass spectrometry. N. Davey, R. Bell, L. Richards, D. Letourneau, M. Angelstad, C.G. Gill, **E.T. Krogh***
16:00 – 664. Fast quantification of transformation products of rocket fuel unsymmetrical dimethylhydrazine in soil using solid-phase microextraction and GC-MS. N. Bakaikina, **B. Kenessov***, S. Yegemova, J. Koziel
16:20 – 665. Monitoring of persistent organic pollutants in seawater of the Pearl River estuary with rapid on-site active SPME sampling technique. **G. Ouyang***
16:40 – 666. Monolithic materials for rapid sample preparation. **E. Hilder**, E. Candish, R.A. Shellie, H. Wirth, A. Gooley

Marriott Waikiki Beach
Waikiki Bllrm II

Fundamentals and Applications of Atomic Spectrometry (#160)

Organized by: N. Furuta, G. Hieftje, R. Sturgeon
Presiding: S.J. Ray

13:00 – 667. Laser ablation molecular isotopic spectroscopy (LAMIS). **R.E. Russo***
13:35 – 668. Coupling of multiscale imaging and high resolution U-Pb chronology. **T. Hirata***, S. Sakata, K. Hattori, T. Suzuki
14:10 – 669. Analysis of trace metals in open ocean seawater samples using resin based extraction methods with sector field ICP-MS detection. **A. Townsend***, F. Queroue, P. van dr Merwe, D. Lannuzel, G. Sarthou, A. Bowie
14:45 Coffee break
15:05 – 670. Real time monitoring of multi-elements concentration in airborne nanoparticles (ANPs) by direct introduction into ICPMS. **N. Furuta***, R. Fukushi, T. Nakazawa
15:40 – 671. Use of polymer inclusion membranes (PIM) for online separation in flow analysis. **S.D. Kolev***
16:15 – 672. Laser ablation ICP-MS for application in elemental microscopy with sub – micrometre resolution. **N. Jakubowski***, H. Traub, D. Esteban-Fernandez, R. Hutchington, C. OConnor

*** Principle Author**

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Marriott Waikiki Beach
Kona Moku Bllrm C

Ultrasensitive Assays for Proteins and Protein Modifications (#287)

Organized by: C. Le, H. Zou, N. Dovichi
Presiding: C. Le, H. Zhang

13:00 – 673. Microfluidic system for western blotting. **R. Kennedy**
13:40 – 674. High peak capacity, 2D separations using micro free flow electrophoresis. **M.T. Bowser***, M. Geiger, A. Johnson, S. Anciaux
14:20 – 675. Integrative approach to identify metalloproeomes in microbes. **H. Sun**, H. Wang, Y. Wang, L. Hu
15:00 Break
15:20 – 676. Quantum dots and upconversion nanoparticles as active elements in optical sensing for development of sensitive solid-phase protein and oligonucleotide bioassay platforms. **U. Krull***, S. Doughan, M. Noor, U. Uddayasankar, A. Shahmuradyan, F. Zhou, Y. Han
16:00 – 677. Plant-derived natural product restores activity of mutant ph enylalanine hydroxylase: A novel pharmacological chaperone for treatment of phenylketonuria. **P. Britz-McKibbin***, M. Shanmuganathan
16:40 – 678. Binding-induced DNA nanomachines triggered by proteins and nucleic acids. **H. Zhang***, J. Chen, B. Deng, X. Li, C. Le*

Marriott Waikiki Beach
Waikiki Bllrm III

Advances in FTIR Microspectroscopy: 3D Tomography to Nanoscale Imaging (#315)

Organized by: K. Gough, M. Martin, M. Chen
Presiding: M. Chen, K.M. Gough

13:00 – 679. Synchrotron FTIR imaging initiatives at CLS Beamline 01B1-1. **S.M. Rosendahl***
13:25 – 680. Application and perspective of FTIR microspectroscopy on the characterization of animal silks and silk protein-based materials. **X. Chen***, S. Ling, G. Fang
13:55 – 681. IR spectroscopic analysis of oceanic phytoplankton blooms performed for the first time on board a ship. **P. Heraud***, O. Sackett, K. Petrou, J. Beardall
14:15 Break
14:25 – 682. Investigating quantum cascade laser based infrared for rapid clinical diagnostics. **M. Baker***, C. Hughes, G. Clemens, B. Bird
14:55 – 683. Quantum cascade laser mid-IR imaging: Giving real-time biochemical feedback to the pathologist. V. Varma, H. Sreedhar, P. Nguyen, B. Davidson, A. Husain, G. Guzman, S. Setty, **M.J. Walsh**
15:15 – 684. Challenges of scale in the FTIR spectrochemical imaging of biological samples. **K.M. Gough***, C.R. Findlay, M. McLellan, R. Wiens
15:45 – 685. Laser-based mid-infrared chemical imaging. **M. Barre***, E. Fotheringham, B. Bird, B. Mohar, M. Weida, D. Arnone, J. Rowlette
16:05 – 686. Infrared hyperspectral imaging of biomedical samples using high magnification optics. C. Hughes, M. Pilling, A. Henderson, M. Jimenez-Hernandez, P. Bassan, M. Kansiz, K. Dorling, M. Brown, N. Clarke, **P. Gardner***
16:35 Closing discussion

Marriott Waikiki Beach
Milo IV / V

(Bio-)Chemical / Electrochemical Sensors and Sensing Materials (#417)

Organized by: K. Suzuki, P. Buhlmann, D. Citterio, O. Niwa, M. Winnik, K. Mitsubayashi
Presiding: D. Citterio, K. Mitsubayashi, M. Winnik

13:00 – 687. Label-free sensor array chips: Application to simultaneous RNA sequence detection. **H. Aoki***
13:20 – 688. Building an imaging toolbox: Optical nanosensors for biological discovery. **H.A. Clark***, W. Di, A. Sahari, E. Hondroulis
13:50 – 689. New-generation enzyme-free hydrogen peroxide amperometric sensor based on ZnS:Mn/graphene nanocomposites. **D. Diaz***, J. Beltran-Huarac, B.R. Weiner, G. Morell
14:10 – 690. Integration of SERS-based nanostress sensing with microcontact printing provides sensitive multiplex detection of liver cancer biomarkers. **M. Li**
14:30 – 691. Spontaneously blinking fluorophore based on intramolecular spirocyclization for live-cell super-resolution imaging. **Y. Urano***
15:00 Break
15:10 – 692. Glucose metabolism sensors for the extracellular and intracellular assays. **L. Zhang***, F. Su, X. Kong, S. Buizer, F. Lee, K. Day, Y. Tian, D.R. Meldrum
15:30 – 693. eSHHA homogeneous platform: Quantitative detection of biomarkers directly in whole blood. **S.S. Mahshid**, A. Vallée-Bélisle*
15:50 – 694. Ratiometric bioimaging and biosensing of reactive oxygen species and related biological species. **Y. Tian**
16:20 – 695. Development of fluorescent reagents for the detection of biological substances such as proteins and glycoconjugates. **Y. Suzuki***, Y. Chiba, A. Kuno, O. Niwa
16:40 – 696. Biomimetic MIP thin films for bulk acoustic wave vapor sensors. **N. IQBAL***, A. Afzal, A. Mujahid

Marriott Waikiki Beach
Waikiki Bllrm I

Plasmonic Materials for Chemical Analysis (#450)

Organized by: D. Boudreau, J. Masson, A. Haes, J. Shumaker-Parry, M. Fan
Presiding: J.S. Shumaker-Parry

13:00 – 697. Surface-enhanced Raman scattering tags and SHINERS. **C. Murphy***
13:40 – 698. Application of nanoparticles exhibiting metal-enhanced fluorescence for biochemical sensing. **D. Boudreau**, J. Asselin, M. Drouin, F. Lavoie
14:00 – 699. Super-resolution imaging of fluorescently-labeled ligands bound to plasmonic nanostructure. **K. Willets**
14:20 – 700. Plasmonic spectroelectrochemistry – an advanced tool for rapid sensing and point-of-care diagnostics. **C.L. Brosseau***, L. Zhao, R. Karaballi, S. Harroun, J. Blackburn
14:40 – 701. Phospholipid bilayer encapsulated nanoparticles for SERS. **G. Walker***
15:00 Health break
15:20 – 702. Plasmonic optical tweezer for analytical chemistry. **Y. Tsuboi**
15:40 – 703. Developing shape adaptable surface enhanced Raman scattering (SERS) substrates for surface contamination analysis. **M. Fan**
16:00 – 704. Chemical sensing with refractive index sensitive plasmonic nanostructures. **T. Sannomiya***
16:20 – 705. Plasmonic enhancement and artificial receptor recognition for the detection of drugs. **A.J. Haes***, W. Xi
16:40 – 706. Membrane surface-enhanced Raman spectroscopy for sensitive detection of molecular behavior of lipid assemblies. **K. Suga**, **T. Yoshida**, H. Ishii, Y. Okamoto, **H. Umakoshi***

Thursday Evening

Hawaii Convention Center
Halls I, II, III

Supercritical Fluid Chromatography (SFC) for Analysis and Purification (#53)

Organized by: L. Miller, A. Rajendran, T. Bamba

Poster Session
19:00 – 21:00

707. Supercritical fluid chromatography-mass spectrometry (SFC-MS) for the rapid simultaneous determination of 16 European priority polycyclic aromatic hydrocarbons in coffee beverage and black beer. **T. Yoshioka**, Y. Nagatomi, K. Harayama
708. Lipidome analysis of plasma lipoprotein fractions in myocardial infarction-prone rabbits. **H. Takeda**, T. Koike, Y. Izumi, T. Yamada, M. Yoshida, M. Shiomi, E. Fukusaki, T. Bamba*
709. Removal of endotoxin from DNA solution by cyclodextrin-urethane copolymer adsorbent. **M. Sakata***, T. Matsuo, M. Todokoro
710. Rapid in-depth regioisomer focused lysophospholipidomics of human serum by online supercritical fluid extraction-supercritical fluid chromatography tandem mass spectrometry. Y. Izumi, **M. Nakao**, N. Tuckett, Y. Funada, T. Uchikata, Y. Iwata, M. Tomita, N. Masayuki, K. Ekroos, T. Bamba*
711. Chiral analysis of dextromethorphan/levomethorphan in hair samples by supercritical fluid extraction combined with ultra performance supercritical fluid chromatography-tandem mass spectrometry. **R. KIkura-Hanajiri***, K. Yamada, T. Hakamatsuka

Hawaii Convention Center
Halls I, II, III

On-site and In-vivo Instrumentation and Applications (#88)

Organized by: J. Pawliszyn, G. Ouyang, M. Lee

Poster Session
19:00 – 21:00

712. Study of a method for analysis of trace elements in vegetables using a portable total reflection X-ray fluorescence spectrometer. **T. Yokoyama***, S. Kunimura
713. Advances in ion chromatography: New applications in CCS. **G. Fytianos***, H. Knuutila, H.F. Svendsen
714. In situ determination of arsenic in water by handheld X-ray fluorescence spectrometry. **K. Hagiwara**, Y. Koike, M. Aizawa, T. Nakamura*
715. Study of sample preparation methods for trace elemental analysis of various samples using a highly sensitive portable total reflection X-ray fluorescence spectrometer. **S. Kunimura***, S. Kudo, K. Suzuki, Y. Hojo, K. Amagasu
716. On-site determination of trace cadmium in environmental fresh water with 5,10,15,20-tetraphenyl-21*H*,23*H*- porphinetetrasulfonic acid. **S. Kawakubo***, Y. Sasaki, N. Yamamoto, Y. Suzuki, I. Ueta
717. Direct, on-line, in-situ/in-vivo quantitation of low volatility aqueous analytes in complex samples: Condensed phase membrane introduction mass spectrometry (CP-MIMS). K.D. Duncan, G. Vandergrift, D.A. Volmer, A. Cappiello, E.T. Krogh, **C.G. Gill***
718. Development of an optical transmission type biosensor for real-time monitoring of fish stress. **R. Shinoda***, H. Wu, T. Murata, H. Ohnuki, H. Ren, H. Endo
719. Environmental fates of synthetic musks in animal and plant: An in vivo study. **F. Zhu***, G. Chen, R. Jiang, G. Ouyang
720. Study of an appropriate sample holder for elemental analysis of particulate matter 2.5 using a portable total reflection X-ray fluorescence spectrometer. **Y. Matsumoto***, S. Kunimura
721. In-vivo fluorescence probes for real-time management of cyanobacterial blooms in water treatment plants. **A. Zamyadi***, F. Choo, G. Newcombe, R. Stuetz, R.K. Henderson
722. On site monitoring of methanethiol and dimethyl sulfide in Lake Baikal water and atmosphere. **K. Toda***, V. Obolkin, T. Nagahata, S. Iyadomi, N. Hozumi, S. Ohira, V. Potemkin, T. Khodzher
723. Development of simple analysis using smart device based on autocatalytic reaction with Na_2SO_3 and H_2O_2 followed by oxidase reaction. **M. Kurimoto**, A. Manaka*, S. Furuyama

Marriott Waikiki Beach
Kona Moku Bllrm A

Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)

Organized by: Y. Baba, H. Crabtree, S. Jacobson, J. Ramsey, K. Otsuka, D. Chung
Presiding: H.J. Crabtree, S.C. Jacobson, J. Ramsey

19:00 – 724. Lab-on-a-chip for monolith-based preconcentration and separation of phosphopeptides. M. Araya-Farias, S. Dziomba, F. Bayle, M. Guerrouache, M. Woytasik, H. Cao , B. Carbonnier, M. Taverna, **t. Tran-Maignan**
19:15 – 725. Label-free real-time measurement of protease activity by nanopore analysis. **X. Guan***, L. Wang, S. Zhou, X. Chen
19:30 – 726. Plasma-on-chip device for analyzing interactions between plasma gas and individual cells. C. Chang, J. Jeong, M. Kobayashi, T. Shimizu, M. Sasaki, **S. Kumagai***
19:45 – 727. Fabrication of nanoscale graphene field effect transistor biosensor for nucleic acid detection. **G. Zhang***, **Y. Ning***
20:00 – 728. Site-specific working inside nanofluidic channels: General methodology, critical techniques, and nanobio applications. **Y. Xu***
20:15 – 729. Surface enhanced Raman scattering sensing using a coffee-ring-type 3D silver nanostructure self-assembled on glass substrates. **A. Yamaguchi**, T. Fukuoka, R. Hara, Y. Utsumi
20:30 – 730. Microfluidic immunoassay with plug-in liquid crystal for optical detection of antibody. **K. Yang***, Q. Zhu
20:45 – 731. Electrochemical microdevice for the measurement of neutrophil activity for stress monitoring. **M. Yokokawa**, K. Tanabe, A. Yamagishi, Y. Morimoto, M. Kinoshita, H. Suzuki

Marriott Waikiki Beach
Kona Moku Bllrm C

Ultrasensitive Assays for Proteins and Protein Modifications (#287)

Organized by: C. Le, H. Zou, N. Dovichi
Presiding: Z. Liu, M. Ye

19:00 – 732. Engineering DNA strand displacement networks for amplified protein detection. **F. Li***
19:30 – 733. Time-resolved luminescence biosensor for dynamic activity detection of protein acetylation-related enzymes based on DNA-sensitized terbium(III) probes. **Z. Nie***
20:00 – 734. Oxidative modifications and structural changes of redox sensitive proteins. **K. Lee***
20:30 – 735. Artificial antibody materials for high sensitive detection of target proteins. K. Yang, S. Li, Y. Chen, **L. Zhang***, Y. Zhang

*** Principle Author**

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Hawaii Convention Center
Halls I, II, III

Advances in FTIR Microspectroscopy: 3D Tomography to Nanoscale Imaging (#315)

Organized by: K. Gough, M. Martin, M. Chen
Presiding: K.M. Gough, M.C. Martin

Poster Session
19:00 – 21:00

736. Determination of carbonate ion contents in hydrotalcites by FTIR microspectroscopy. **T. Tanaka***, H. Tamai

Friday Morning

Hawaii Convention Center
Halls I, II, III

New Tools and Methodologies for the Characterization of Biomolecular Interactions (#15)

Organized by: S. Krylov, D. Wilson, W. Zhong, H. Wang
Presiding: S. Krylov, H. Wang

Poster Session
10:00 – 12:00

737. Development of auto-injection system to single cells. **T. Takami***, M. Saito, H. Matsuoka, S. Tate
738. Functional classification method of base materials by interaction analysis with Stratum Corneum. **S. Arai***, M. Iwasa, H. Yoshida
739. Improved DNA equilibrium binding affinity determinations of platinum(II) complexes using synchrotron radiation circular dichroism. **D.L. Ang***, N. Jones, F. Stootman, B. Ghadirian, J. Aldrich-Wright
740. Optical nanoantenna for bacterial detection. **M. Fukuda**, T. Kinoshita, H. Shiigi*, T. Nagaoka
741. Analysis of neuronal cell with atomic force microscopy. **I. Park***, H. Koo, Y. Kim, J. Kim, J. Park
742. Activity of cytoprotective enzymes and apoptosis induced by photodynamic therapy. **C. Jones***
743. Surface enzyme chemistries for single nanoparticle biosensing using surface plasmon resonance microscopy. **A.M. Maley***, H.M. Fung, R.M. Corn
744. Evaluation of peptide-material interaction by force mapping method with an atomic force microscope. **M. Mochizuki**, M. Oguchi, S. Kim, T. Ogawa, G. Lkhamsuren, N. Cho*, T. Hayashi*
745. Kinetic study of intermolecular interaction by capillary electrophoresis: Clathration reaction of thymol with sulfated-β-cyclodextrin. **Y. Shimazaki**, K. Miyabe*
746. Analysis of aggregation-prone regions in monoclonal antibody by hydrogen/deuterium exchange mass spectrometry. **N. Hashii***, S. Nakazawa, M. Tada, . Yamaguchi
747. Surface plasmon resonance and fluorescence: A novel approach for characterization of biomolecules interactions. **J. Labrecque-Carbonneau***, J. Masson
748. Electrochemical oxidation: A research tool for drug metabolites with short lives in vivo. **K. Tahara***, Y. Abe, T. Mizushima
749. Early detection of anti-asparaginase to significantly increase remission rate in acute lymphoblastic leukemia therapy. **A. Aubé***, D. Charbonneau, J. Pelletier, J. Masson
750. On-chip templated biosynthesis of unnatural and natural protein microarrays suitable for surface plasmon resonance imaging. **G. Manuel***, R.M. Corn
751. Immobilization of DNA and RNA on QCM sensors modified with self-assembled monolayer of thiol derivatives. **S. Shiba**
752. Desired alteration of protein affinities using competitive screening system. **M. Kaishima***, N. Fukuda, J. Ishii, A. Kondo
753. Surface plasmon resonance spectroscopy and nanoplasmonic metal particles for studying biomolecular interactions. **X. Su***
754. Identification of Ryukyu lacquer-wares by pyrolysis-GC/MS and $^{87}Sr/^{86}Sr$ isotope ratio measurement. **M. Tetsuo***
755. Structures, stability, and hydrogen bonding in inositol conformers. **N. Siddiqui***
756. Beyond nucleic acids: pcr-based analytics for glycoproteomics and serology. **P. Robinson***
757. Design and synthesis of a novel chemical crosslinker for protein structure determination. **K.M. Downey**, T.L. Pukala
758. Identification and structural analysis of proteins adsorbed from serum to self-assembled monolayers: Components comprising ECM, structural changes, and relevance to cell behavior. Y. Mizushita, T. Nyu, T. Sekine, **T. Hayashi**
759. Siderophore spatial distribution evaluation by direct mass spectrometry imaging on agar Streptomyces cultures. **C.F. Angolini**, M.N. Eberlin
760. Time-resolved circular dichroism study on the photodynamics of cyclodextrin encapsulated aromatic molecules. **M. Kuronuma**, Y. Araki, S. SAKAMOTO, T. Wada*
761. Nanoparticles-free fluorescence anisotropy amplification assay for detection of RNA nucleotide-cleaving DNAzyme activity. **D. Zhang**, Q. Zhao, H. Wang*

Marriott Waikiki Beach
Milo III

Development and Applications of Techniques for Electrochemical Analysis (#24)

Organized by: J. Chen, D. Arrigan, C. Hu, B. Liu, K. Maeda

8:00 – 762. Electrochemical imaging of cells and tissues. **H.H. Girault***
8:40 – 763. Electrochemical behaviors of NaCl solid-solution microcrystals. **D. Zhan***, D. Huang, Y. Zhu, L. Geng, Z. Tian
9:00 – 764. Probing the surface electrochemical activity of complex natural mineral samples with a microelectrode. **L.A. Jones***, R. Ram, S. Bhargava
9:20 – 765. Light activated electrochemistry: A strategy for performing voltammetry on a monolithic surface where you want, when you want, with micron scale spatial resolution. M.H. Choudhury, S. Ciampi, L. Zarei, R. Tavallaie, V. Goncales, **J. Gooding**
9:40 – 766. Electrochemical reduction of RE ions (RE=Dy, Nd, Pr) with Ni electrodes in LiCl-KCl eutectic melts. **H. Konishi***, T. OISHI, T. NOHIRA, H. ONO, E. TAKEUCHI
10:00 Break
10:15 – 767. Synthesis and electrochemical characterization of nanostructured transition metal oxy-hydroxides for supercapacitors of the asymmetric design. **C. Hu***, C. Hsu, K. Chang, H. Hsu
10:35 – 768. Effects of incorporating nanomaterials for the detection of phenolic compounds. Y. Huang, **M. Wang***
10:55 – 769. Synthesis and characterization of nanoparticles, thin films, and fibres by the pyrolysis of asphaltenes. **K. Xu**, C. Ayranci, M. McDermott*
11:15 – 770. Voltammetric detection of ozone dissolved in water at a macro boron-doped diamond electrode. **T. Nishiumi***, K.J. Aoki, J. Chen

Marriott Waikiki Beach
Waikiki Bllrm II

Direct and Mediated Bioelectrocatalysis for Biosensors and Energy Conversion Applications (#89)

Organized by: S. Minteer, L. Mao, J. Kim
Presiding: S. Minteer, S. Minteer

8:00 – 771. Engineering the small laccase (SLAC) from *Streptomyces coelicolor* for incorporation into enzymatic biofuel cell cathodes. K. Garcia, S. Babanova, W. Sheffler, D. Baker, P. Atanassov, **S. Banta***
8:40 – 772. Designing hybrid organic-bio-catalytic reaction cascades. **I. Wheeldon**
9:20 – 773. Spectroelectrochemical analyses of the electron transfer subunit of direct electron transfer type FAD dependent glucose dehydrogenase. **N. Hirose**, N. Suzuki, M. Narita, Y. Yamashita, W. Tsugawa, J. Okuda, K. Kojima, K. Sode*
9:40 Break
10:00 – 774. Paper-based high power enzymatic biofuel cell arrays for self-powered biosensors. **I. Shitanda***, S. Nohara, M. Momiyama, S. Tsujimura, Y. Hoshi, M. Itagaki
10:20 – 775. From mitochondria to metabolons: Enzyme cascade-based bioelectrocatalysis. **S. Minteer**, F. Wu, S. Xu
11:00 – 776. Electrospun carbon nanofiber supports for bioelectrodes. D. Do*, C. Gumeci, **S. Calabrese Barton**
11:20 – 777. Organic skin patch with built-in enzymatic battery. **M. Nishizawa***

Hawaii Convention Center
Halls I, II, III

Micro- and Nano-fabricated Analytical Devices for Chemical, Biochemical and Biomedical Platforms (#129)

Organized by: Y. Baba, H. Crabtree, S. Jacobson, J. Ramsey, K. Otsuka, D. Chung

Poster Session
10:00 – 12:00

778. Evaluation of the kinetic performance of micro-fabricated 3D structures for LC columns. **M. Nakamura***, T. Naito, T. Kubo, K. Otsuka
779. Microfluidic perfusion culture for vascular biology. **K. Sato***
780. MicroRNA detection on a probe DNA immobilized polymer-grafted surface of the power-free microchip toward point-of-care cancer diagnosis. **R. ISHIHARA**, Y. UCHINO, K. HOSOKAWA, M. Maeda, A. Kikuchi*
781. Passive and continuous hydrodynamic sorting of $PM_{2.5}$ using a micropost array. **S. Inagaki**, T. Yasui, N. Kaji, Y. Baba
782. Development of surface modification and patterning method in extended nanochannels using fluorinated phosphonic acid (FPS)-immobilized TiO_2. **S. Ishihara**, K. Morikawa, T. Tsukahara *
783. Live cell imaging with quantum dot anti-CD3 antibody conjugates introduced by endocytic pathway. **H. Udaka**, T. Kurabayashi, T. Fukuda*, M. Suzuki
784. Optofluidic devices implemented 3D gold nanostructure enabling surface enhance Raman scattering. **A. Yamaguchi***, T. Fukuoka, R. Takahashi, Y. Utsumi
785. Investigation of liquid properties of lanthanoid solutions confined in extended nanospaces. **K. Morikawa**, T. Tsukahara *
786. Development of a dual-function micro-analytical device for DNA separation and label-free detection. **T. Ajiri**, T. Yasui, A. Ishida, H. Tani, Y. Baba, M. Tokeshi
787. Titanium oxide-based peptide chip with removal ability of non-specific adsorbant. **S. Nagatomo**, K. Yamamoto, S. Matsushima, Y. Katayama, T. Sonoda
788. Microfluidic image-processing-based multipoint crystallization analysis. **A. Akiyama**, M. Fukuyama, A. Hibara*
789. Unique properties of water induced by surface chemical groups in extended nanospace. **K. Ikeda**, Y. Kazoe, T. Tsukahara , K. Mawatari, T. Kitamori*
790. Structural analysis of water in extended-nano space. **H. Koreeda**, K. Mawatari, K. Shinji, T. Yamaguchi, K. Yoshida, T. Kitamori*
791. Electrical and optical characteristics of gold nanoparticles-deposited microbeads. **Y. Takai**, M. Terabe, H. Shiigi*, T. Nagaoka
792. Up-regulation of adipose derived stem cells based on 3DI culture using microfabricated surface. **K. Yoshimoto**
793. Half–integer diffraction background–free optical detection. **K. Furukawa**, M. Fukuyama, A. Hibara*
794. Lipid panel test on the disk platform. **C. Shih***, C. Liu
795. Enzyme-linked immunosorbent assay on a disk platform using multistep aliquoting techniques. **H. Wu**, C. Shih*, C. Li
796. Selective separation of carbohydrates by capillary gel electrophoresis with PEG-based hydrogels. **H. Furuta**, T. Naito, T. Kubo, K. Otsuka
797. Nano-composite with a thermoresponsive molecularly imprinted polymer and a magnetic nanoparticle for selective drug-releasing. **K. Koterasawa***, T. Naito, T. Kubo, K. Otsuka
798. Development of an electrochemical sensor for simultaneous measurement of blood ATP and lactate levels for evaluation of illness severity. **K. Nishiyama**, A. Ishida*, H. Tani, M. Tokeshi
799. Invader assay-assisted ELISA for the sensitive detection of disease biomarkers with the naked eye. **Q. Song**, Y. Li
800. Microfluidic southern hybridization using microbeads fixed with a photo-cross-linkable resin. **G. Suzuki**, K. Tsunoda, K. Sato
801. Retention properties of a C_{60}-fullerene coated silica monolithic capillary in liquid chromatography. **M. Tsuzuki***, Y. Murakami, T. Naito, T. Kubo, K. Otsuka
802. Microflow impulsion and diffusion generated concentration gradient for cell-based assay. **X. LI**, L. LIU, J. SHI, F. Zhang, J. HU, L. Wang, z. ZHAO, Y. CHEN*
803. Simple method for the preparation of high diffraction quality protein crystals using microfluidic device. **M. Maeki***, A. Pawate, M. Sugishima, K. Watanabe, M. Tokeshi, P. Kenis, M. Miyazaki
804. High resolution TIRF Imaging of biointerface using self-assembled metal nanoparticle films. **S. Masuda**, Y. Yanase, E. Usukura, S. Ryuzaki, K. Okamoto, K. TAMADA*
805. Development of protein concentration system based on pore-size control of molecular sieving gel by thermal-stimulus response. **Y. Fukushima***, T. Naito, T. Kubo, K. Otsuka
806. On-chip metabolism model based on microfluidic technologies for pharmacokinetic study. **H. Kimura***, N. Horio, Y. Sakai, T. Fujii
807. Establishment of analytical method by micro-ELISA for small amount of patient blood. **E. Mori***, A. Yoshizaki, Y. Imai, Y. Hosoya, T. Kitamori*
808. Development of high sensitivity electrode for glucose bio sensing system modified by RF magnetron sputtering. **K. Tsuchiya***, J. Tanno, H. Kimura
809. Fundamental studies on controlling sample focusing using nano-micro structures. **Y. Yoshida***, T. Naito, T. Kubo, K. Otsuka
810. Detecting structural variations caused by DNA methylation at the single molecule level in nanochannel. **X. Sun***, T. Yasui, R. Sakon , T. Yanagida, N. Kaji, M. Kanai, K. Nagashima, T. Kawai, Y. Baba
811. Evaluation of a PEG-based hydrogel for protein recognition using molecularly imprinting technique. **S. Arimura***, T. Naito, T. Kubo, K. Otsuka

*** Principle Author**

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812. Formation mechanism of lipid nanoparticles in microchannels. **Y. Fujishima**, M. Maeki, T. Yasui, Y. Sato, A. Ishida, H. Tani, H. Harashima, Y. Baba, M. Tokeshi*
813. Automatic assembly of non-spherical microscale particles using electroosmotic flow in a microfluidic device. **H. Moriyama**, T. Ueda*
814. High-sensitive ionic current sensing system using a microfluidic device. **H. Yasaki**, T. Yasui, T. Yanagida, N. Kaji, M. Kanai, S. RAHONG, K. Nagashima, T. Kawai, Y. Baba*
815. Analysis of in vivo biokinetics of transplanted stem cell using cadmium-free quantum dots. **Y. OGIHARA**, H. YUKAWA, D. Onoshima, T. Kameyama, Y. Hayashi, T. Torimoto, T. Ishikawa, Y. Baba
816. NAIMS: Nanotip ambient ionization mass spectrometry. **Z. Zhou**, J. Lee, R.N. Zare
817. Stem cell based bio-actuated microsystem for a micropump using a thin polymer membrane. **Y. Tanaka***, H. Fujita
818. Molecular crowding-assisted on-bead rolling circle amplification for single DNA molecule counting. **N. Sasaki***, Y. Gunji, K. Sato
819. Anchored nanowires for microRNA extraction from extracellular vesicles in body fluid. **D. TAKESHITA**, T. Yasui, Y. He, T. Yanagida, N. Kaji, R. Sakon , M. Kanai, K. Nagashima, T. Kawai, Y. Baba
820. Fluorescence polarization imaging for analyzing molecular interactions. **O. Wakao***, M. Maeki, A. Ishida, H. Tani, A. Hibara, M. Tokeshi*
821. Manipulation and capture of PEGylated ribonuclease A in an insulator-based dielectrophoresis microdevice towards the design of microbioprocesses. M.A. Mata-Gómez, J. González-Valdez, R. Gallo-Villanueva, S. Martínez-Chapa, **M. Rito-Palomares***
822. Recombinant small antibody design for plasmonic biosensor using camel antibody with affinity for target inorganic material. T. Sujino, H. Nakazawa, K. Tawa, R. Asano, I. Kumagai, **M. Umetsu**
823. Current detection in microfluidic devices for measurement of cell deformability. **M. Sano**, T. Yasui, N. Kaji, Y. Baba
824. Stem cells imaging in the second near-infrared region with the use of fluorescence nanoparticles. **T. Shimada**, H. Yukawa, D. Onoshima, H. Niioka, Y. Hayashi, T. Ishikawa, Y. Baba
825. Microfluidic single cancer cells isolation and analysis device by simple manual operation for cytoscreening of cancer stem cells. **Y. Hattori**, D. Onoshima, H. Yukawa, K. Ishikawa, M. Hori, Y. Baba
826. Transportation imaging of exosomes derived from stem cells and cancer cells. **A. Yokoyama**, H. Yukawa, D. Onoshima, Y. Hayashi, T. Ishikawa, Y. Baba
827. Multimodal imaging of stem cells by using quantum and magnetic nanohybrid particles. **R. Naruse**, H. Yukawa, D. Onoshima, Y. Hayashi, T. Ishikawa, Y. Baba
828. Massively parallel detection system of single cells to analyze genomic heterogeneity of cancer cells. **S. Ito**, T. Yasui, N. Kaji, Y. Baba
829. Open-microhole array device with superhydrophilic glass surface for filtering and counting rare tumor cells. **A. Yonese**, D. Onoshima, H. Yukawa, K. Ishikawa, M. Hori, Y. Baba
830. Development of magnetized zinc oxide nanowires by using magnetic fluid. **T. Okawa**, T. Yasui, N. Kaji, Y. He, T. Yanagida, M. Kanai, K. Nagashima, T. Kawai, Y. Baba
831. Development of an observation platform for bacterial activity using conducting polymer films doped with bacteria. **S. Suekuni**, T. Tamura, H. Shiigi*, T. Nagaoka
832. Nanowire devices for analysis of cell-cell communication via extracellular vesicles. **K. Tabuchi***, T. Yasui, Y. He, T. Yanagida, N. Kaji, M. Kanai, K. Nagashima, T. Kawai, Y. Baba
833. High-throughput methylation mapping by detecting fluorescently stained methylation sites at a single molecule level. **A. Hattori**, T. Yasui, N. Kaji, Y. Baba*

Marriott Waikiki Beach
Kona Moku Bllrm B

Optical Waveguide Techniques for the Analyses of Materials and Interfaces (#164)

Organized by: N. Matsuda, S. MENDES, K. TSUNODA, Z. QI, L. SUN, P. Tassel

8:00 Opning Remarks
8:10 – 834. Integrated bimodal waveguide interferometers for advanced diagnostics. **L.M. Lechuga***
8:40 – 835. Waveguide-based biosensors for the diagnosis of infectious diseases. **h. Mukundan***
9:10 – 836. In situ ATR-IR spectroscopic observations of biointerfaces using a flow cell. **S. Morita***
9:40 – 837. Optical waveguide spectroscopy for study of biological events inside inorganic nanopores. **A. Yamaguchi**
10:10 Break
10:30 – 838. Evaluation of thin film deposition and vapor sorption using optical waveguide spectroscopy with surface plasmon resonance. **K. Shinbo**, M. Ishigooka, Y. Ohdaira, A. Baba, K. Kato, F. Kaneko
11:00 – 839. Detection of lead and mercury using silicon-nanowire ring-resonators coated with mesoporous silicates. **H. Loock***, S. Borjian, X. Wu, C. Crudden, D. Xu
11:30 – 840. Whispering gallery resonators: New uses in sensing and material analysis. **R. Dunn***, S. Wildgen, D. kim

Marriott Waikiki Beach
Waikiki Bllrm III

Laser Ionization Mass Spectrometry (#274)

Organized by: T. Imasaka, R. Zare, K. Lin
Presiding: R.J. Levis, R.N. Zare

8:00 Opening Remark
8:05 – 841. Laser desorption/ionization droplet delivery mass spectrometry (LDIDD-MS). J. Lee, H. Nam, **R.N. Zare***
8:35 – 842. Application of laser ionization time-of-flight mass spectrometry to emulsion analysis. H. FUKAYA*, Y. SHIMO*, Y. TSUDA*, H. Ishigami*, **T. UCHIMURA***
8:55 – 843. Nanoparticle seed-layer for laser desorption/ionization mass spectrometry in the quantification of various polarity drugs. **M. Tseng***, R. Obena, Y. Ho, Y. Luo, C. Lin, M. Fuh**, Y. Chen**
9:15 – 844. Laser desorption ionization of stilbenes in porous coordination networks. **K. Ohara***, A. Nakai, K. Yamaguchi
9:35 Break
9:45 – 845. MALDI ionization mechansim. **C. Ni**
10:15 – 846. Determination of nerve agent metabolites by gas chromatography/multiphoton ionization/time-of-flight mass spectrometry. **A. Hamachi**, T. Imasaka, Y. Mori, D. Vu, Y. Kida, T. Imasaka
10:35 – 847. Resonant laser mass spectrometry in cultural heritage analysis. **M.S. de Vries***
10:55 – 848. Analysis of pyrolysis products from TiO_2 nanoparticles treated with phenyltriethoxysilane using laser ionization time-of-flight mass spectrometry. **T. Fujii***, T. UCHIMURA*
11:15 – 849. Ambient femtosecond laser vaporization electrospray ionization mass spectrometry, a universal analysis method. **R.J. Levis**

Hawaii Convention Center
Halls I, II, III

Ultrasensitive Assays for Proteins and Protein Modifications (#287)

Organized by: C. Le, H. Zou, N. Dovichi

Poster Session
10:00 – 12:00

850. Conversion of individual molecules of β-galactosidase between different active conformations using short periods of heating. **D. Craig***
851. Phosphorylation-mediated assembly of semisynthetic fluorescent protein for label-free detection of protein kinase activity. **Y. Huang***, Z. Nie
852. Nanoreactor for large-scale characterization of membrane proteins. **X. Fang**, L. Qiao, B. Liu
853. Application of the fluorescence at 800 nm derived from the interaction with non-fluorescent Cu(II)-porphine to determine human serum albumin. T. Ikeda, H. Sagawa, Y. Nakano, M. Inoguchi, **J. ODO**
854. Construction of an electroactive peptide probe for sensing of a protein and a cell. **K. Sugawara***, H. Kuramitz, H. Shinohara, T. Kadoya
855. Enhanced Raman spectroscopic immunoassay using an optical interference mirror slide. **M. Yasuda***, T. Akimoto, Y. Ozaki

Marriott Waikiki Beach
Kona Moku Bllrm C

Harmonized Strategy of New UHPLC Implementation in Pharmaceutical R & D and CRO/CMO QC Laboratories (#353)

Organized by: N. Wu, W. Mullett, E. Gong
Presiding: E. Gong, W. Mullett , N. Wu

8:00 Introduction
8:10 – 856. Small-scale ultrahigh performance capillary liquid chromatograph. **M.L. Lee***, S. Sharma, A. Plistil, H.E. Barnett, S.D. Stearns, P.B. Farnsworth, H. Tolley
8:40 – 857. Introduction to UPLC: Theory and practical implementation. r. Ladd, **D. Diehl***
9:10 – 858. Evaluation, adoption, and benefits of UPLC at Astrazeneca Pharmaceuticals. **r. Ladd***
9:40 – 859. Pharmaceutical separations using ultrahigh pressure liquid chromatography. **Y.S. Xiang**, M.D. Trone
10:00 Break
10:10 – 860. Applications of UPLC-MS based metabolomics in precision medicine. **G. Xu**, X. Zhao, Z. Yang, P. Yin, X. Lu
10:30 – 861. Application of UHPLC and SPP columns with MS and fusion software for fast and robust method development. **D. Kou***
10:50 – 862. Method transfer from HPLC to UHPLC: Rules, benefits, applications, and eventual problems. **D. Guillarme***, J. VEUTHEY
11:10 – 863. UHPLC vs. HPLC for rapid compound quality control analysis and characterization. **B. Lin***
11:30 – 864. UPLC/UHPLC applications and method transfer in contract research organization (CRO). **W. Huang***, K. Zhou, E. Gong
11:50 Discussion and Conclusion Remarks

Marriott Waikiki Beach
Waikiki Bllrm I

Vibrational Spectroscopy: New Developments and Applications in Biological and Medical Sciences (#375)

Organized by: M. Blades, H. Sato, B. Wood
Presiding: M. Blades, H. Sato, B.R. Wood

8:00 – 865. Developing clinical diagnostics with deep Raman spectroscopy: Advancing our understanding of spatial distributions of tissue Raman signals. **N. Stone***, M. Vardaki, B. Gardner, P. Matousek
8:30 – 866. Transforming in vitro vibrational spectroscopy into in vivo vibrational imaging for applications in biology and medicine. **J. Cheng***, D. Zhang, J. Li, P. Wang
9:00 – 867. Pre-clinical trial on the application of ATR spectrosocpy for malaria diagnsosis. **B.R. Wood**, P. Heraud, D. Guaita-Perez, P. Jearanaikoon, P. Tippayawat, D. McNaughton
9:20 – 868. Understanding physiological changes in tissue in vivo using Raman spectroscopy. **A. Mahadevan-Jansen***, C. O'Brien, I. Pence, J.C. Slaughter, J.J. Reese, K.A. Bennett
9:40 – 869. Raman spectroscopy for live cells and tissues. **H. Sato**, K. Moor, P. Meksiarun, M. Ishigaki, Y. Maeda
10:00 – 870. Visualising stem cell differentiation status by Raman microspectroscopy. **L. Chiu***, T. Ichimura, K. Fujita, T. Ozawa, H. Fujita*
10:20 – 871. Raman study for monitoring the development of neuronal cell in vitro. **K. Hashimoto**, S.N. Kudoh, H. Sato
10:40 – 872. Raman spectral dynamics of single cells in the early stages of differentiation and proliferation upon growth factor stimulation. **S. TAKANEZAWA**, Y. Ozaki, Y. Sako
11:00 – 873. Rapid in vivo Raman spectroscopy for early cancer detection – technology development and clinical applications. **H. Zeng***, J. Zhao, M. Short, D. McLean, S. Lam, H. Pawluk, A. McWilliams, H. Lui
11:30 – 874. Bio-Raman spectroscopy as a powerful tool for pathological research and clinical diagnosis. **J. Hu***

Marriott Waikiki Beach
Kona Moku Bllrm A

Advances in Terahertz Spectroscopy and Imaging (#413)

Organized by: A. Rahman, C. Kim, W. Jaeger, S. Nguang
Presiding: A. Rahman, Y. Shamash

8:00 Introduction
8:05 – 875. High resolution spectroscopy with backward wave oscillators. **W. Jaeger***
8:35 – 876. Terahertz characterization of permeation of gold nanoparticles through human stratum corneum in vitro. J. Grove, A. Rahman, T. Ramezanli, B. Michniak-Kohn, **A. Rahman***
9:05 – 877. In vitro study of the non-thermal effect of terahertz-wave irradiation. **N. Yaekashiwa**, S. Hayashi , K. Kawase
9:25 – 878. Terahertz pulsed spectroscopy of paraffin-embedded brain glioma. **j. li**, k. meng, T. Chen, L. Zhu, Z. Li
9:45 BREAK
10:00 – 879. Early detection of skin cancer by terahertz reflectometry, spectroscopy, and imaging. **B. Rao***, A. Rahman, A. Rahman*
10:30 – 880. Role of human sweat duct in terahertz wave interaction with human skin. **S.R. Tripathi***, E. Miyata, K. Kawase

*** Principle Author**

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10:50 – 881. Self-association and intermolecular vibrations of dimethyl sulfoxide in cyclohexane solutions studied by THz TDS, mid-IRS, and DFT calculations. **K. Mizuno**
11:10 – 882. Monitoring hydrogen bonds in soft materials by terahertz spectroscopy. **H. Hoshina**, H. Suzuki, S. Yamamoto, S. Yajima, Y. Ozaki, C. Otani
11:30 – 883. Even technology entrepreneurs need partners: what it takes in today's world. **Y. Shamash**

Friday Afternoon

Marriott Waikiki Beach
Milo III

Development and Applications of Techniques for Electrochemical Analysis (#24)

Organized by: J. Chen, D. Arrigan, C. Hu, B. Liu, K. Maeda

13:00 – 884. Generator-collector effects in electroanalytical processes. **F. Marken***
13:30 – 885. Metal nanoparticle-attached nickel electrodes for electroanalysis. **M. Oyama***
13:50 – 886. Novel electrochemical analysis of hydrophilic and lipophilic natioxidants in bicontinuous microemulsion. **E. Kuraya**, D. Kato, O. Niwa, M. Kunitake
14:10 – 887. Direct and indirect molybdenum enzyme electrochemistry. **P.V. Bernhardt***
14:30 – 888. Photoelectrochemical immunoassays. **H. Chen***
14:50 Break
15:00 – 889. Nanogap sensors. **L. Rassaei**
15:20 – 890. Bioanalysis and metabolism strategy based on electrochemistry and mass spectrometry. **B. Liu***, X. Fang, L. Qiao, X. Zhang, H.H. Girault
15:40 – 891. Diffusive relaxation hinders the time response of electrochemical detection in microchannels. **R. Trouillon***, M.A. Gijs
16:00 – 892. Development of a reconfirmable DNA sensing protocol on polycrystalline silicon nanowire field effect transistor. **Y. Yang***
16:20 – 893. Electrochemical studies of protein kinase catalyzed phosphorylations. **H. Kraatz**
16:40 – 894. Insight into electrochemiluminescence of Au25 clusters. **Z. Ding**
17:00 Closing Remarks

Marriott Waikiki Beach
Waikiki Bllrm II

Direct and Mediated Bioelectrocatalysis for Biosensors and Energy Conversion Applications (#89)

Organized by: S. Minteer, L. Mao, J. Kim
Presiding: S. Minteer, S. Minteer

13:00 – 895. Direct electron transfer of glucose oxidase at seamless 3D graphene-carbon nanotubes hybrid for glucose sensing and biofuel cell. **A. Mulchandani***, T. Terse-Thakoor, K. Komori, P. Ramnani
13:40 – 896. Nanobiocatalytic approaches for improving both lifetime and electron transfer rate of bioelectrocatalysis. **J. Kim**
14:20 – 897. Direct extracellular electron transfer via noncovalent flavin cofactor in outer membrane cytochrome of *Shewanella* and *Geobacter* species. Y. Tokunou, K. Hashimoto*, **A. Okamoto***
14:40 – 898. Directed biomolecule immobilization on comb-branched DNA. **E.K. TeSelle***, D.A. Baum
15:00 – 899. Human biosensing by nicroelectrode double potential pulse. **J. Burgess***
15:40 – 900. Novel first generation enzymatic biosensors via spontaneous adsorption of enzymes on nitrogen-doped carbon nanotubes. **K.J. Stevenson***, J. Goran, I. Rust
16:20 – 901. Non-faradaic unlabeled electrochemical capacitive detection of DNA modification and hybridization process using custom-made gold interdigital microelectrode arrays. **N.E. Solis Marcano***, M. Lopez-Nieves, C.R. Cabrera
16:40 – 902. Employing DNA for bioelectrocatalysis. **D.A. Baum**

Marriott Waikiki Beach
Milo IV / V

Novel Analytical Probes for In Vivo Optical Functional Imaging (#115)

Organized by: Y. Urano, T. Ozawa, Y. Chang, M. McCarroll
Presiding: T. Ozawa

13:00 – 903. Optical imaging and analysis of cell-death pathways using bioluminescent proteins. **T. Ozawa**
13:25 – 904. Genetically-encoded luminescent indicator applicable in millisecond voltage phenomena. **T. Nagai***
13:50 – 905. Live cell imaging and in vivo analysis for temporal reaction of G protein-coupled receptor using split luciferase complementation. **M. Hattori**, T. Ozawa*
14:10 – 906. Video rate imaging of local tensors for structural characterization of collagen by second harmonic generation microscopy. **G.J. Simpson***
14:30 – 907. Fluorescent probe for single-molecule live-cell imaging of telomeric-repeat containing RNA using fluorescent protein reconstitution and an RNA-binding domain PUM-HD. **H. Yoshimura**, T. Yamada, H. Segawa, T. Ozawa*
14:50 Break
15:05 – 908. Improvement of two-photon microscopy using a new optical technology. **T. Nemoto***
15:30 – 909. Raman tags: Nonfluorescent chemical probes for small molecules. **K. Fujita***
15:55 – 910. Study on inteacellular SERS and multispectral imaging. Y. Chen*, **A. Shen***, J. Hu
16:15 – 911. 3D layered neuronal networks constructed in biomimetic scaffolds. **M. Yoon***

Marriott Waikiki Beach
Kona Moku Bllrm B

Optical Waveguide Techniques for the Analyses of Materials and Interfaces (#164)

Organized by: N. Matsuda, S. MENDES, K. TSUNODA, Z. QI, L. SUN, P. Tassel

13:00 – 912. Wideband integrated photonics for chemical detection at surfaces. **J.S. Wilkinson***, G.S. Murugan
13:30 – 913. Ex situ waveguide spectroscopy technique for characterization of ultrathin solid-state films. **Z. Qi***
14:00 – 914. Surface plasmon-waveguide coupled emission for probing thick samples up to micrometer-scale. **Y. Li***, Q. Liu, S. Cao, S. Huo, K. Xie, Y. Zhai, Y. Weng
14:30 – 915. Optimal structures and various applications of a waveguide-mode sensor. **M. Fujimaki***
15:00 Break
15:20 – 916. Introduction to optical waveguide multi-platform development and fundamental applications. **H. Takahashi***
15:50 – 917. Dye adsorption in mesoporous silica film characterized by polarized optical waveguide spectroscopy. **D. Lu***
16:10 – 918. Optical fiber total internal reflection fluorescence with a liquid core waveguide for collecting/delivering fluorescence photons. **S. Tao***, C.A. Guyer
16:30 – 919. Planar waveguide ATR and TIRF spectroscopy in the time- and frequency-domains: Development and application to photochemical and electrochemical reactions in molecular films. **S. Saavedra***

Marriott Waikiki Beach
Waikiki Bllrm III

Laser Ionization Mass Spectrometry (#274)

Organized by: T. Imasaka, R. Zare, K. Lin
Presiding: C. Ni, R. Zimmermann

13:00 – 920. Combustion, crude oil, coffee roasting, and industrial processes: Analysis of complex materials and thermal processes by photo-ionisation mass spectrometry (PIMS). **R. Zimmermann**
13:30 – 921. Application of tunable vacuum-ultraviolet (VUV) light coupled with reflectron time-of-flight mass spectrometry for the isomer-specific detection of complex organic molecules in astrophysical ice analogs. **M.J. Abplanalp**, R. Kaiser
13:50 – 922. Unraveling the gas-phase chemistry in chemical vapor deposition with cyclic organosilicon precursors using laser ionization mass spectrometry. **Y. Shi***, I. Badran, L. Tong
14:10 – 923. Time-of-flight mass spectrometry of polycyclic aromatic hydrocarbons and their analogs. **Y. Tang**, T. Imasaka, S. Yamamoto, T. Imasaka
14:30 Break
14:40 – 924. Some applications of laser-based ionization mass spectrometer in molecular photodissociation. **K. Lin**
15:10 – 925. Mechanistical study of reaction pathways in solid nitromethane (CH_3NO_2) and D3-nitromethane (CD_3NO_2) upon interaction with ionizing radiation. **P. Maksyutenko***, M. Förstel, R. Kaiser
15:30 – 926. Characterization of thermal decomposition products of chemical vapor deposition precursors using vacuum ultraviolet photoionization time-of-flight mass spectrometry. **J. Zhang***
15:50 – 927. Online monitoring of the dispersed oil of an emulsion using laser ionization time-of-flight mass spectrometry. **Y. TSUDA***, T. UCHIMURA*
16:10 – 928. Femtosecond ionization in mass spectrometry for observing a molecular ion. **T. Imasaka***
16:35 Closing Remark

Marriott Waikiki Beach
Milo I

Advanced Analytical Applications and Technical Developments of Soft X-Ray Spectroscopy (#303)

Organized by: Y. Muramatsu, S. Hayakawa, C. Heske, A. Buuren, A. Moewes
Presiding: S. Hayakawa, Y. Muramatsu

13:00 Opening Remarks
13:05 – 929. Conversion electron yield XAFS measurements with soft X-rays for element selective measure of specific surface area. **S. Hayakawa**, E. Tsuji
13:25 – 930. Characterization of contact lens polymer gels: Cryo vs. dried methodology. **D.S. Karpuzov***
13:45 – 931. N-K absorption spectra of small cluster structures in a hydrated biocell. **T. Ejima**, M. Kado, M. Aoyama, K. Yasuda, S. Tamotsu
14:05 – 932. Chemical imaging of atmospheric aerosols. **M.K. Gilles**, S.T. Kelly, B. Wang, A. Laskin
14:25 – 933. Novel system to study the element-specific valence electronic structure of wet materials. **Y. Harada**
15:05 – 934. PPM detection limits in powder X-ray diffraction guided by second harmonic generation imaging. **G.J. Simpson***
15:25 – 935. Quasi in situ XPS analysis on hydrocarbon decomposition on a TiO_2 surface by UV irradiation. **N. Ohtsu***
15:45 – 936. Characterization on blue apatite beads recovered from Tell el-Kerkh, Syria (pottery Neolithic period) and related materials. **C. NUMAKO**, K. Kitahara, Y. Shimazu, Y. Taniguchi
16:05 – 937. Soft X-ray absorption absorption/reflectivity analyses of carbon materials in BL10 at the NewSUBARU. **Y. Muramatsu***, T. Uemura, K. Nambu, D. Fukuyama, M. Kuki, T. Harada, T. Watanabe, H. Kinoshita
16:25 Break
16:40 – 938. Probing the ground state oxygen holes and the metal-insulator transition in strained rare earth nickelate films with Resonant Inelastic X-ray Scattering. **T. Schmitt***

Marriott Waikiki Beach
Waikiki Bllrm I

Vibrational Spectroscopy: New Developments and Applications in Biological and Medical Sciences (#375)

Organized by: M. Blades, H. Sato, B. Wood
Presiding: M. Blades, H. Sato, B.R. Wood

13:00 – 939. Surface-enhanced Raman spectroscopy: From biomolecules to live-cell imaging. **B. Ren***, X. Zheng, L. Xu, C. Zong, M. Xu, J. Zhang
13:30 – 940. Gold nanoparticles as a substrate in bio-analytical near-infrared surface-enhanced Raman spectroscopy. **H.J. Butler***, S. Fogarty, F.L. Martin
14:00 – 941. Molecular and elemental imaging approaches to investigate the relationship between vitamin B12 and multiple scelerotic lesions in human brain tissue. **P. Heraud**, S. Petratos, P. Doble, B.R. Wood
14:20 – 942. Developmental stages in the directed differentiation of human pancreatic insulin-positive cells characterized using Raman microspectroscopy. **M. Blades**, T. Kieffer, R. Turner, J. Piret, S. Konorov, H. Schulze, B. Gage
14:40 – 943. Separation of Raman and fluorescence signals by wavelength modulation Raman spectroscopy with parallel accumulation. **R. Shimada**, T. Nakamura, T. Ozawa*
15:00 – 944. Development of a highly-sensitive time-resolved IR spectrometer and its application to high-background aqueous biological samples. **M. Kubo***, T. Kimura, Y. Yamaguchi, S. YANAGISAWA, R. Komiya, J. Yan, S. Nakashima, T. OGURA, Y. Shiro
15:20 – 945. Tip-enhanced Raman spectroscopy of biomaterials. F. Pashaee, M. Tabatabaei, **F. Lagugné-Labarthet***
15:40 – 946. Plasmonic nanopipettes toward cell secretion monitoring by dynamic SERS. **F. Lussier***, J. Masson
16:00 – 947. Analysis of urine metabolites by sheath-flow SERS detection. **Z.D. Schultz***
16:20 – 948. Study of mouse embryo by Raman spectroscopy. **M. Ishigaki***, K. Hashimoto, N. Ogawa, K. Morimoto, Y. Ozaki, H. Sato
16:40 – 949. Raman monitoring of anticancer drug effect in live mouse model. **A. Taketani**, B.B. Andriana, H. Sato

*** Principle Author**

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Marriott Waikiki Beach
Kona Moku Bllrm A

Advances in Terahertz Spectroscopy and Imaging (#413)

Organized by: A. Rahman, C. Kim, W. Jaeger, S. Nguang
Presiding: W. Jaeger, J. Uddin

13:00 Introduction
13:05 – 950. Interaction of TiO_2 nanoparticles with human dermal cells via terahertz scanning reflectometry. A. Rahman*, T. Mironava, A. Rahman, **M. Rafailovich**
13:35 – 951. Time-resolved THz spectroscopy and its application to 1D/2D materials. **J. Park***, W. Lee, H. Choi, T. Kim, S. Jung, J. Bae, M. Cho*
13:55 – 952. Terahertz investigation of nanostructured TiO_2 enhanced natural dye sensitized solar cell. **J. Uddin***, A.D. Ward, N.N. Brown, A. Rahman, A. Rahman
14:25 – 953. Investigating the low frequency vibrations of jet-cooled biomolecules with chirped-pulse THz spectroscopy. **E.G. Buchanan**, D.F. Plusquellic*
14:45 BREAK
15:00 – 954. Sub-surface corrosion detection by terahertz time-domain reflection spectrometry and 3D imaging. **D. Hadzialic***, A. Rahman
15:30 – 955. Terahertz sub-surface scanning and 3D imaging for semiconductor wafer defect detection. **A. Rahman**, A. Rahman*
15:50 – 956. Ultrafast terahertz modulation characteristics of photo-induced metal-insulator transition of W-doped VO_2 film. **Z. Zhai***, Y. Xiao, L. Zhu, W. Huang
16:10 – 957. Crystal structure and thermal behavior of low molecular weight poly(3-hydroxybutyrate) studied by terahertz and Raman spectroscopy. **T. Miyai***, N. Kadoya, H. Hoshina, Y. Ozaki, H. Sato
16:30 – 958. Terahertz spectroscopic polarimetry of archimedean spiral arrays: Experiments and simulations. **C. Schmuttenmaer**, D.J. Aschaffenburg, M.R. Williams
16:50 Closing remarks

Friday Evening

Hawaii Convention Center
Halls I, II, III

Optical Waveguide Techniques for the Analyses of Materials and Interfaces (#164)

Organized by: N. Matsuda, S. MENDES, K. TSUNODA, Z. QI, L. SUN, P. Tassel

Poster Session
19:00 – 21:00

959. UV-visible spectral analysis of azobenzene crystals with optical waveguide spectrometer. **T. Taniguchi**, M. Shiro, H. Koshima*, T. ASAHI
960. Speciation analysis for aluminum with a liquid-core/liquid-cladding optical waveguide. **S. Yoshizawa**, H. Murata, K. Sato, K. Tsunoda
961. Nucleobase-functionalized conjugated polymer for detection of copper(II). C. Xing, **H. Yuan**, Y. Zhan

Marriott Waikiki Beach
Kona Moku Bllrm C

Ultrasensitive Assays for Proteins and Protein Modifications (#287)

Organized by: C. Le, H. Zou, N. Dovichi
Presiding: Z. Nie, L. Zhang

19:00 – 962. Targeting cancer biomarkers by molecularly imprinted polymers. **Z. Liu***
19:30 – 963. Enhancing the sensitivity of MS-based proteomics and phosphoproteomics using TrEnDi. K. Wasslen, K. Blank, Z. Naperstkow, S. Shields, J.M. Manthorpe*, **J.C. Smith***
20:00 – 964. Peptide N-terminal protection strategy for deep glycoproteome analysis. **M. Ye***, J. Huang, Z. Zhang, K. Cheng, F. Wang, H. Zou*
20:30 – 965. Multiplexing microfluidics reactor for integrated proteolysis. **L. Yan**, J. Ji, B. Liu, P. Yang

Hawaii Convention Center
Halls I, II, III

Advanced Analytical Applications and Technical Developments of Soft X-Ray Spectroscopy (#303)

Organized by: Y. Muramatsu, S. Hayakawa, C. Heske, A. Buuren, A. Moewes
Presiding: Y. Muramatsu

Poster Session
19:00 – 21:00

966. Preparation and characterization of boron/carbon thin film having diamond-like structure. **T. Kimoto***, M. Kawaguchi, N. Ohno, H. Enomoto, Y. Muramatsu
967. Study on the sorption behavior of Pd and Pt complex anions onto δ-MnO_2. **K. Tanaka***, D. Kawamoto, H. Ohashi, M. Tokunaga, Y. Okaue, T. Yokoyama
968. Chemical state of gold supported on catalyst precursor. **H. Ando***, D. Kawamoto, H. Ohashi, Y. Okaue, M. Tokunaga, T. Yokoyama
969. Development of in-situ battery cell for X-ray absorption spectroscopy. **R. Miyahara**, M. Katayama, Y. Inada
970. Identification of edge-carbon atoms in hexagonal carbon layers by C *K*-XANES measurements of nanographite particles and theoretical assignments using the first-principle calculations. **T. Okada**, Y. Muramatsu, K. Murayama
971. Application of soft X-ray spectroscopy to characterization of nitrogen ion implanted TiO_2 photocatalysts. **T. Yoshida***, S. Niimi, M. Yamamoto, S. Ogawa, T. Nomoto, S. Yagi
972. Evaluation of the weathered Japanese roof tiles of the Himeji Castle by soft X-ray absorption spectroscopy. **Y. Muramatsu***, R. Murakami

Hawaii Convention Center
Halls I, II, III

Vibrational Spectroscopy: New Developments and Applications in Biological and Medical Sciences (#375)

Organized by: M. Blades, H. Sato, B. Wood
Presiding: M. Blades, H. Sato, B.R. Wood

Poster Session
19:00 – 21:00

973. Study of protein secondary structure by using NIR and Raman spectroscopy. **K. MORIMOTO**, M. Ishigaki, Y. Ozaki
974. Studies performed at the beamline for infrared microspectroscopy at the MAX IV laboratory in Lund Sweden. **A. Engdahl**
975. Correlation between hydrophile lipophile balance number and percutaneous permeation of optically active amino acid ions into horny intercellular fat of skin. **Y. WATANABE***, N. HIGASHI, T. UEDA, K. SHIOYA, M. MATSUMOTO, H. SUZUKI
976. Raman spectroscopy-observed a single colorectal adenocarcinoma in living animal. **B.B. Andriana**, A. Taketani, H. Sato
977. Estimation of body fat amount of a laboratory mouse by using Near-Infrared spectrometer. **N. Ogawa***, K. Fujiwara, Y. Sato, K. Okada
978. Development and application of infrared scattering-type near-field scanning optical microscopy. **H. Kwon***, E. Lee
979. Novel DNA electrophoresis analysis using near-infrared spectroscopy. **M. Yasuda***, T. Akimoto, Y. Ozaki
980. Investigation of the interaction between biomimetic membranes and protein aggregates using various spectroscopic techniques. **R. Karaballi***, C.L. Brosseau
981. Use of attenuated total reflectance Fourier transform infrared spectroscopy to monitor surface tethered phospholipids via copper-free click chemistry. **E.N. Towns**, D.P. Land*
982. Structural monitoring in DOPC and DiynePC in nanolipoprotein particles resulting from polymerization as determined by attenuated total reflectance Fourier transform infrared spectroscopy. **J. Moore***, S. Gilmore, E.N. Towns, H. Guo, C. Blanchette, D.P. Land
983. High-resolution Raman imaging of lipid rafts in artificial monolayer membranes. **J. Ando**, M. Kinoshita, J. Cui, H. Yamakoshi, K. Dodo, K. Fujita, M. Murata*, M. Sodeoka*
984. Raman spectroscopic study on the spore formation process of fission yeast at starvation state. **T. Yamamoto***, T. Sasaki, H. Noothalapati, T. Kaino, M. Kawamukai, H. Hamaguchi
985. In situ surface-enhanced Raman spectroelectrochemistry of a hemin modified nanostructured gold surface. **E. Carlen**, L. Le Thi Ngoc
986. Thin layer chromatography/coupling reaction-based surface enhanced Raman scattering for a facile detection of carbofuran. **T. Sukmanee**, K. Wongravee, S. Ekgasit, C. Thammacharoen, P. Pienpinijtham*
987. Living cell analysis on the effect of endocrine disruptor by Raman spectroscopy. **N. Ogawa**, K. Hashimoto, A. Oguro, S. Imaoka, H. Sato
988. Analysis of human pancreatic cancer cell line by confocal Raman spectroscopy. **M.E. Jan**, S.S. Alzahrani, B.B. Andriana, H. Sato

Hawaii Convention Center
Halls I, II, III

Advances in Terahertz Spectroscopy and Imaging (#413)

Organized by: A. Rahman, C. Kim, W. Jaeger, S. Nguang
Presiding: W. Jaeger, M. Rafailovich, A. Rahman, J. Uddin

Poster Session
19:00 – 21:00

989. Development of wide dynamic range terahertz-wave spectrometer based on optical parametric process in lithium niobate crystal. **K. Imayama***, K. Murate, S. Hayashi , H. Minamide, K. Kawase
990. Single shot measurement of terahertz pulses based on pulse front tilting by reflective grating. **Z. Zhai***, S. Zhong, L. Zhu
991. Recognition of chemicals concealed under covering substances using terahertz spectroscopy based on injection-seeded terahertz parametric source. **M. Kato***, R. Yamazaki, K. Murate, K. Imayama, K. Kawase
992. Optical characterization of hydrogen-bonded materials at terahertz frequencies. **K. Takeya***, R. Takahashi, K. Kawase
993. High power and broadband terahertz wave generation from $LiNbO_3$ ridge waveguide. **T. Minami**, H. Okano, K. Takeya, K. Kawase
994. Isothermal crystallization of poly glycolic acid(PGA) by terahertz and Infrared spectroscopy. **F. Nishimura**, Y. Ozaki, H. Hoshina, H. Sato

Saturday Morning

Hawaii Convention Center
Halls I, II, III

Development and Applications of Techniques for Electrochemical Analysis (#24)

Organized by: J. Chen, D. Arrigan, C. Hu, B. Liu, K. Maeda

Poster Session
10:00 – 12:00

995. Mechanism of controlling oil droplet contact angle through three-phase boundary reaction. **Y. Yang**, K.J. Aoki, J. Chen
996. Variables of solvents controlling electric double layer capacitance at highly oriented pyrolytic graphite. **Z. Wang**, K.J. Aoki, J. Chen*
997. Structural analysis of $Li_4Ti_5O_{12}$(111) surfaces in ionic liquid by frequency modulation atomic force microscopy. **T. Uchida***, M. Kitta, T. Ichii, T. Utsunomiya, H. Sugimura
998. Localized electrochemical deposition property analysis by image feedback and simulation. **y. ciou***, .Y. Ren, L. Jing Chie, . Yao-Tien
999. Cobalt phthalocyanine/nitrogen-doped graphene nanocomposite for electroanalysis of thiols. **H. Xu***, B. Liu*
1000. Measurements of single ion activity of hydrogen ion in concentrated aqueous electrolyte solutions using the ionic liquid salt bridge. **R. Hashimoto***, R. Nakamura, M. Yamamoto, T. Kakiuchi, R. Murakami
1001. Determination of the single ion activity of hydrogen ion in sulfuric acid solutions measured by us of ionic liquid salt bridge. **R. Nakamura***, R. Hashimoto, M. Yamamoto, T. Kakiuchi, R. Murakami
1002. Applying the electrochemistry of simple redox systems (quinones and phenylenediamines) for comparisons of the hydrogen bond strengths of alcohols in organic solvents. **M.E. Tessensohn**, R.D. Webster*
1003. Electrochemical evaluation of bacterial viability using fluorescent labels. **M. Takai**, K. Ishiki, H. Shiigi*, T. Nagaoka
1004. Detection of electrocatalytic activity of individual nanoparticle using microelectrochemical device. **J. Joo***, S.J. Kwon
1005. Observation of different current responses by electrocatalytic amplification of platinum single nanoparticle collision on silver ultramicroelectrodes. **S. Mun***, S.J. Kwon
1006. Effect of solution pH on the corrosion resistance and characterization of the composite film formed on Mg alloy by steam coating. **N. Kamiyama***, T. Ishizaki
1007. Verification of the geometric constant *K* for electrochemical time of flight experiments. J.C. Moldenhauer*, **M. Meier**, D. Paul
1008. Impact of different grinding aid on standard deviation in x ray fluorescence analysis of cement raw meal. **A. Tyopine***
1009. Photoinduced electron transfer reaction of C_{60} at a nitrobenzene/water interface. **M. Fujimori***, T. Hinoue
1010. Ion-transfer voltammetry of streptothricin antibiotics with differently sized lysine oligomers at a nitrobenzene/water Interface. **K. Uematsu***, C. Maruyama, Y. Hamano, H. Katano
1011. Gold oxide formation and stripping voltammetry for water analysis in room temperature ionic liquids. **J.C. Aguilar***, A. García Mendoza
1012. Ion voltammetric determination of alkali metal ions with a flow electrolytic cell. **R. Nakamura***, T. Hinoue
1013. Electrochemical analysis of Cu(I) complexes in copper sulfate electroplating solution as compared with colorimetric analysis by using reaction kinetics with a chelate reagent. **H. Noma***, T. Koga, K. Nonaka
1014. General strategy for photoelectrochemical immunoassay using an enzyme label combined with a CdS quantum dot/TiO_2 nanoparticle composite electrode. **W. Zhao***, J. Xu, H. Chen

*** Principle Author**

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1015. Application of the voltammetric reduction using a strong alkaline electrolyte to corroded copper plate samples exposed in air at East Asian countries, Japan, Korea, and Taiwan. **T. Ozeki***, S. Fujiwara, S. Nakayama, T. Osakai
1016. Characterization of fluorine substituted $LiFeBO_3$ as a cathode material for lithium rechargeable battery. **J. An**, J. Bak, H. Lee, Y. Lee*

Marriott Waikiki Beach
Waikiki Bllrm II

Direct and Mediated Bioelectrocatalysis for Biosensors and Energy Conversion Applications (#89)

Organized by: S. Minteer, L. Mao, J. Kim
Presiding: S. Minteer, S. Minteer

8:00 – 1017. Biomolecular studies of the intra- and intermolecular electron transfer in the FAD dependent dehydrogenase complex capable of direct electron transfer. **K. Sode**
8:40 – 1018. On the role of flavins in bacterial extracellular electron transfer via outer membrane cytochromes: Closer, molecular perspective. **S. Babanova**, I. Matanovic, P. Atanassov
9:20 – 1019. Application and immobilization of a novel naphthoquinone derivative for mediated bioelectrocatalysis of glucose by FAD-dependent glucose dehydrogenase. **R.D. Milton**, S. Minteer*, D. Hickey, S. Abdellaoui, K. Lim, B. Tan
9:40 – 1020. Iron-sulfur cluster is conserved in the catalytic subunits of direct electron transfer type FAD dependent dehydrogenase complexes. **M. Shiota***, K. Kojima, W. Tsugawa, T. YAMAZAKI, S. Ferri, K. Sode*
10:00 – 1021. Enzymatic, microbial, or abiotic cathodic catalysis in bioelectrochemical systems (BESs). **C. Santoro***, A. Serov, K. Artyushkova, S. Babanova, P. Atanassov
10:20 – 1022. Robust microbial ureolysis self-sustaining system for the removal of urea from urine. **M. Morales**, R. Martinez, R. Morales, I. González-González, C.R. Cabrera
10:40 – 1023. Direct and mediated multi-enzyme sensor for continuous glucose and lactate monitoring. **E. Takagi**, A. Suzuki, S. Tsujimura, K. Kojima, W. Tsugawa, K. Sode*
11:00 – 1024. Direct bioelectrocatalysis of PQQ-dependent pyranose dehydrogenase adsorbed on a glassy carbon electrode at various pH levels. **K. Takeda**, H. Matsumura, T. Ishida, M. Yoshida, K. Igarashi, M. Samejima, N. NAKAMURA*, H. Ohno
11:20 – 1025. Engineering of glucose oxidase to alter electron acceptor preferences in the oxidative half reaction. **C. Maeda**, S. Saito, Y. Horaguchi, S. Vogt, G. Nöll, K. Sode*
11:40 – 1026. Disentangling the extracellular electron transfer mechanisms of *Shewanella oneidensis* MR-1 on graphite and indium tin oxide electrode. **S. Xu**, M.Y. El-Naggar*

Marriott Waikiki Beach
Milo IV / V

Novel Analytical Probes for In Vivo Optical Functional Imaging (#115)

Organized by: Y. Urano, T. Ozawa, Y. Chang, M. McCarroll
Presiding: Y. Urano

8:00 – 1027. Chemical mechanism of selective cytotoxicity induced by silica-phthalocyanine-based near infrared photoimmunotherapy. **H. Kobayashi***
8:25 – 1028. Porphysome nanotechnology for in vivo optical imaging and beyond. **G. Zheng**
8:50 – 1029. Development of novel fluorogenic probes for peptidases and glycosidases and their application to rapid intraoperative imaging of tiny tumors. **Y. Urano***
9:15 – 1030. Fluorescence-guided digestive surgery using indocyanine green and novel fluorescence prove activated by pancreatic chymotrypsin. **T. Ishizawa**, Y. Urano, M. Kamiya, S. Yamashita, N. Kokudo, A. Saiura
9:40 Break
9:55 – 1031. Imaging tumor cells using uptake of fluorescent L-glucose derivatives. **K. Yamada***
10:20 – 1032. Development of in vivo imaging probes for vulnerable plaque detection. **M. Ogawa***, K. Shimizu, Y. Narita, M. Maess, Y. Magata, N. Oku
10:45 – 1033. Novel strategy for deeply penetrating photoacoustic cancer imaging. **M. Ishihara***, T. Teranishi, Y. Urano
11:10 – 1034. Switching of near-infrared absorption and generation of reactive oxygen species via diradical complexes for cancer theranostics. **K. Tamura***, A. Masuya, N. Iki

Marriott Waikiki Beach
Kona Moku Bllrm A

Marine and Freshwater Toxins: Detection, Structure, and Pharmacology (#138)

Organized by: T. Tsumuraya, J. Hungerford, R. Lewis
Presiding: T. Tsumuraya

8:00 Introductory Remarks
8:05 – 1035. World of benthic dinoflagellates viewed by chemistry. **T. Yasumoto***
8:45 – 1036. Accelerated detection of ciguatoxins using LC/MS and functional bioassays. **R.J. Lewis***
9:25 – 1037. Detection of ciguatoxins from marine creatures caught off Japanese waters by LC-MS. **N. Oshiro**
10:05 Break
10:20 – 1038. Absolute quantification of ciguatoxins standard by quantitative nuclear magnetic resonance. **T. Kato**, N. Sugimoto, K. Ishizuki, T. Suematsu, M. Nagae, S. Inohana, K. Fujita, M. Watai, T. Yasumoto*
10:40 – 1039. Algal toxins: Development of analytical and bioassay detection methods and assessment of environmental transfer in marine food webs. **P. Lam***, L. Chan, Y. MAK, J. Wu, T. Wai
11:20 – 1040. Detection of sodium channel toxins using both viability and membrane depolarization endpoints. **R. Manger***, D. Woodle, A. Berger, C. Greene, J. Hungerford

Marriott Waikiki Beach
Waikiki Bllrm I

Optical Waveguide Techniques for the Analyses of Materials and Interfaces (#164)

Organized by: N. Matsuda, S. MENDES, K. TSUNODA, Z. QI, L. SUN, P. Tassel

8:00 – 1041. Waveguide evanescent field fluorescence (WEFF) and waveguide evanescent field scattering (WEFS) microscopy. **S. Mittler***
8:30 – 1042. In situ observation of direct electron transfer reaction of cytochrome *c* immobilized on ITO electrode modified with10-carboxydecylphosphonic acid. **N. MATSUDA***, H. Okabe
9:00 – 1043. Developments of liquid-core/liquid-cladding optical waveguides for liquid/liquid interface studies. **K. Tsunoda***, Y. Hasegawa, S. Yoshizawa, K. Sato
9:30 – 1044. Label-free high resolution surface plasmon microscopy for quantitative cell-gold interface investigation. **K. Toma***, H. Kano, A. Offenhäusser
10:00 Break
10:20 – 1045. In situ observation of adsorption-desorption process and direct electron transfer reaction between cytochrome c and ITO electrode modified with self-assembled monolayer films. **H. Kawazumi***, S. Ikeda, H. Okabe, N. MATSUDA
10:40 – 1046. Electrochemical characterization of redox processes using single-mode electro-active integrated optical waveguides. **X. Han**, S.B. Mendes
11:10 – 1047. Critical importance of gap modes in surface enhanced Raman scattering. **M. Futamata***, M. Ishikura, C. Iida, K. Akai

Marriott Waikiki Beach
Milo I

Advanced Analytical Applications and Technical Developments of Soft X-Ray Spectroscopy (#303)

Organized by: Y. Muramatsu, S. Hayakawa, C. Heske, A. Buuren, A. Moewes
Presiding: C. Heske, A. Moewes

8:00 – 1048. Ordered structure of Fe-N-containing carbonaceous thin film characterized by soft X-ray spectroscopy. **J. Maruyama**, T. Amano, Y. Domi, T. Doi, Y. Muramatsu
8:20 – 1049. Characterization of carbon doping on chemical states of amorphous $Ge_2Sb_2Te_5$, measured with high-resolution X-ray photoelectron spectroscopy. **Y. Lee**
8:40 – 1050. Effect of molecular order on the carbon near edge X-ray absorption fine structure (NEXAFS) spectra of poly(3-hexyl-thiophene). M. Martinson, S. Eger, B. Collins, H. Ade, **S. Urquhart**
9:00 – 1051. *Operando* soft X-ray spectromicroscopic analysis of chemical potential shift in organic field-effect transistors. **N. Nagamura***, Y. Kitada, J. Tsurumi, H. Matsui, K. Horiba, I. Honma, J. Takeya, M. Oshima
9:20 – 1052. Characterization of a hydrolytic precipitate of $[AuCl_4]^-$ complex ion. **D. Kawamoto***, H. Ohashi, Y. Okaue, S. Utsunomiya, M. Tokunaga, T. Yokoyama
9:40 Break
10:00 – 1053. About the bandgap of 2D materials graphene and silicene. **A. Moewes***, A. Hunt, N. Johnson, D. Muir
10:40 – 1054. O 1s X-ray photoelectron spectra (1486 eVto 5000 eV) of bulk *nonconductor* Na-silicate glasses and vitreous SiO_2: Oxygen speciation and minimum linewidths. Y. Hu*, Q. Xiao, D. Wang, X. Cui, H. Nesbitt, **G. Bancroft**
11:00 – 1055. Electronic and chemical structure of $GaInP_2$ thin films for photoelectrochemical water splitting studied by soft X-ray spectroscopies. **M. Blum***, J.L. Young, D.A. Duncan, S.G. Rosenberg, H. Döscher, F. Meyer, A. Benkert, R.G. Wilks, M. Bär, L. Weinhardt, W. Yang, T. Deutsch, J.A. Turner, C. Heske

Marriott Waikiki Beach
Kona Moku Bllrm B

Bacterial Identification by Mass Spectrometry (#389)

Organized by: K. Voorhees, J. Banoub, K. Teramoto

8:00 Opening remarks, Kent J. Voorhees
8:00 – 1056. Rapid characterization of microorganisms by mass spectrometry: An overview. **C. Fenselau***
8:35 – 1057. Metal oxide laser ionization (MOLI) MS for identification of bacteria using fatty acid profiling. **K.J. Voorhees***, N.R. Saichek, K.R. Jensen, C.R. McAlpin, C.R. Cox
9:00 – 1058. Strain-level fungal identification by CeO_2-catalyzed MALDI-TOF MS fatty acid analysis. **C.R. Cox***, K.J. Voorhees
9:25 – 1059. Qualitative and quantitative detection of bacteria in complex human matrices using taxon-specific markers. **N. Strittmatter***, J. McKenzie, A.V. Speller, A. Burke, P. Pruski, R. Mirnezami, J. Marchesi, M. Rebec, Z. Takats
9:50 – 1060. eMALDI: boosting quantitative MALDI by electrowetting-supported sample preparation. O. Kudina, B. Eral, **F. Mugele**
10:15 Break
10:25 – 1061. Cystic fibrosis microbial ecology of a human lung. **N. Garg***, E. Hyde, A. Bouslimani, J. Wu, R. Wong, G. Lin, D. Conrad, T. Alexandrov, R. Knight, P. Dorrestein
10:50 – 1062. Bacterial discrimination by proteotyping based upon the *S10*-GERMS method. **H. Tamura***
11:25 – 1063. Rapid top-down proteomic identification of Shiga toxin 2 subtypes from pathogenic *Escherichia coli* using MALDI-TOF-TOF-MS/MS and post-source decay. **C.K. Fagerquist***, W.J. Zaragoza

Marriott Waikiki Beach
Milo III

Organized Surfactant Assemblies in Chemical Analysis and Separation Science: Fifty Years Later (#457)

Organized by: W. Hinze, T. Saitoh, G. Jiang, J. Liu
Presiding: W. Hinze, T. Saitoh

8:00 Opening Remarks - WL Hinze
8:05 – 1064. Micelles in separation science: From small molecules to proteins to nanoparticles. **R. Nagarajan**
8:35 – 1065. Surfactant-mediated separation for efficient wastewater treatment. **T. Saitoh***
9:15 – 1066. State of the art in micellar liquid chromatography. **A. Berthod***
9:55 – 1067. Surfactants and micelles in separations and mass spectrometry: Looking back and looking forward. **D.W. Armstrong***
10:35 – 1068. MEKC in 30 years. **K. Otsuka***
11:15 – 1069. Modeling the effects of micelles and micelle-like organized systems on reactivity and equilibria, with implications in analytical chemistry. **F. Quina***

Saturday Afternoon

Marriott Waikiki Beach
Waikiki Bllrm II

Comprehensive Multidimensional Separations (#90)

Organized by: T. Gorecki, F. Dorman, P. Haddad
Presiding: F. Dorman, T. Gorecki

13:00 – 1070. Introduction to comprehensive multidimensional separation. **T. Gorecki***
13:20 – 1071. Applications of planar microfluidic devices and gas chromatography for complex problem solving. **R.A. Shellie**
13:40 – 1072. Concept of (low-)flow modulation comprehensive 2D gas chromatography under sub-ambient, ambient, and supra-ambient pressure outlet conditions. **L. Mondello***

*** Principle Author**

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14:00 – 1073. Q-TOF mass spectrometer coupled with GCxGC using atmospheric pressure chemical ionization: Toward a universal mass spectrometry-based system for environmental analysis. **K. Jobst***, L. Haimovici, X. Ortiz, M. Robson, D. Megson, S. Fernando, A. Ladak, D. Stevens, G. O'Sullivan, P. Helm, E. Reiner
14:20 – 1074. 2D comprehensive gas chromatography multireflection high resolution time-of-flight mass spectrometry: Merging accurate mass information with multidimensional chromatographic resolution. **R. Zimmermann**, T. Gröger, B. Weggler
14:40 – 1075. Comprehensive 2D gas chromatography with chiral columns in both dimensions to study enantioselective interconversion processes. **P.J. Marriott**, S. Kroeger , Y. Wong
15:00 – 1076. Power of comprehensive 2D gas chromatography for target and non-target compound analysis. **J. Cochran***, F. Dorman, M. Misselwitz, M. Merrick
15:20 – 1077. Vacuum-UV detection for GC: Why all the buzz?. **J.J. Harynuk***, B.M. Weber, L.A. Adutwum, K.A. Stevenson
15:40 – 1078. CEMS: Consensus estimation of multidimensional shift, a new tool for aligning GC×GC chromatograms. **S. Furbo***, G. Tomasi, J.H. Christensen
16:00 – 1079. Improvements to thermodynamic-based predictions of GC and GC×GC separations. **K.A. Stevenson**, H. Ebrahimi-Najafabadi, J. Harynuk
16:20 – 1080. Preditcting the properties of petroleum with pixel-based analysis of GC×GC data. **S. Furbo***, A.B. Hansen, R.G. Egeberg, J.H. Christensen
16:40 – 1081. Recent advances in the use of GC×GC-(HR)TOFMS for the characterization of complex VOC mixtures of biological interest. **J. Focant***, P. Stefanuto

Marriott Waikiki Beach
Milo IV / V

Novel Analytical Probes for In Vivo Optical Functional Imaging (#115)

Organized by: Y. Urano, T. Ozawa, Y. Chang, M. McCarroll
Presiding: Y. Chang

13:00 – 1082. Universal imaging probe development for almost everything. **Y. Chang**
13:25 – 1083. Development of pancreatic β-cell probe and its application for in vivo imaging. **N. Kang**, J. Lee, S. Park, W. Phue, B. Agrawalla, A. Firdaus
13:50 – 1084. Intracellular and in vivo oxygen sensing using phosphorescent iridium (III) complexes. **S. Tobita***, T. Yoshihara, M. Hosaka, T. Takeuchi
14:15 – 1085. Two-photon time-resolved emission imaging microscopy in microsecond domain: From FLIM to PLIM with transition metal complexes. E. Baggaley, S. Botchway, I.V. Sazanovich, J. Haycock, J. Williams, **J.A. Weinstein***
14:35 Break
14:50 – 1086. Two-photon uncaging of photo-NO releasers and vasodilation in living mouse brain. **H. Nakagawa**
15:15 – 1087. Toward in vivo manipulation of intracellular signaling pathways. **T. Furuta**
15:40 – 1088. Functional fluorescence probe for lipid derived radicals detection. **K. Yamada***
16:00 – 1089. Detection of lacZ-positive cells in living tissue with single-cell resolution. **M. Kamiya**, T. Doura, Y. Urano
16:20 – 1090. Development of a series of NIR dark quenchers based on Si-rhodamines and their application to fluorescence probes. **K. Hanaoka**, T. Myochin, Y. Urano*

Marriott Waikiki Beach
Kona Moku Bllrm A

Marine and Freshwater Toxins: Detection, Structure, and Pharmacology (#138)

Organized by: T. Tsumuraya, J. Hungerford, R. Lewis
Presiding: J. Hungerford

13:00 Introductory Remarks
13:05 – 1091. Practical route to the left wing of CTX1B and synthesis of hapten-KLH conjugate: Total syntheses of CTX1B and 54-deoxyCTX1B. **S. Yamashita***, K. Takeuchi, T. Koyama, T. Tsumuraya, M. Inoue, I. Fujii, M. Hirama*
13:40 – 1092. Sandwich ELISA detection of ciguatoxins using anticiguatoxin monoclonal antibodies. **T. Tsumuraya***
14:15 – 1093. Near real time detection of ciguatoxins using a field-portable surface plasmon resonance sensor system. S.D. Soelberg, T. Tsumuraya, M. Hirama, T. Yasumoto, I. Fujii, **C.E. Furlong***
14:50 Break
15:05 – 1094. Toxicokinetics of Pacific ciguatoxins (P-CTXs) in orange-spotted groupers (*Epinephelus coioides*). **Y. MAK**, Y. Kang, J. Wu, P. Lam, Y. Chen, L. Chan*
15:25 – 1095. Detection and structure elucidation of marine toxins by several LC/MS techniques. **T. Suzuki***, D. Viet Ha, A. Uesugi, H. Uchida, R. Matsushima, R. Watanabe, H. Nagai, M. Kamio, M. Adachi
16:00 – 1096. Comparison of ELISA, quantitative MALDI-TOF and LC- MS/MS for the determination of microcystins. M. Pirez, L. del Puerto, A. Perez-Parada, G. Saona, G. Gonzalez-Sapienza, **B.M. Brena***
16:20 – 1097. Role of biomarkers for monitoring brevetoxins in *Karenia brevis* exposed molluscan shellfish. **A. Abraham***, S.M. Plakas

Marriott Waikiki Beach
Waikiki Bllrm III

Paper-Based Analytical Devices for Point of Need Measurements (#213)

Organized by: D. Citterio, C. Henry, J. Brennan
Presiding: D. Citterio, C. Henry

13:00 Opening remarks
13:05 – 1098. Quantitative electrochemical detection of analytes at sub-picomolar levels using a simple paper sensor. **R.M. Crooks***, J.C. Cunningham, M. Kogan, P. DeGregory, M. Tsai, X. Li
13:35 – 1099. Development of boron-doped diamond paste microelectrode on paper-based analytical device for simultaneous determination of norepinephrine and serotonin. **S. Nantaphol**, T. Kondo, W. Siangproh, O. Chailapakul, C. Henry
13:55 – 1100. All-in-one ion-sensing platform based on paper and colloid-imprinted mesoporous carbon. J. Hu, A. Stein, W.H. Smyrl, **P. Buhlmann***
14:15 – 1101. Paper diagnostic device for picomolar level detection of ricin using a galvanic exchange based immunosensing strategy. **J.C. Cunningham**, R.M. Crooks*, M. Kogan, M. Tsai, L. Luo, I. Richards, A. Ellington
14:35 – 1102. Fundamentals of printing flow barriers on filter paper. **R. Pelton**, S. Jahanshahi-Anbuhi, K. Pennings, B. Kannan, J.D. Brennan, C. Filipe
15:05 Break
15:15 – 1103. Inkjet printing of protein and aptamer bioinks for production of bioactive paper sensors. **J.D. Brennan***
15:35 – 1104. Out of the lab and into the world: Chemical analysis with paper millifluidic devices in Kenya, South Africa, and Burkina Faso. N. Myers, A. Weaver, **M. Lieberman***
15:55 – 1105. Reader-free paperfluidic analytical device for fluorescence-based tear lactoferrin detection. **K. Yamada**, T.G. Henares, K. Suzuki, D. Citterio*
16:10 – 1106. Inkjet-printed microfluidic paper-based analytical devices (μPADs) for colorimetric cation detection. **D. Citterio***, T.G. Henares, S. Takaki, H. Shibata, N. Komuro, K. Yamada, K. Suzuki
16:30 – 1107. Paper-based analytical devices for rapid titrations. **T. Kaneta***

Marriott Waikiki Beach
Milo I

Advanced Analytical Applications and Technical Developments of Soft X-Ray Spectroscopy (#303)

Organized by: Y. Muramatsu, S. Hayakawa, C. Heske, A. Buuren, A. Moewes
Presiding: C. Heske, T. Van Buuren

13:00 – 1108. New insight into the metal-to-insulator transition in vanadium oxide. **K.E. Smith***, J. Laverock, A. Zakharov, S. Kittiwatanakul, S. Wolf, J. Lu
13:40 – 1109. Mercury species in activated carbon with added potassium sulfide or calcium chloride. **M. Takaoka***, A. Sano, K. Shiota, D. Hamaguchi
14:00 – 1110. Adsorption-desorption behavior of trace-level alkali metals on oxides and micaceous oxides. **Y. Baba**, I. Shimoyama, N. Hirao, T. Izumi
14:20 – 1111. Characterization of cadmium cation adsorbed on a surface of silica by XAFS spectroscopy. **H. Ohashi**, H. Ando, K. Tanaka, D. Kawamoto, A. Miyazaki, Y. Okaue, T. Yokoyama
14:40 Closing Remarks
14:45 Break
15:00 Introduction to Special Session for Prof. Dennis Lindle
15:10 – 1112. Synergies between AMO physics and materials science: A tribute to Dennis Lindle. **C.S. Fadley***
15:40 – 1113. Photoelectron dynamics in the "tender" X-ray domain: A tribute to Dennis Lindle. **M. Piancastelli***
16:10 Break
16:30 – 1114. Mass spectrometry and resonant inelastic X-ray scattering with tenderness: A tribute to Dennis Lindle. **M. Simon***
17:00 – 1115. Nondipole and interchannel coupling effects in X-ray photoionization: A tribute to Dennis Lindle. **S.T. Manson***
17:30 – 1116. Non-dipole effects in atomic and molecular photoionization in the soft X-ray range and the continuing legacy of Dennis Lindle. **K.P. Bowen***

Marriott Waikiki Beach
Kona Moku Bllrm C

Analytical Laser-Induced Breakdown Spectroscopy (LIBS) for Hazards Analysis, Forensics, and Health (#379)

Organized by: J. Almirall, J. Almirall, Y. Deguchi, A. Miziolek, S. Rehse, Z. Wang
Presiding: Z. Wang

13:00 – 1117. Mars geochemical investigations with ChemCam and SuperCam. **S.M. Clegg***, R.C. Wiens, S. Maurice, O. Gasnault, o. Forni, S.K. Sharma, A.K. Misra, R. Anderson, N. Lanza
13:40 – 1118. Deep-sea laser-induced breakdown spectroscopy. **B. Thornton***, T. Sakka, T. Takahashi, T. Sato, T. Ohki, K. Ohki
14:10 – 1119. Development of laser remote analysis for nuclear fuel materials under severe environments. **I. Wakaida***, K. Akaoka, M. Miyabe, H. Ohba, M. Saeki, C. Ito, M. Oba, M. Kato
14:40 Coffee Break
15:00 – 1120. Laser induced breakdown spectroscopy (LIBS): A potential tool to study impacts of CO_2 leakage on ground water quality. C. Goueguel, C. Carson, H. Sanghapi, J. Jain, **D. McIntyre***
15:30 – 1121. First Responder and forensic applications of a handheld laser-induced breakdown spectroscopy instrument. **R.R. Hark***, A. Miller, J. Plumer, D. Day
16:00 – 1122. Quantitative analysis of coal using laser induced breakdown spectroscopy. **Z. Wang***, Z. Hou*

Marriott Waikiki Beach
Waikiki Bllrm I

Advances in Analytical Techniques for Effective Food Allergen Management (#394)

Organized by: N. Lee, S. Godefroy, S. Taylor, H. Akiyama, J. Baumert, M. Shoji
Presiding: H. Akiyama, S. Godfroy

13:00 Opening
13:05 – 1123. Food allergen labeling in Japan. **M. Ebisawa***
13:40 – 1124. Consumer perspective on food allergen management. **C. Eldred**
13:55 – 1125. Food allergy prevalence - U.S. **S.L. Taylor**
14:25 – 1126. Japanese framework for labeling and testing of allergens in foods. **H. Akiyama**, R. Adachi
14:55 Break
15:10 – 1127. Method development of food allergen analysis. **M. Shoji***
15:40 – 1128. 2S albumin as a stable marker for allergen residue detection: A case study with a sandwich immunoassay specific to Ana o3 for the detection of cashew nut residues in food. Y. Zhao, X. Sun, C. Marquis, **N.A. Lee***
16:10 – 1129. Methods for detecting partially hydrolyzed gluten and soy allergens in food. **L.S. Jackson***
16:40 – 1130. Digestion resistance of macadamia nut proteins and allergenicity of the digested products. **J. Rost**, S. Muralidharan, S.L. Taylor, J. Baumert, N.A. Lee*

Marriott Waikiki Beach
Milo III

Organized Surfactant Assemblies in Chemical Analysis and Separation Science: Fifty Years Later (#457)

Organized by: W. Hinze, T. Saitoh, G. Jiang, J. Liu
Presiding: G. Jiang, J. Liu

13:00 – 1131. Interaction thermoresponsive polymers and surfactants and its application to chemical analysis. **N. Uehara***, M. Mori
13:35 – 1132. Use of surfactants for the separation of nanomaterials in complex matrices. **J. Liu***, R. Liu, J. Chao, S. Yu, X. Zhou
14:15 – 1133. Identification and potential application of emerging quaternary ammonium surfactants in municipal sewage sludge. T. Ruan, **G. Jiang**
14:55 – 1134. One-pot preparation of nanoparticle chains via self-assembly of in situ synthesized gold nanoparticles in a zwitterionic surfactant-rich medium. **Y. Takagai***, H. Tran Thi, W. Hinze
15:35 – 1135. Tunable hydrogel for enantioselective drug delivery. **I.M. Warner***, K. McNeel, S. Das, N. Siraj, I. Negulescu
16:15 – 1136. Enantiomeric selectivity of self-assembled guanosine monophosphate in aqueous solution. **L.B. McGown***

*** Principle Author**

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Saturday Evening

Hawaii Convention Center
Halls I, II, III

Direct and Mediated Bioelectrocatalysis for Biosensors and Energy Conversion Applications (#89)

Organized by: S. Minteer, L. Mao, J. Kim
Presiding: S. Minteer

Poster Session
19:00 – 21:00

1137. Direct electron transfer-type H_2/O_2 biofuel cell with dual-gas-diffusion system. **Q. SONG**, Y. Kitazumi, O. Shirai, K. Kano*
1138. Electrochemical techniques reveal multiple pathways for electron transport in microbial anode respiration. **R. Yoho**, S. Popat, C. Torres*
1139. Direct electron transfer of a PQQ domain of pyranose dehydrogenase on Au electrodes. **R. Kusuoka**, K. Takeda, K. Igarashi, M. Samejima, N. NAKAMURA*, H. Ohno
1140. Electrostatic interaction between enzymes and electrodes in the electric double layer examined in a view of direct electron transfer-type bioelectrocatalysis. **Y. Sugimoto***, Y. Kitazumi, O. Shirai, M. Yamamoto, K. Kano

Hawaii Convention Center
Halls I, II, III

Novel Analytical Probes for In Vivo Optical Functional Imaging (#115)

Organized by: Y. Urano, T. Ozawa, Y. Chang, M. McCarroll
Presiding: Y. Urano

Poster Session
19:00 – 21:00

1141. Asymmetric rhodamine-based fluorescence probes for multicolor in vivo imaging. **R.J. Iwatate**, M. Kamiya, Y. Urano*
1142. Analysis of the fluorescence quenching mechanism of *N*-phenyl rhodamines and its application to a fluorescence probe for HaloTag protein. **S. Iwaki**, K. Hanaoka, K. Yoshida, M. Uchiyama, Y. Urano*
1143. Fluorescence-guided detection of peritoneal metastatic tumors with sensitive β-galactosidase-activatable fluorescence probe. **D. Asanuma***, M. Sakabe, M. Kamiya, K. Yamamoto, J. Hiratake, p. choyke, T. Nagano, H. Kobayashi, Y. Urano*
1144. Lysosomal enzyme-activatable fluorescence probes for specific and sensitive cancer imaging. **K. Yamamoto**, M. Kamiya, Y. Urano
1145. Naphthalene-based zinc chemosensor and its application of bioimaging in HeLa-cell and *Arabidopsis*. **M. Gyuri**, S. Jung, J. Jung*
1146. Protein-conjugated K^+ probe that detects K^+ efflux on cell membrane. **T. Terai***, T. Hirata, T. Nagano, Y. Urano*
1147. Construction of a library of asymmetric Si-rhodamine fluorophores and its application to ratiometric fluorescence probes. **Y. Kagami**, K. Hanaoka, T. Nagano, Y. Urano*
1148. Design and synthesis of new caging groups having cell type specificity. **Y. Iketani**, A.Z. Suzuki, T. Furuta*
1149. Latent caged cAMPs that can be photoactivated in the presence of specific enzymes. **T. Sakano**, A.Z. Suzuki, T. Ueno, M. Saitoe, T. Furuta*
1150. Development of various fluorescent sensors based on coumarin scaffold. **T. Shiraishi**, T. Hirano, Y. Noji, T. Saito, H. Kagechika*
1151. Metal-carbonyl clusters as photoacoustic contrast agents – toward near-infrared in vivo imaging. **Z. Lam**, G. Balasundaram, K. Kong, W. LEONG*, M. Olivo*
1152. Facile protein-directed Co-template synthesis of near-infrared based dual-emission fluorescent nanohybrid of quantum dots - gold nanoclusters for target-responsive ratiometric bio-imaging in vitro and in vivo. **Z. Nie***

Hawaii Convention Center
Halls I, II, III

Marine and Freshwater Toxins: Detection, Structure, and Pharmacology (#138)

Organized by: T. Tsumuraya, J. Hungerford, R. Lewis
Presiding: J. Hungerford, R.J. Lewis, T. Tsumuraya

Poster Session
19:00 – 21:00

1153. Dynamic distribution and toxic effects of chronic sub-lethal exposure of P-CTX-1 on mice. **J. Wu***, L. Feng*, Y. MAK, P. Lam, L. Chan*
1154. Study of the biosynthesis of paralytic shellfish toxins using stable isotope labeled intermediates and LC-MS. **S. Tsuchiya**, Y. Cho, K. Konoki, K. Nagasawa, Y. Oshima, M. Yotsu-Yamashita*
1155. Sensitive detection of okadaic acid from shellfish samples using a portable surface plasmon resonance (SPR) detection system. **S.D. Soelberg***, K. Campbell, C. Elliott, C.E. Furlong
1156. Simultaneous analysis of saxitoxin analogs and their biosynthetic intermediates by HILIC-LC-MS/MS. **Y. Cho***, R. Yoshioka, S. Tsuchiya, K. Konoki, Y. Oshima, M. Yotsu-Yamashita
1157. New lyngbyatoxin derivatives from the cyanobacterium *Moorea producens*. **W. Jiang**, S. Tan, W. Zhou, H. Uchida, Y. Hanaki, K. Irie, R. Watanabe, T. Suzuki, M. Kamio, H. Nagai*
1158. Accelerated extraction procedure for LC-MS/MS confirmation of Caribbean ciguatoxin in fish. **H.A. Flores Quintana***, C.R. Loeffler
1159. Trends of ciguatera fish poisonings in Japan. **M. Toda**, S. Sakugawa, Y. Nakama, T. Takamine, H. Toyofuku, N. Oshiro*

Hawaii Convention Center
Halls I, II, III

Paper-Based Analytical Devices for Point of Need Measurements (#213)

Organized by: D. Citterio, C. Henry, J. Brennan

Poster Session
19:00 – 21:00

1160. Paper-based fluoroimmunoassay for rapid and sensitive detection of an animal biomarker. **S. Mohammadi**, M. Maeki, A. Ishida, H. Tani, M. Tokeshi*
1161. Microfluidic paper-based analytical devices for analysis of nitrite, uric acid, and pH with a 3D printer for fabrication devices. **H. Asano***, Y. Shiraishi
1162. Clinical enzymology by paper spray mass spectrometry. **X. Yan**, X. Li, C. Zhang, K. Moore, Y. Xu, R.G. Cooks
1163. Parameters influencing the performance of inkjet-printed microfluidic paper-based analytical devices. **R. Ota**, K. Yamada, K. Suzuki, D. Citterio*
1164. Going mobile: Transitioning DETECHIP from a 96-well plate test to a printed array with phone app intergration. **R.M. Burks***, A. Holmes, J. Atwater
1165. Determination of Fe(III) in hot spring water using microfluidic paper-based analytical devices. **K. Ogawa**, T. Kaneta*
1166. Microfluidic paper-based devices for aflatoxin B_1 analysis. **L.A. Busa***, M. Maeki, A. Ishida, H. Tani, M. Tokeshi
1167. Improvement of dipping time of dye nanoparticle-coated test strip for metal ion detection using moisture-retaining agents. **Y. Takahashi***, N. Kanai, S. Souma
1168. Graphene-polyaniline modified electrode for DNA biosensor using paper-based electrochemical device. **P. Teengam***, W. Siangproh, A. Tuantranont, T. Vilaivan, O. Chailapukul
1169. Fabrication and evaluation of screen-printed paper-based three-electrode chip having instantly usable solid-state KCl/Ag/AgCl reference electrode. **M. Komoda***, I. Shitanda, M. Itagaki, Y. Hoshi
1170. Paper test card for quantifying beta-lactam antibiotics. **N. Myers**, D. Aldulaimi, M. Lieberman
1171. Microfluidic paper-based detection system for capillary immunosensing. **K. Kido**, T.G. Henares, K. Suzuki, D. Citterio*
1172. Silk screening using fabric screen ink for rapid mass fabrication of paper-based analytical devices: Application to salivary thiocyanate testing. **J. Sitanurak**, T. Amornsakchai, N. Ratanawimarnwong, D. Nacapricha*
1173. Chelate titrations using microfluidic paper-based analytical devices. **S. Karita**, T. Kaneta*
1174. Development of a point-of-need diagnostic device for detection of myeloperoxidase. **M. Wolfe**, P. Nair , J.D. Brennan*
1175. Inkjet-printed paper-based ion optode devices. **H. Shibata**, T.G. Henares, N. Komuro, K. Suzuki, D. Citterio*
1176. Disposable material integrated analytical platforms. **W. Liao***, C. Wang, C. Chen

Hawaii Convention Center
Halls I, II, III

Analytical Laser-Induced Breakdown Spectroscopy (LIBS) for Hazards Analysis, Forensics, and Health (#379)

Organized by: J. Almirall, J. Almirall, Y. Deguchi, A. Miziolek, S. Rehse, Z. Wang
Presiding: A. Miziolek

Poster Session
19:00 – 21:00

1177. Applications of laser induced breakdown spectroscopy and laser-breakdown time-of-flight mass spectrometry to conventional boilers, IGFC, and iron and steel making processes. **Y. Deguchi***, F. Shiou, Z. Wang, S. Katsumori, A. Ikutomo
1178. Development of a LIBS-based coal quality analyzer for application to power plant. **L. Zhang**
1179. Methods for quantitative analysis of submerged solids for application to deep-sea LIBS. **T. Takahashi***, B. Thornton, T. Sakka, T. Sato, T. Ohki, K. Ohki
1180. Rapid detection of metallic elements in vegetables by single pulse laser induced breakdown spectroscopy. **M. Yao***
1181. In situ monitoring of additives and wear metals in flowing lubricating oil. **M.J. Dickerson**
1182. Quantitative multi-element analysis of heavy metal ions in an aqueous solution by electrodeposition-assisted underwater laser-induced breakdown spectroscopy. **A. Matsumoto***, A. Tamura, K. Fukami, N. Nishi, K. Amano, T. Takahashi, T. Sato, B. Thornton, T. Sakka
1183. Laser remote isotope analysis for highly-radioactive nuclear fuel materials. **M. Miyabe***, M. Oba, M. Kato, K. Akaoka, I. Wakaida
1184. Reactions of atomic species in laser ablation plasma in water: The cause of rapid decrease in underwater LIBS signals. **T. Sakka***, A. Kawasaki, A. Matsumoto, A. Tamura, T. Honda, K. Amano, N. Nishi
1185. Investigation of local thermal equilibrium in laser-induced plasmas in water: Measurements of atomic excitation temperatures. **T. Honda***, A. Matsumoto, K. Amano, N. Nishi, T. Sakka
1186. Determination of carbon isotopes by laser ablation molecular isotope spetrometry (LAMIS). **J. Jain***, a. Bolshakov, x. Mao, D. McIntyre, R.E. Russo
1187. Application of spatial confinement for gas analysis using laser-induced breakdown spectroscopy to improve signal stability. **Z. Hou**, Z. Wang
1188. Impact of moisture content on coal analysis using laser induced-breakdown spectroscopy. **T. Yuan**, M. Chen, Z. Wang

Hawaii Convention Center
Halls I, II, III

Bacterial Identification by Mass Spectrometry (#389)

Organized by: K. Voorhees, J. Banoub, K. Teramoto

Poster Session
19:00 – 21:00

1189. High-throughput identification of coliforms in processed soybean products using matrix-assisted laser desorption oonization time-of-flight mass spectrometry. **M. Katase***, K. Tsumura
1190. Identification of nontuberculous mycobacteria using matrix-assisted laser desorption/Ionization-time of flight mass spectrometry as a rapid diagnostic tool. **I. Hayashi***, M. Onodera, S. Kayama, T. Hara, Y. Koba, M. Yokozaki, H. Ohge, M. Sugai
1191. Contrasting the lipidomes of field-collected vs. lab-cultured organisms: Challenges for lipid-based identification methods. **N.A. Pianegonda***, I. Jamil, T. Huyhn, P.J. Barker, S. Blanksby, S.A. Rice, T.W. Mitchell
1192. Rapid identification of histamine-producing bacteria by MALDI-TOF MS. **S. Uehara***, M. Kobayashi, Y. Suzuki, R. Katoh, S. Matsushita, Y. Higuchi, T. Chiba, A. Hirai, A. Kai, K. Sadamasu, S. Kato
1193. Application of Kendrick mass defect plot analysis for identification of mycolic acid-containing bacteria by using high mass-resolution MALDI spiral-TOFMS. **K. Teramoto***, T. Sato, R. Cody, T. Tamura, M. Hamada, H. Komaki, K. Suzuki
1194. Practical applications of MALDI-TOF MS microbial analysis in food and beverage industries. **K. Togami**, H. Ikemoto, R. Ishii
1195. Evaluation of typing methods of *Bacillus coagulans* strains as food spoilage bacteria. **J. Sato**, A. Horiuchi, D. Tomiyama, T. Sonoda, M. Nakayama, M. Hasumi, T. Miyamoto
1196. Biomarkers research involved in salmonid diseases: An approach based on MALDI-MS coupled with data mining techniques. **X.A. López Cortés***, V. Olate, F. Nachtigall, M. Rios-Momberg, L. S. Santos
1197. Expansion of MALDI-TOF MS database for spoilage microorganisms in food and beverage industry. **K. Togami***, M. Nakayama, J. Sato, I. Kato, S. Maeda, F. Aoyama, N. Takahashi, H. Ikemoto

*** Principle Author**

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Hawaii Convention Center
Halls I, II, III

Advances in Analytical Techniques for Effective Food Allergen Management (#394)

Organized by: N. Lee, S. Godefroy, S. Taylor, H. Akiyama, J. Baumert, M. Shoji
Presiding: N.A. Lee

Poster Session
19:00 – 21:00

1198. Quantification of sugars in breakfast cereals using capillary electrophoresis. M. Toutounji, **M. Van Leeuwen***, J. Oliver, A. Shrestha, M. Gaborieau, P. Castignolles
1199. Developing an optical sensor to detect polyamines and assay enzyme activity of diamine oxidase. **H. Lin**

Hawaii Convention Center
Halls I, II, III

Organized Surfactant Assemblies in Chemical Analysis and Separation Science: Fifty Years Later (#457)

Organized by: W. Hinze, T. Saitoh, G. Jiang, J. Liu
Presiding: W. Hinze, T. Saitoh

Poster Session
19:00 – 21:00

1200. Homogenous liquid-liquid extraction using weak acidic fluorine-based surfactant and its application to separation and recovery method for rare earth elements. **S. Saito***, T. Kato, H. Yamaguchi, S. Igarashi
1201. Cloud point extraction of metallic nanoparticles using zwitterionic surfactants. **A. Endo**, W. Hinze
1202. Approach to the structural analysis of $PFOA^-$/ TBA^+ ionic liquid used in homogeneous liquid-liquid extraction method (HoLLE). **S. Suzuki***, Y. Takagai, S. Oshite, S. Igarashi
1203. Liposome immunoassay based on bioluminescent detection and its application to on-chip analysis. **Y. Nakatani**, M. Maeki, R. Mishra, D. King, A. Ishida, J. Ducrée, M. Tokeshi, H. Tani

Sunday Morning

Marriott Waikiki Beach
Waikiki Bllrm II

Comprehensive Multidimensional Separations (#90)

Organized by: T. Gorecki, F. Dorman, P. Haddad
Presiding: T. Gorecki, P.R. Haddad

8:00 – 1204. Pixel-based analysis of the kinetics of petroleum desulfurization. **S. Furbo***, A.B. Hansen, T. Skov, J.H. Christensen
8:20 – 1205. Determination of chlorinated paraffins in surface waters using comprehensive gas chromatography. D. Vassová, P. Oswald, J. Slobodník, **I. Špánik***
8:40 – 1206. Utilizing GCxGC-TOFMS and GCXGC-HRTOFMS to determine the source of a groundwater supply contamination incident due to Marcellus shale gas development. **F. Dorman***, G. Llewellyn, J. Westland, D. Yoxtheimer, P. Grieve, T. Sowers, E. Humston-Fulmer, S. Brantley
9:00 – 1207. Congener-specific determination of mono- to trichlorinated naphthalenes by comprehensive 2D gas chromatography/mass spectrometry. **N. Hanari***, J. Falandysz, G. Petrick, N. Yamashita
9:20 – 1208. Profiling and quantifying short chain chlorinated paraffins using comprehensive 2D gas chromatography with high resolution time-of-flight mass spectrometry. **L. Gao**, D. xia, M. Zheng
9:40 – 1209. Tracing of VOC composition of flower, honey, mead, and distillate made from linden by GCXGC-TOF MS. **I. Špánik***, L. Bulavová, O. Vyviurska, P. Szolcsányi
10:00 – 1210. Comprehensive 2D hydrophilic interaction chromatography × reversed phase liquid chromatographic analysis of phenolics: Theory, practice, and applications. **A. de Villiers***, K.M. Kalili, C.M. Willemse, A.G. Tredoux, M.A. Stander, J. Vestner
10:20 – 1211. Development of comprehensive LCxLC and LCxCE platforms containing In-line enzymatic degradation reactors for advanced oligonucleotide characterization. **F. Lynen**
10:40 – 1212. Use of quantitative structure-retention relationships to choose the optimal chromatographic techniques in 2D liquid chromatography. **P.R. Haddad***, S. Park, R.A. Shellie, M. Taraji, Y. Wen, M. Talebi, R. Amos, R. Szucs, C. Pohl, J. Dolan
11:00 – 1213. Compatibility study and impurity identification of a parenteral drug microdose formulation by 2DLC-MS. **L. Dai***, K. Zhang
11:20 – 1214. Development of a rapid LC-MS/MS screening method for illegal and counterfeit drugs: From 24 synthetic and natural cannabinoids to 82 erectile dysfunction treatments and adulterated products. **K.C. Waldron***, P. Lebel, A. Furtos

Marriott Waikiki Beach
Milo IV / V

Novel Analytical Probes for In Vivo Optical Functional Imaging (#115)

Organized by: Y. Urano, T. Ozawa, Y. Chang, M. McCarroll
Presiding: M. McCarroll

8:00 – 1215. Electrophysiology: Unplugged - small molecule fluorescent voltage sensors for studying membrane potential. **E. Miller***
8:25 – 1216. Development of response selective and tunable fluorescent probes. **M. McCarroll***, C.N. Scott, Q. Best
8:50 – 1217. Near-infrared and long-wavelength fluorescent probes. **R. Strongin***, L. Wang, S. Gibbs, H. Li, M. Sibrian-Vazquez, M. Lowry, J. Escobedo
9:15 – 1218. Glutathione-targeted reversible fluorescent probes for real-time monitoring in living cells. **K. Umezawa**, M. Yoshida, M. Kamiya, Y. Urano*
9:35 – 1219. Design and synthesis of RNA-binding fluorescent ligands for siRNA delivery imaging. **S. Nishizawa***
10:00 – 1220. Design of an ultra-sensitive fluorescent probe composed of artificial nucleic acid for visualization of RNA in living cell. **K. Murayama**, Y. Kamiya, H. Kashida*, H. Asanuma*
10:20 Break
10:35 – 1221. Spatiotemporal mapping of temperature in living systems with molecular fluorescent thermometers. **S. Arai***, M. Suzuki, Y. Chang
10:55 – 1222. Diced electrophoresis gel assay for screening enzymes with specified activities. **T. Komatsu**, J. Onagi, A. Nakada, Y. Urano
11:15 – 1223. Artificial reaction promoter and bioparallel chemistry. **H. Komatsu***, Y. Shindo, K. Oka, M. Kanai, J. Hill, K. Ariga
11:35 – 1224. Fluorescent pH probes with tunable photophysical properties: Applications in cellular imaging. **C.N. Scott***, Q. Best, c. Liu, M. McCarroll

Marriott Waikiki Beach
Kona Moku Bllrm A

Marine and Freshwater Toxins: Detection, Structure, and Pharmacology (#138)

Organized by: T. Tsumuraya, J. Hungerford, R. Lewis
Presiding: R.J. Lewis

8:00 Introductory Remarks
8:05 – 1225. Analysis of saxitoxin and its analogs by hydrophilic interaction liquid chromatography-tandem mass spectrometry (HILIC-MS/MS). **M.A. Quilliam***, D. Beach, K. Thomas, P. McCarron
8:45 – 1226. Toxin and species identification of marine toxins-implicated into recent food poisonings in Taiwan. **D. Hwang**
9:25 – 1227. Screening and structure elucidation of the possible biosynthetic intermediates of tetrodotoxin from the newts. **Y. Kudo**, Y. Cho, K. Konoki, M. Yotsu-Yamashita*
9:45 – 1228. Effects of brevetoxins on the neurotransmitters profile of the central nervous system of marine Medaka (*Oryzias melastigma*). E.N. LEI, M. YAU, C. YEUNG, **H. Lam***
10:05 Break
10:15 – 1229. Structural characterization of new peptide variants produced by cyanobacteria from the Brazilian Atlantic Coastal Forest using liquid chromatography coupled to quadrupole time of flight tandem mass spectrometry. **E. Pinto**, **M. Roldan**
10:35 – 1230. Our recent studies of tetrodotoxin, saxitoxin and polycavernosides. **M. Yotsu-Yamashita***, Y. Kudo, S. Tsuchiya, K. Maeta, Y. Cho, K. Konoki
11:15 – 1231. In vivo and in vitro effects of new palytoxin analogs. **A. Tubaro**, M. Pelin
11:55 Closing Remarks

Marriott Waikiki Beach
Waikiki Bllrm III

Paper-Based Analytical Devices for Point of Need Measurements (#213)

Organized by: D. Citterio, C. Henry, J. Brennan
Presiding: J.D. Brennan, D. Citterio

8:00 – 1232. Enzyme-based signal amplification for paper-based assays for influenza A detection. **K. Abe**, P. Yager*
8:15 – 1233. Paper-based ELISA for E.Coli detection. **M. Hsu**, C. Cheng*
8:30 – 1234. Paper or plastic? Paper. **C.D. GARCIA**, E. Evans, E. Costa, E. Moreira, W. Coltro, C. Do Lago
9:00 – 1235. Reagentless enzyme based paper sensors for field monitoring: From basic research to practical applications. **S. Andreescu***
9:20 – 1236. Extending the reach of molecular diagnostics: a paper-based sample-to-result platform. **B. Lutz**, P. Yager
9:50 Break
10:00 – 1237. Sample transport behaviour in paper-based biosensors. **W. Shen**
10:30 – 1238. Indirect antiglobulin paper test for red blood cell antigen typing. **N. Yeow***, H. McLiesh, W. Shen, G. Garnier
10:50 – 1239. Microfluidic paper-based sensors for clinical and environmental diagnostics. **C. Henry**, J. Volckens, D. Cate, J. Adkins, J. Mettapoonpitak, K. Boehle
11:10 – 1240. Development and optimization of paper-based analytical devices (μPADs). **F.A. Gomez***, M. Arrastia, A. Avoundjian, F. Tsai, M. Jalali-Heravi, H. Valadez
11:30 – 1241. Paper, plastic, and a mobile app: Cost-effective, world-ready tools for distributed diagnostics. **V.T. Remcho**

Marriott Waikiki Beach
Kona Moku Bllrm C

Analytical Laser-Induced Breakdown Spectroscopy (LIBS) for Hazards Analysis, Forensics, and Health (#379)

Organized by: J. Almirall, J. Almirall, Y. Deguchi, A. Miziolek, S. Rehse, Z. Wang
Presiding: J. Almirall

8:00 – 1242. Capabilities of tandem LIBS and LA-ICP-MS for elemental analysis of samples of environmental, health and forensic interest. J. Gonzalez, D. Quarles, D. Oropeza, **R.E. Russo**
8:40 – 1243. Recent LIBS-enhancement techniques applied toward isotopic-composition analysis. C. Akpovo*, J. Martinez, A. Ford, S. Brown, **L. Johnson**
9:10 – 1244. Cylindrical cavity confined laser induced breakdown spectroscopy for improvement of signal intensity and stability. **W. Zhou***
9:40 – 1245. Progress and challenges in using LIBS for bacteriological identification. **S.J. Rehse***, D. Malenfant, D. Gillies
10:10 Coffee Break
10:30 – 1246. Selected application of laser-induced breakdown spectroscopy (LIBS). K. Novotný, J. Novotný, D. Prochazka, P. Porízka, A. Hrdlicka, G. Vitkova, **J. Kaiser***
11:00 – 1247. Determination of lanthanide elements in LiCl-KCl eutectic salt using laser-induced breakdown spectroscopy. **T. Kim***, J. Chung, S. Park, J. Yun
11:30 – 1248. New developments in forensic applications of LIBS. **J. Almirall**

Marriott Waikiki Beach
Waikiki Bllrm I

Advances in Analytical Techniques for Effective Food Allergen Management (#394)

Organized by: N. Lee, S. Godefroy, S. Taylor, H. Akiyama, J. Baumert, M. Shoji
Presiding: J. Baumert, M. Shoji

8:00 – 1249. Effects of processing and food matrix on almond (*Prunus dulcis*) detection using murine monoclonal antibody-based sandwich enzyme-linked immunosorbent assay. **S.K. Sathe***, G.S. Chabbra, C. Liu, V. Zaffran
8:30 – 1250. Enzyme-linked immunosorbent assay to detect food allergens in processed foods in Japan. **R. Adachi***, S. SAKAI, H. Akiyama, T. NISHIMAKI-MOGAMI
9:00 – 1251. PCR methods for detecting food allergens by using DNA sequences for species classification. **T. Hirao***
9:30 – 1252. PCR methods for wheat, buckwheat and soybean. **H. Yamakawa**
9:55 Break
10:10 – 1253. Hazelnut (*Corylus avellana*) detection using a monoclonal antibody-based direct sandwich enzyme-linked immunosorbent assay. **S. Gupta**, C. Liu, V. Zaffran, Q. Zhao, S.K. Sathe*
10:30 – 1254. Impacts of thermal and non-thermal processing on the immunoreactivity of parvalbumin from Southern Hemisphere fish species. **J. Liang***, S. Muralidharan*, S.L. Taylor, J. Baumert, A. Lopata, N.A. Lee*
10:50 – 1255. Immunoreactivity of pistachio proteins assessed by a monoclonal antibody-based enzyme-linked immunosorbent assay. **C. Liu**, J. Zhao, S. Alasvand Zarasvand, S.K. Sathe*
11:10 – 1256. Pecan (*Carya illinoinensis*) detection using a monoclonal antibody-based direct sandwich enzyme-linked immunosorbent assay. **V. Zaffran**, C. Liu, S. Gupta, Q. Zhao, S.K. Sathe*
11:30 Closing

*** Principle Author**

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Marriott Waikiki Beach
Milo III

Organized Surfactant Assemblies in Chemical Analysis and Separation Science: Fifty Years Later (#457)

Organized by: W. Hinze, T. Saitoh, G. Jiang, J. Liu
Presiding: W. Hinze, Y. Takagai

8:00 – 1257. Bio- and chemiluminescence analyses in liposomal media. **H. Tani***, A. Ishida, M. Tokeshi
8:40 – 1258. Microfluidic droplet operations utilizing spontaneous emulsification. **A. Hibara***, M. Fukuyama
9:20 – 1259. Surfactant assemblies-based fluorescent sensors with discrimination ability. **L. Ding***, Y. Cao, S. Wang, Y. Fang
10:00 – 1260. Separation and recovery of Beryllium based on pH-sensitive polymer as functional separation media. **T. Kato**, S. Igarashi
10:40 Concluding Remarks

INOR

Area 2 – Inorganic

Tuesday Morning

Hilton Hawaiian Village
Rainbow Tower, Rainbow 2

Organo-Main Group Avenues toward Advanced Materials (#16)

Organized by: T. Baumgartner, S. Liu, S. Yamaguchi
Presiding: T. Baumgartner

8:00 Opening remarks
8:10 – 1. Phosphorus-containing fluorophores for bioimaging. **S. Yamaguchi**
8:30 – 2. Molecular engineering of boron(III) complexes for organic photovoltaïcs applications. **R. Ziessel***
9:00 – 3. Phosphorous(V)-phthalocyanines emitting intense fluorescence in the optical therapeutic window. **H. Isago***, H. Fujita, T. Sugimori
9:20 – 4. Designed hybrid organic-inorganic nanobuilding blocks from nucleophilic substitution reactions and their applications. **V. Ervithayasuporn***
9:40 – 5. Main group based single source precursors for MOCVD processes and for the generation of nanocrystals. **M. Scheer***, C. Grassl, S. Bauer, S.B. Clendenning, P.E. Romero
10:10 Break
10:20 – 6. Synthesis and optical properties of 3-coordinate organoboron compounds. **T. Marder***
10:50 – 7. Solid-state emissive organoboron-based biphenyl system with large Stokes shift. **C. Zhao***
11:10 – 8. Novel phosphaphenalene derivatives: A non-catalyzed protocol to access fused phosphorus heterocycles. **C. Romero-Nieto***, A. López-Andarias, C. Egler-Lucas, P. Hindenberg
11:30 – 9. Advances in phosphole based molecular materials. **M. Hissler***

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 1

Fundamentals and Applications of Solvent Extraction in the Recovery of Strategic Metals (#17)

Organized by: A. Chagnes, J. Lee, N. Welham, B. HAY
Presiding: A. Chagnes

8:00 Opening remarks
8:05 – 10. Strategies for diversifying the supply of critical materials through the development of new separation technologies for rare earths. **B.A. Moyer***
8:25 – 11. Liquid-liquid extraction of rare earth elements by ionic liquid. A. Kumari, M.K. Sinha, **S.K. Sahu***, B.D. Pandey
8:45 – 12. New extractants applicable to industrial solvent extraction for the recovery of strategic metals. **M. Goto***, Y. Baba, F. Kubota
9:05 Break
9:15 – 13. Extraction of selected lanthanides from aqueous hydrochloric acid media using N, N, N', N'- tetrabutyldiglycolamide (TBDGA) in octanol and TBDGA in supercritical fluid carbon dioxide. **M.E. Mincher***, R.V. Fox, B.J. Mincher, D.L. Baek, C.M. Wai
9:35 – 14. Important selected issues regarding lanthanides and noble metals liquid-liquid separation. **D. Meyer**, D. Bourgeois, R. Poirot
9:55 – 15. Solvent extraction and solid phase extraction of rare earth elements using functionalized adsorbents from saline solutions. **A. Karamalidis***, C.W. Noack, K. Perkins, N. Washburn, D.A. Dzombak
10:15 Break
10:25 – 16. Extraction by preorganized tridentate analogs of synergistic hydroxyoxime/carboxylate mixtures. J.W. Roebuck, J. Turkington, D.M. Rogers, G.S. Nichol, V. Cocalia, A. Fischmann, M. Pelser, S. Parsons, **P. Tasker***
10:45 – 17. Probing redox-facilitated phase transfer mechanisms in solvent extraction using voltammetry. **R. Ellis***
11:05 – 18. Fundamental studies of metal ion partitioning in ionic liquid-based solvent extraction systems employing neutral extractants. **M.L. Dietz***
11:25 Closing remarks

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Lewis Acid/Base Pair Chemistry in Molecular Transformations, Catalysis and Energy Storage (#65)

Organized by: T. Autrey, D. Stephan, z. Wang
Presiding: T. Autrey, D. Stephan, Z. Wang

8:00 Introductory Remarks
8:05 – 19. New avenues in FLP chemistry. **D. Stephan**
8:35 – 20. Catalytic Si-H bond activation with Lewis acids. **M. Oestreich**
9:05 – 21. Al/P based frustrated Lewis pair as an effective ambiphilic ligand. **W. Uhl***, J. Backs, P. Wegener
9:35 – 22. Reactivity of a neutral tricoordinate organoboron as a nucleophile. **R. KINJO***
10:05 Break
10:10 – 23. Cationic carbon Lewis acids in frustrated Lewis pairs. **M.J. Ingleson**
10:35 – 24. Activation of alkynes with $B(C_6F_5)_3$: Intramolecular cyclization reactions and rearrangements. **R. Melen***
11:00 – 25. Cooperative Lewis acid/base catalysis. **J. Slootweg**
11:25 – 26. New avenues for frustrated Lewis pair hydrogen activation: Synthesis and reactivity of boron-based radicals. **L. Longobardi***, D. Stephan*

Hilton Hawaiian Village
Mid-Pacific Center, Coral 4

Molecular Catalysis of Water Splitting Reactions (#76)

Organized by: K. Sakai, L. Sun, G. Brudvig, L. Spiccia
Presiding: L. Sun

8:00 – 27. Photocatalytic water oxidation by molecular metal oxides mimicking the natural oxygen evolving center. **M. Bonchio***
8:30 – 28. Molecular oxidation catalysis with iridium: Water splitting and CH-oxygenation. **U. Hintermair***, S. Sheehan, J. Thomsen, G. Brudvig, R. Crabtree
8:50 – 29. Pathway for oxygen-oxygen bond formation and O_2 release in water oxidation catalyzed by dinuclear Ru complex. **K. Tanaka***
9:20 – 30. Unraveling solution speciation and stability of cobalt-polyoxometalate water oxidation catalysts by X-ray scattering. **S. Goberna Ferron***, J. Soriano-Lopez, M. Nyman, J. Galan-Mascaros
9:40 Coffee Break
10:00 – 31. Ruthenium complexes with carboxylate ligands as highly efficient molecular catalysts for water oxidation. **L. Sun**
10:30 – 32. New series of dinuclear ruthenium(II) complexes toward an active water oxidation catalyst prompting intramolecular O-O bond formation. **M. Yagi***
11:00 – 33. Molecular catalyst for water oxidation and oxygen reduction. **A. Llobet***
11:30 – 34. Water oxidation catalyzed by multinuclear metal complexes. **S. Masaoka**

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 3

Frontiers of Organo-f-element Chemistry (#125)

Organized by: F. Edelmann, P. Diaconescu, Y. Chen, D. Emslie, P. Junk
Presiding: F. Edelmann

8:00 Introduction
8:10 – 35. Structure determination of uranocene and the first COT lanthanide complexes. **K.N. Raymond**
8:40 – 36. Low valent f-element chemistry: A theoretical journey. **L. Maron**
9:10 – 37. Bond strength in organo-f-element compounds from the quantum theory of atoms-in-molecules. Q. Huang, **N. Kaltsoyannis***
9:30 – 38. Magnetic personality of lanthanide ions. **M. Murugesu**
9:50 Coffee break
10:00 – 39. Redox and photoredox chemistry of cerium coordination complexes. **E.J. Schelter***
10:20 – 40. Reduction chemistry of rare-earth metal complexes supported by ferrocene diamide ligands. **P.L. Diaconescu**
10:40 – 41. Pentadienyl-supported rare-earth metal tetramethylaluminate complexes. **D. Barisic**, C. Maichle-Mössmer, R. Anwander
11:00 – 42. Steric effects in Sm(II) reduction chemistry illustrated with pyrrolide-based macrocyclic ligands of variable conformational flexibility. **M.G. Gardiner***
11:20 – 43. Strain-driven Ce(IV)/Ce(III) redox couple within the fullerene cage. **A. Popov***, Y. Zhang
11:40 – 44. Gadolinium endohedral metallofullerenes: Next generation magnetic resonance imaging contrast agents. **H.C. Dorn***

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Non-covalent Interactions in Coordination Systems (#161)

Organized by: T. Konno, K. Lu, A. Hor
Presiding: T. Konno

8:00 – 45. Non-covalent interactions in coordination systems. **T. Konno***
8:10 – 46. Non-covalent interactions in extended architectures derived from transition metal complexes of bis-diketone and bis-triketone ligands: From polyrotaxane generation to pressure induced molecular switching. **L.F. Lindoy***
8:30 – 47. Ag-π interactions in heterometallic dipyrrin based coordination networks. **S. Baudron***, H. Ruffin, M. Hosseini
8:50 – 48. Thyminate(2–)-bridged cyclic tetranuclear rhodium(III) complexes formed by a template of a sodium, calcium or lanthanoid ion. **T. Suzuki***, A. Kashima, M. Sakate, H. Ota, A. Fuyuhiro, Y. Sunatsuki
9:05 – 49. Synthesis and properties of amido- and imido-gold(III) complexes having polypyridyl ligands. **K. Tsuge***, S. Iwashita, Y. Saito, T. Yada, H. Ohtsu
9:20 – 50. Flexible crystals: Stretching the boundaries of a single crystal. **J.K. Clegg***, J. McMurtrie, A. Worthy, M. Pfrunder, A. Grosjean, A. Brock
9:35 – 51. Syntheses and luminescent properties of neutral Z-shaped heteropolynuclear platinum(II) complexes. **K. Umakoshi***, M. Ueda, K. Nishihara, Y. Nakao, Y. Arikawa
9:50 Break
10:00 – 52. Exploring the fundamental nature of non-covalent interactions in chemistry. **P. Kennepohl***, C. Mustoe
10:15 – 53. Modulation of emission properties of pincer Pt complex by intermolecular interactions. **J. Kuwabara**, K. Yamawaki, T. Kanbara
10:30 – 54. Targeting biomolecules with photoactive ruthenium(II)-based metallomacrocycles. **J. Thomas**
10:45 – 55. Chromic behavior and coordination structure conversion of hydrazone-palladium(II) and platinum(II) complexes in the solid state and in solution. **K. Nakajima**
11:00 – 56. Supramolecular chemistry of gold clips. **J. Yip***
11:20 – 57. Unusual coordination modes of hydrides identified from Cu(I) clusters supported by dichalcogenolates. **C. Liu**
11:40 – 58. From discrete low-dimensional metal complexes to supramolecular assemblies. **V. Yam**

Hilton Hawaiian Village
Kalia Tower, Kahili 1 & 2

Innovative Approaches in Bond-Cleavage and Bond-Forming Reactions at Late Transition-Metal Centres (#186)

Organized by: M. Hirano, D. Fogg, A. Veige
Presiding: A.S. Veige

8:00 – 59. Cobalt catalyzed C-H functionalization. **P.J. Chirik***
8:20 – 60. Bond activation reactions by highly reduced late-metal organometallics. **J.S. Figueroa**, C. Mokhtarzadeh, A.E. Carpenter
8:40 – 61. Ruthenium(II) catalysts for C-H bond activation and functionalization. **P.H. Dixneuf***, P.B. Arockiam, B. Li, F. Pozgan, K.S. Singh, C. Bruneau
9:00 – 62. Computational studies of Ru(II)-catalysed direct aryl- and alkylation: Novel C-H and C-I bond breaking and C-C bond making processes. **S.A. Macgregor***, K.J. Carr, C.L. McMullin
9:20 – 63. Experimental and computational characterization of bimetallic reaction pathways relevant to catalysis. **N.P. Mankad**
9:40 – 64. Synthesis and N-H reductive elimination study of dinuclear ruthenium imido dihydride complexes. S. Takemoto*, **H. Matsuzaka***
10:00 break
10:10 – 65. Catalytic α-acylalkylation at *ortho* C–H bond in arenes with cyclic alkenyl carbonates. **F. Kakiuchi**

*** Principle Author**

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10:30 – 66. Rh(II)-Rh(II) vs Rh(II)-Rh(III) complexes as catalysts in metal nitrene/nitrenoid reactions. **H. Lebel***, H. Piras, J. Bartholoméüs
10:50 – 67. Rhodium(I)-catalyzed cyclopropanation/cyclization of allene-ynes via rhodacycle-directed sp^3 C-H activation. **Y. Sato***
11:10 – 68. Synthesis and characterization of an osmium(II) methane coordination complex. P.J. Sempsrott, C.F. Lovitt, **G.S. Girolami***
11:30 – 69. Si–H bond activation via σ-interaction in a cobalt(II) complex. **J. Kim**, K. Park, S. Kim, Y. Lee*

Hilton Hawaiian Village
Mid-Pacific Center, Coral 1

New Frontiers in Bioinorganic Chemistry (#356)

Organized by: M. Yamaguchi, S. Cohen, X. Ottenwaelder
Presiding: K. Franz, T. Storr

8:00 Opening remarks
8:05 – 70. Geometric and electronic structural contributions to Fe/O_2 reactivity. **E.I. Solomon***
8:35 – 71. Defining a preference for polarizable halogen substituents in the hydroquinone ring-cleaving dioxygenase PcpA. **T.E. Machonkin**
8:55 – 72. Mechanistic and biophysical characterization of oxalate decarboxylase. W. Zhu, J. Wilcoxen, L. Easthon, T. Stich, R. Britt, K. Allen, **N. Richards**
9:15 – 73. Toward a better understanding of liver alcohol dehydrogenase: Synthesis, characterization, and activity of zinc(II) model complexes based on bis-triazole and bis-imidazole precursors. **J.R. Miecznikowski***, M. Lynn, W. Lo, J.P. Jasinski, S. Jain
9:35 – 74. Metal-catalyzed reactions of *N*,*N*'-disubstituted imidazolinium cations with hydrogen as functional models of hydrogenases in methanogenesis. **H. Seino***, M. Hatazawa, Y. Hojo, H. Suzuki, K. Takahashi, Y. mizobe, N. Yoshie
9:50 Break
10:00 – 75. Targeting cancer specific cellular processes with ruthenium compounds. **A. Nazarov***
10:20 – 76. Overcoming platinum resistance using small-molecule antineoplastic agents. **I. Romero Canelón***, M. Mos, A. Knight, P.J. Sadler
10:40 – 77. Bioinspired catalyst composed of cobalamin and semicoductor with vitamin B12 function. **H. Shimakoshi***, Y. Hisaeda
11:00 – 78. Catalytic metallodrugs: Structure-function and activity studies of a broad therapeutic platform. Z. Yu, M.J. Ross, I. Fidai, **J.A. Cowan***
11:30 – 79. Developing a research platform for the discovery of cytotoxic metal complexes. **E.P. Glazer***

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 2

Dynamic Aspects of Solid Materials: From Equilibrium to Non-equilibrium Systems (#376)

Organized by: M. Kawano, B. Abrahams, M. Garcia-Garibay, L. Zheng
Presiding: B.F. Abrahams, M. Kawano

8:00 Opening remarks
8:05 – 80. Negative thermal expansion in coordination framework materials. **C. Kepert***
8:35 – 81. Dynamic structural transformations of coordination cage assemblages. **P. Larpent**, S. Furukawa*, S. Kitagawa*
8:55 – 82. In-situ synchrotron X-ray diffraction study of successive crystallization in metal-organic frameworks. **H.H. Yeung***, Y. Wu, S. Henke, A.K. Cheetham, D. O'Hare, R.I. Walton
9:15 – 83. Dynamic processes in electron-rich coordination networks. **B.F. Abrahams***, R. Elliott, R. Robson, A. Sutton
9:45 Break
9:55 – 84. Kinetic assembly of porous coordination networks. **M. Kawano**
10:15 – 85. Relief of forbidden catenation in a metal-organic framework: Network conversion from interpenetration-frustrated gra to interpenetration-allowed hms topology. **M. Lah***
10:45 – 86. Reaction dynamics In coordination polymers. **J.J. VITTAL**
11:15 – 87. Moving protons In metal organic frameworks. **G. Shimizu***, P. Ramaswamy, N. Wong, S. Kim, Z. Fard

Tuesday Afternoon

Hilton Hawaiian Village
Rainbow Tower, Rainbow 2

Organo-Main Group Avenues toward Advanced Materials (#16)

Organized by: T. Baumgartner, S. Liu, S. Yamaguchi
Presiding: S. Liu

13:00 Lunch break
13:20 – 88. Singlet carbenes for the stabilization of main group paramagnetic species. **G. Bertrand**
13:50 – 89. Donor-acceptor stabilization of low-oxidation state main group hydrides: From chemical curiosities to viable precursors to functional nanomaterials. **E. Rivard***, A. Swarnakar, T.K. Purkait, J. Veinot
14:10 – 90. Stabilization and "transition metal-like" reactivity of low oxidation state/low coordination p-block metal complexes. **C. Jones***
14:40 – 91. Stabilization of reactive main group species by coordination to carbonyl-decorated carbenes. **T.W. Hudnal***, A. Ledet, K. Melancon, A. Torres
15:00 Break
15:10 – 92. Low-coordination numbers, unusual bonding, and dispersion force effects. **P.P. Power**
15:40 – 93. Single, double, triple, chains: New forays into boron-boron-bond formation. **H. Braunschweig**
16:10 – 94. Dynamic covalent chemistry of organoboron and silicon compounds. **M. Wagner***

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 1

Fundamentals and Applications of Solvent Extraction in the Recovery of Strategic Metals (#17)

Organized by: A. Chagnes, J. Lee, N. Welham, B. HAY
Presiding: N.J. Welham

13:00 Opening remarks
13:05 – 95. Extraction and separation technologies. **D. Dreisinger***
13:25 – 96. Interfacial phenomena in solvent extraction. **G. Stevens***
13:45 – 97. Solvent extraction of magnesium by Cyanex 272: Experimental study and modeling. **V. Weigel**, M. Dehestru*, M. STAMBOULI, M. Gohin, D. Pareau, Y. Le Quesne
14:05 Break
14:15 – 98. Solvent extraction from ammoniacal solutions - some new perspectives. **N.J. Welham***, G. Johnston, M.L. Sutcliffe
14:35 – 99. Development of hydrometallurgical recovery process of antimony by controlling the metal complexes condition in Sb-Cl-OH aqueous solution system. **S. Ueno**, S. Yokoyama, K. Shinoda, H. Takahashi*, K. Tohji
14:55 – 100. Separation of Zr(IV) and Hf(IV) by solvent extraction. **M. Lee**
15:15 Break
15:25 – 101. Liquid-liquid extraction of Bi(III) and Sb(III) by neutral extractants from HCl/H_2SO_4 mixed media. **M. Avila-Rodriguez***, L.A. Santiago-Santiago, J.A. Reyes-Aguilera, M.d. González, D.E. García-Rodríguez, L. Hernández-Perales, D.F. Cholico-Gonzalez
15:45 – 102. Ditopic thioetheramide reagents for the selective recovery of platinum and palladium. **J. Love***, P. Tasker, C.A. Morrison, K. MacRuary, m. Wilson, R.J. Gordon, R. Grant
16:05 – 103. Liquid-liquid extraction separation of scandium from zirconium with *O*,*O*-bis(2-ethylhexyl) hydrogen thiophosphate. **y. Nakai**, Y. Nakajima, S. Oshima, Y. Watanabe, Y. Komatsu, K. Fujinaga
16:25 – 104. Extraction studies of platinum and iron from hydrochloric acid solution with *N*-2-ethylhexyl-bis(*N*-di-2-ethylhexyl-ethylamide)amine. **M. Maeda***, H. Narita, C. Tokoro, M. Tanaka, R. Motokawa, H. Shiwaku, T. Yaita
16:45 Closing remarks

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Lewis Acid/Base Pair Chemistry in Molecular Transformations, Catalysis and Energy Storage (#65)

Organized by: T. Autrey, D. Stephan, z. Wang
Presiding: Z. Wang

13:00 – 105. Accurate quantum chemistry for frustrated Lewis pair systems. **S. Grimme**
13:30 – 106. Frustrated N-heterocyclic carbene-silylium ion Lewis pairs. **M. Tamm***, E. Theuergarten, M.F. Silva Valverde
14:00 – 107. Synthesis of bulky organoboranes and their application in frustrated Lewis pair chemistry. **H. Wang***
14:25 – 108. New strategies for borane-catalyzed metal-free hydrogenation. **H. Du**
14:50 Break
14:55 – 109. Intramolecular FLPs with different Lewis acid sites - reversible H_2 addition and more. **T. Repo***, K. Chernichenko, I. Pápai, B. Kótai, V. Zhivonitko
15:20 – 110. Catalytic reduction of polar substrates using Frustrated Lewis pairs: An operando calorimetry approach to measure kinetics and thermodynamics under catalytic operating conditions. **T. Autrey***
15:45 – 111. Unsupported metal-only-Lewis pairs of zero-valent iron- and ruthenium carbonyl complexes. **C. Schneider**, H. Braunschweig*
16:10 – 112. Applications of N-Heterocyclic carbene-silylium ion Lewis pairs in FLP chemistry and bond activations. **M.F. Silva Valverde**, E. Theuergarten, T. Bannenberg, M. Freytag, P. Jones, M. Tamm*
16:35 – 113. α-CH acidity of alkyl-B(C_6F_5)$_2$ compounds – the role of stabilized borata-alkene formation in FLP chemistry. **C. Mück-Lichtenfeld**, P. Moquist, G. Chen, K. Bussmann, C.G. Daniliuc, K. Gerald, G. Erker*

Hilton Hawaiian Village
Mid-Pacific Center, Coral 4

Molecular Catalysis of Water Splitting Reactions (#76)

Organized by: K. Sakai, L. Sun, G. Brudvig, L. Spiccia
Presiding: K. Sakai

13:00 – 114. Electro- and photolytic hydrogen production by mononuclear cobalt complexes with pentadentate ligands. **X. Zhao***, M. Yanney, M. Vennampalli, G. Liang, C.E. Webster
13:20 – 115. Proton-coupled electron transfer processes for the electrochemical production of hydrogen. **J.L. Dempsey***, B.D. McCarthy, E.S. Rountree, D.J. Martin
13:40 – 116. Theoretical design of hydrogen-evolving molecular electrocatalysts. **S. Hammes-Schiffer**
14:10 – 117. From molecular non-noble metal catalysts to catalytic nanomaterials for energy-efficient and cost-effective electrochemical H_2 production. **M. WANG***, P. Zhang, L. Chen, Y. Yang, J. Shen, L. Sun
14:40 Coffee Break
15:00 – 118. Molecular catalysts for Ni,Co,Rh,Pt-based H_2 evolution and Ru,Co-based O_2 evolution. **K. Sakai***
15:30 – 119. Hydrogen evolution: bioinspired catalytic materials and artificial hydrogenases. **V. Artero***
16:00 – 120. Photo- and electrochemical water oxidation: New water oxidation chemistry of ruthenium complexes with polypyridyl tetradentate ligands. **J.T. Muckerman***, D.E. Polyansky, J.J. Concepcion, R.P. Thummel, E. Fujita
16:30 – 121. Hybrid metal-organic phosphonate realizing improved electrochemical water oxidation. T. Zhou, **R. Xu***

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 3

Frontiers of Organo-f-element Chemistry (#125)

Organized by: F. Edelmann, P. Diaconescu, Y. Chen, D. Emslie, P. Junk
Presiding: D. Emslie

13:00 – 122. Molecular non-metallocene hydrides of rare earth metals. **J. Okuda**
13:30 – 123. Main group molecules in 4*f*-metal chemistry. **P.W. Roesky***
14:00 – 124. Lanthanoid transition metal bonding. **R. Kempe***
14:30 – 125. Chemistry of the lanthanoids involving the very bulky tetraphenyl- and pentaphenyl cyclopentadienyl ligands. **P.C. Junk***
14:50 – 126. Structural variations in Ln(T-$p^{R,R'}$)$_2$ compounds and their consequence on stability and reactivity. F. Edelmann, A. Sella, **J. Takats**
15:10 Coffee break
15:20 – 127. Rare-earth metallacyclopentadienes: Synthesis, structure, and reactivity. **W. Zhang**
15:40 – 128. Rare-earth metal phosphinidene complexes: synthesis, structure, and reactivity. P. Cui, Y. Lv, J. Zhou, **Y. Chen**
16:00 – 129. Understanding based invention of organo-f-element centered catalytic heteroatom transformations: Scope and mechanism. **T.J. Marks**
16:30 – 130. Chemistry of organo rare-earth metal complexes with indolyl ligands. Z. Zhang, Z. Feng, L. Guo, S. Zhou, X. Zhu, **S. Wang***

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Non-covalent Interactions in Coordination Systems (#161)

Organized by: T. Konno, K. Lu, A. Hor
Presiding: T. Konno

13:00 – 131. Coordination chemistry of polycarbene ligands. **E. Hahn***

*** Principle Author**

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13:20 – 132. Influence of host-guest interactions on self-assembly of metallo-supramolecular systems. **M. Hardie***, J.J. Henkelis, F. Thorp-Greenwood, T. Ronson, C. Carruthers, C. Sumby
13:40 – 133. Tailor-made synthesis of multilayered trimetallocyclophanes via transannula π-π interactions. **O. Jung**, H. Lee
14:00 – 134. Immobilization of metal mercury using reusable sulfurbridged molybdenum complex. **H. Akashi***, S. Shimokawatoko, H. Aikoh, T. Shibahara
14:15 – 135. Universal mode of ion-pairing interaction of tetraalkylammonium ions: Application to inorganic species. **A.J. Fry***
14:30 – 136. Development of hydrogen-evolution catalysts by using first-row transition metal complexes with sulfur donor atoms. **M. Hirotsu***, K. Santo, T. Nakae, T. Matsunaga, J. Sanou, I. Kinoshita
14:45 – 137. Synergistic effect of B. . .N coordinate bonding and ring strain makes 2-APB an ideal drug with dual effect. **H. Dong***, W. Li, J. Sun, S. Li, M.L. Klein
15:00 Break
15:10 – 138. Photooxidation of cyclometalated palladium complexes to the corresponding sulfinato species. **T. Kawamoto**
15:25 – 139. Osmium(V)-oxo complexes: Bioinspired catalysts for alkene functionalization. **H. Sugimoto***
15:40 – 140. Architectural complexity within secondary coordination spheres. **A.S. Borovik**
16:00 – 141. Non-covalent interaction between germyl and bridging germylene ligands in dinuclear palladium(I) complexes. **K. Osakada***
16:20 – 142. Host-guest chemistry in coordination cages: Functions from drug binding to catalysis. **M. Ward**, C. Hunter
16:40 – 143. Importance of the second coordination sphere and of conformational flexibility in hydrolase modeling. **P. Comba***

Hilton Hawaiian Village
Kalia Tower, Kahili 1 & 2

Innovative Approaches in Bond-Cleavage and Bond-Forming Reactions at Late Transition-Metal Centres (#186)

Organized by: M. Hirano, D. Fogg, A. Veige
Presiding: M. Hirano

13:00 – 144. Transition metal vinylidene mediated catalysis for use in organic synthesis. **C. Lee**
13:20 – 145. Recyclable hybrid Rh and Ir catalysts for C-X bond formation reactions. **B.A. Messerle***, C. Wong, A. Tregubov, D.B. Walker, A. Soeriyadi, A. Kochanke, J.J. Gooding
13:40 – 146. Rh-catalyzed enantioselective synthesis of chiral 3-aryl-3-(pyrazol-1-yl-)propanoic esters. **H. Wu***
14:00 – 147. N-Heterocyclic carbene ligands as supports for low valent cobalt: Synthesis and reactivity of Cp*Co(IPr). J. Andjaba, K. Dalphon, **C. Bradley***
14:20 – 148. Transition-metal-catalyzed asymmetric allylic dearomatization reactions. **S. You***
14:40 Break
14:50 – 149. Asymmetry and anisotropy: Activation of H_2 by novel Rh *NNN*-pincer systems leading to remarkably upfield ^{1}H NMR chemical shifts. **M.T. Zamora**, M.M. Hänninen, C.S. MacNeil, J.P. Knott, P.G. Hayes*
15:10 – 150. Synthesis and investigating the chemical reactivity of stable indenyl-ruthenium complexes containing small organic ring. **H. Sung***
15:30 – 151. Long-tethered P-B-P ligand: Synthesis, complexation, and catalysis. **E. Kwan Huang**, Y. Kawai, S. Kamakura, M. Yamashita*
15:50 – 152. Ligand-assisted bond activation on nickel and iridium NCN-pincer complexes featuring non-innocent N-heterocyclic carbenes. R.M. Brown, Y. Jiang, D.A. Levenson, I.I. Fay, C.J. Roberts, J. Valjus, H.M. Tuononen, J. Borau-Garcia, D. Spasyuk, **R. Roesler***
16:10 – 153. Nickel complexes as catalysts for C—H bond stannylation: A novel mechanistic pathway for the formation of carbon-heteroatom bonds. **S.A. Johnson***, M. Elsby
16:30 – 154. Hydrocarbon-soluble, base metal "nanocatalysts" with precious metal-like reactivity. **J.M. Stryker***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 1

New Frontiers in Bioinorganic Chemistry (#356)

Organized by: M. Yamaguchi, S. Cohen, X. Ottenwaelder
Presiding: P.S. Donnelly, C.G. Hartinger

13:00 – 155. Synthesis of metal complexes designed to assist in diagnosis and therapy. **P.S. Donnelly***
13:30 – 156. Lanthanide complexes for the treatment of bone resorption disorders. **D. Weekes***, J. Cawthray, O. Sivak, M. Iafrate, K. Wasan, C. Orvig
13:45 – 157. Water-synthesized ZnS:Mn quantum dots for multiple biological detection and enzyme immobilization. J. Beltran-Huarac*, **D. Diaz-Diestra**, D. Bracho-Rincon, J. Gonzalez-Feliciano, C.I. Gonzalez, B.R. Weiner, G. Morell
14:05 – 158. Dual mode binding of ruthenium/osmium arene anticancer complexes to DNA: Coordination and intercalation. **H. Liu***
14:25 – 159. Targeting small-molecules to treat Alzheimer's disease. **T. Storr***, M. Jones, L. Gomes, R. Vieira
14:55 Break
15:05 – 160. M_2L_4 coordination cages as potential drug delivery systems for anticancer agents. **A. Schmidt**, M. Hollering, A. Pöthig, A. Casini*, F. Kuhn*
15:20 – 161. From targeted organometallic anticancer agents to intracellular target identification. **C.G. Hartinger**
15:50 – 162. Mechanistic insight into hydrogen-atom transfer reactions by chromium(V)-oxo complexes: What is controlling the reactivity?. **H. Kotani***, S. Kaida, T. Ishizuka, T. Kojima
16:10 – 163. Multitasking organometallic complexes as therapeutics. **A. Castonguay***
16:30 – 164. Conditional surrender: Designing molecules to put biological metals in their place. **K. Franz***

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 2

Dynamic Aspects of Solid Materials: From Equilibrium to Non-equilibrium Systems (#376)

Organized by: M. Kawano, B. Abrahams, M. Garcia-Garibay, L. Zheng
Presiding: M.A. Garcia-Garibay, L. Zheng

13:00 – 165. Correlated dynamics in 1D chains of molecular rotors. **M.A. Garcia-Garibay**, S. Perez-Estrada, B. Rodriguez-Molina
13:30 – 166. Crystalline molecular gyrotops having a five-membered hetero aromatic ring rotor. **W. Setaka***
13:50 – 167. Polar molecules in charge-transfer crystals: Acquired dynamic and dielectric properties. **J. Harada***, M. Ohtani, Y. Takahashi, T. Inabe
14:10 – 168. Creation of new metal nanoparticles having non-equilibrium phases based on the "crystal structure control" and "inter-element-fusion" strategies. **K. Kusada**, H. Kitagawa
14:40 Break
14:50 – 169. Cobalt phosphonates with tunable magnetic and proton conduction properties. **L. Zheng**
15:20 – 170. Single-crystal-to-single-crystal molecular domino transformations triggered by mechanical stimulation and solid seeding. **H. Ito***
15:50 – 171. Exploring the solid-state and dynamic behaviour in second sphere coordination chemistry. **J. Marti-Rujas***
16:10 – 172. Self-reproduction of giant vesicle emerged under non-equilibrium condition. **T. Sugawara***, K. Takakura, K. Kurihara, T. Toyota, K. Suzuki
16:40 – 173. Dynamic aspects of molecular arrangement in a porous crystal with multiple binding pockets. **S. Tashiro**, R. Kubota, M. Shionoya*

Wednesday Morning

Hilton Hawaiian Village
Rainbow Tower, Rainbow 2

Organo-Main Group Avenues toward Advanced Materials (#16)

Organized by: T. Baumgartner, S. Liu, S. Yamaguchi
Presiding: S. Yamaguchi

8:00 – 174. Organophosphorus avenues toward functional conjugated materials. **T. Baumgartner***
8:20 – 175. Facile synthesis of 2-phosphaquinolines and 2-phosphaquinolin-2-ones. **M.M. Haley***, C.L. Vonnegut, A. Shonkwiler, M.M. Khalifa, L.N. Zakharov, D.W. Johnson
8:40 – 176. *Phospha*-acenes. **J. Protasiewicz**
9:00 – 177. New ligand platforms for coordination chemistry based on BN/CC isosterism. **S. Liu***, A. Baggett, S. Xu, C. McConnell
9:20 – 178. B/N-functionalized conjugated oligomers, polymers, and macrocycles. **F. Jaekle***
9:50 Break
10:00 – 179. Boron containing heterocycles: Methods, properties, reactivity. **W.E. Piers**, J. Araneda, A. Houghton, M. Morgan
10:30 – 180. Trilithiosilane: Synthesis and property. **M. Ichinohe**, A. Mori, A. Sekiguchi
10:50 – 181. Ring expansion reactions with pentaphenylborole as a route to generate six and seven-membered boracycles. K. Huang, **C.D. Martin**
11:10 – 182. Novel silicon analogs of staffanes that shows significant interactions between bridgehead silicon-silicon bonds. **T. Iwamoto**, A. Karube, S. Ishida
11:30 – 183. Phosphorus-analogues of pyrromellitic diimides: A novel scaffold for creating organic electron-acceptors. **Y. Takeda***, K. Hatanaka, S. Minakata*

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 1

Fundamentals and Applications of Solvent Extraction in the Recovery of Strategic Metals (#17)

Organized by: A. Chagnes, J. Lee, N. Welham, B. HAY
Presiding: G. Cote

8:00 Opening remarks
8:05 – 184. Recovery and extraction of strategic metals from WEEE – encountered challenges for hydrometallurgical route. **T. Retegan***, M. Gergoric, C. Tunsu, J. yang
8:25 – 185. Development of block copolymer extractants for the selective isolation of strategic metals. L.A. Mitchell, T.T. Nguyen, R.F. Fimognari, **B.J. Holliday***
8:45 – 186. Recovery of rare earth elements from fluorescent lamp waste fractions: Toward pilot scale separation. **C. Tunsu***, C. Ekberg, T. Retegan
9:05 Break
9:15 – 187. Solvent extraction recovery of nickel from spent electroless nickel plating baths. **M. Tanaka***, H. Narita, Y. Saiki, H. Naganawa
9:35 – 188. Efficient recovery of Ln from commercial lighting phosphors using acid adducts in scCO2. **R.V. Fox***, D.L. Baek, M.E. Mincher, B.J. Mincher, C.M. Wai, C. Yen
9:55 – 189. Recovery of valuable metals from spent car NiMH batteries by leaching and solvent extraction. **M. Petranikova**
10:15 Break
10:25 – 190. Solvent extraction in the recovery of strategic metals from spent turbine-blade superalloy. R.R. SRIVASTAVA, M. Kim, **J. Lee***
10:45 – 191. Investigation of closed loop recycling of active materials for NiMH batteries. **F. Holmberg***, B. Ebin, M. Petranikova, B. Steenari, C. Ekberg
11:05 – 192. Intensification of interfacial transfer by forced vibration: Application to solvent extraction. **M. STAMBOULI***, D. Pareau, p. perre, N. Kozlov, V. Kozlov
11:25 Closing remarks

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Lewis Acid/Base Pair Chemistry in Molecular Transformations, Catalysis and Energy Storage (#65)

Organized by: T. Autrey, D. Stephan, z. Wang
Presiding: D. Stephan

8:00 – 193. Frustrated Lewis pairs as efficient catalyst for C_{sp2}-H bond activation. **F. Fontaine**, M. Legare, M. Courtemanche, E. Rochette
8:30 – 194. *Cis*-stereoselective hydrogenation of acetylenes catalyzed by 2-aminophenylboranes. **K. Chernichenko***, T. Repo, Á. Madarász, I. Pápai, M. Nieger, M. Leskelä
8:55 – 195. Kinetics of hydrogen activation on ceria-zirconia. **C. Sievers**, S.M. Schimming, G. Foo , O.D. LaMont, A.K. Rogers, M.M. Yung, A.D. D'Amico
9:20 Break
9:25 – 196. On the origin of enantioselectivity of FLP-catalyzed asymmetric hydrogenations. **I. Pápai***, B. Kótai, A. Hamza, M. Lindqvist, T. Repo
9:50 – 197. FLP approach toward catalytic hydrogenation of CO_2. **E. Rochette***, M. Courtemanche, A. Pulis, M. Legare, F. Fontaine, D. Stephan
10:15 – 198. Alane-based Lewis pairs in molecular catalysis and macromolecular synthesis. **E. Chen**

Hilton Hawaiian Village
Mid-Pacific Center, Coral 4

Molecular Catalysis of Water Splitting Reactions (#76)

Organized by: K. Sakai, L. Sun, G. Brudvig, L. Spiccia
Presiding: G. Brudvig

8:00 – 199. Mechanisms of water oxidation in solution and on oxide surfaces. **T. Meyer***, M. Coggins, M. Sheridan, B. Sherman, N. Song, R. Binstead
8:30 – 200. Molecular catalysis in hydrogen evolution from water driven with low driving forces. **K. Yamauchi***, K. Kawano, K. Koshiba, K. Sakai*

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8:50 – 201. Water oxidation pathways of bioinspired molecular cobalt catalysts. **G.R. Patzke***
9:20 – 202. Developing functional hydrogenase mimics using model metalloprotein scaffolds. **H.S. Shafaat**, J. Slater, A. Manesis, H. Monaco
9:40 Coffee Break
10:00 – 203. Water oxidation for solar fuel production. **G. Brudvig***, S. Sheehan, J. Thomsen, U. Hintermair, V. Batista, R. Crabtree, C. Schmuttenmaer
10:30 – 204. Molecular and immobilized iridium catalysts for water oxidation. A. Bucci, I. Corbucci, L. Fagiolari, G. Pastori, Z. Cristiano, **A. Macchioni***
11:00 – 205. Homogeneous and heterogeneous pathways in water oxidation catalyzed by metal complexes. **T. LAU***
11:30 – 206. Chemistry and materials biology approaches to artificial photosynthesis. **C.J. Chang***

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 3

Frontiers of Organo-f-element Chemistry (#125)

Organized by: F. Edelmann, P. Diaconescu, Y. Chen, D. Emslie, P. Junk
Presiding: P.C. Junk

8:00 Introduction
8:05 – 207. (co)Polymerization of polar styrenes and styrene by rare-earth metal precursors. **D. Cui***
8:35 – 208. Amido and alkyl rare-earth complexes for catalysis of intermolecular olefin hydrophosphination and hydroamination. **A. Trifonov***
9:05 – 209. Rational development of metalorganic precursors of lanthanides and their application for thin film deposition of lanthanide oxides and lanthanide nitrides. **A. Devi***
9:25 – 210. C-H bond activation and functionalization of *N*-heteroaromatics catalyzed by group 3 metal complexes. **K. Mashima***, H. Nagae, Y. Shibata, H. Tsurugi
9:55 Coffee break
10:10 – 211. Rare-earth-catalyzed chain-end functionalization of syndiotactic polystyrene. **Z. Hou***
10:40 – 212. Homogeneous imidazolin-2-iminato actinide catalysts. **M. Tamm***, I.S. Karmel, M.S. Eisen, T. Bannenberg
11:00 – 213. Synthesis and reactivity of rigid pincer ligand uranium alkyl complexes. **D. Emslie***, N. Andreychuk
11:20 – 214. Cp2U(NAr)2 complexes: Unsual electronic structure and unique reactivity. **J.M. Boncella***, N.C. Tomson, A.M. Tondreau, M. Winston, B.L. Scott
11:40 – 215. Uranium oxide materials for solar hydrogen production. **S. Mathur**, J. Leduc

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Non-covalent Interactions in Coordination Systems (#161)

Organized by: T. Konno, K. Lu, A. Hor
Presiding: A.T. Hor

8:00 Break
8:20 – 216. Molecular recognition of Re-based metallacycles. **K. Lu***
8:40 – 217. Supramolecular networking of macrocycles via exocyclic coordination. **S. Lee***
9:00 – 218. Self-alignment of low-valent palladium chains. **T. Tanase***
9:20 – 219. Effect of non-covalent weak interaction for helicity induction and dynamic inversion of chiral Co(II) complexes. **H. Miyake***
9:35 – 220. Molecular balance for measuring weak metal-pi interactions. **K.D. Shimizu***
9:50 Break
10:00 – 221. Synthesis, structures, and guest binding ability of multimetallic giant capsules. **M. Abe***, Y. Hisaeda
10:15 – 222. Coordination chemistry of the indium(I) cation. **R.J. Wehmschulte***, K. Osman, D. Powell
10:30 – 223. Structural and chemical transformation of dihydrogen bond in an iron-based molecular electrocatalyst. **X. Wang***, R. Bullock, T. Liu
10:45 – 224. Synthesis and coordination chemistry of molecular and polymeric Wurster-type, redox-active receptors. **J. Sibert***
11:00 – 225. Weak metal-ligand interactions involving hemilabile ligands. **W. Kaim***
11:20 – 226. Phase transition and single-crystal-to-single-crystal transformation of d^{10}-metal coordination architectures. **B. TZENG***

Hilton Hawaiian Village
Kalia Tower, Kahili 1 & 2

Innovative Approaches in Bond-Cleavage and Bond-Forming Reactions at Late Transition-Metal Centres (#186)

Organized by: M. Hirano, D. Fogg, A. Veige
Presiding: M. Hirano

8:00 – 227. Silver bullet: Catalytic nucleophilic additions, reductions, hydrogenations, and oxidations in water. **C. Li***
8:20 – 228. Reductive elimination from high-valent transition metal complexes. **T. Ritter**
8:40 – 229. Adding ligand-and-main group element dimensions to the C-H bond activation. **T. Ong**
9:00 – 230. Pincer-crown ether complexes for cation-modulated bond activation and catalysis. **A. Miller***, M. Kita, J. Smith
9:20 – 231. Development of hexa-*peri*-hexabenzocoronene substituted "click" 1,2,3-triazole ligands for catalysis. **J.D. Crowley**, J.R. Wright, N.T. Lucas
9:40 – 232. Novel carbon–hydrogen bond activation strategy based on interaction between an alkynoxy group and a palladium catalyst. **Y. Minami***, T. Hiyama*
10:00 Break
10:10 – 233. Carbonylative esterification of primary alcohol with aryl chloride through Pd-promoted C-C bond cleavage. **C. Jun***, D. Kim, H. Park
10:30 – 234. Nickel(0)-catalyzed transformation reactions via aza-nickelacycle intermediates. **S. Ogoshi***
10:50 – 235. Efficient C-H activation of arenes by a photoactivated Ni^{II}(azide). **J. van der Vlugt***
11:10 – 236. Nickel-catalyzed C–F bond alkylation of acyl fluorides. **Y. Okuda**, J. Xu, Y. Nishihara*
11:30 – 237. Proton shuttling pyridylphosphine ligands produce highly active catalysts for methoxycarbonylation. **T.A. Shuttleworth**, T.P. Turner, P.G. Pringle*

Hilton Hawaiian Village
Kalia Tower, Hibiscus 2

Nuclear Probes in Nanoscale Characterization (#254)

Organized by: M. Takahashi, A. Hill, V. Sharma, J. Wang, M. Takahashi, M. Takahashi, K. Nomura, Y. Yamada
Presiding: A.J. Hill, Y. Yamada

8:00 – 238. Positron annihilation lifetime spectroscopy studies of nanomaterials. **A.J. Hill**, A. Thornton
8:40 – 239. PALS: Unravelling polymer nano additive composites interactions over time. **K. Konstas***, C. Lau, M.R. Hill, A.J. Hill
9:00 coffee break
9:15 – 240. Negative muon capture processes for low pressure gaseous molecules. **K. Ninomiya***
9:55 – 241. Supertransferred hyperfine field at a unique residential site of ^{111}Cd in Fe_3O_4. **W. Sato***, S. Komatsuda, Y. Ohkubo
10:25 coffee break
10:40 – 242. Optical switching and addressing of molecular switches in nanoscopic fibers. **F. Renz***, D. Unruh, M. Kumar, L. Heyer, T. Meyer, B. Dreyer, R. Sindelar, C. Krueger
11:20 – 243. Ligand field strength of Fe(NCS)($NCBH_3$) unit for the assembled complexes bridged by 1,2-bis(4-pyridyl)ethane. H. Dote, M. Kaneko, K. Inoue, **S. Nakashima***
11:40 – 244. Mössbauer spectroscopic study on Hofmann-like coordination polymer. **T. Kitazawa***, M. Sekiya, M. Takahashi

Hilton Hawaiian Village
Rainbow Tower, Rainbow 1

Metal-containing ?-Conjugated Systems: Syntheses, Properties, Applications (#269)

Organized by: M. Humphrey, V. Yam, M. Akita
Presiding: M. Akita, M. Humphrey

8:00 Opening remarks
8:05 – 245. Organometallic single-molecule electronics: Tuning electronic transport and switching of mono- and dinuclear rigid-rod type acetylenic complexes. **H. Berke**
8:25 – 246. Syntheses and nonlinear optical properties of metal alkynyl stars. **M. Humphrey***, T. Schwich, M. Cifuentes, M. Samoc
8:45 – 247. Luminescent platinum(II) alkynyl system as π-capping metalloligand and chemosensor. **K. Wong***
9:05 – 248. Metal acetylide complexes: New synthesis, wires, and sustainable chemistry. **T. Ren***, T. Cook, S. Natoli, S. Tyler
9:25 – 249. Creating new activity of pi-conjugated systems by Pt insertion. **J. Yang***, C. Lin
9:45 Coffee break
10:00 – 250. Charge delocalization vs. localization in carbon-rich iron mixed-valence complexes. **C. Lapinte**
10:20 – 251. Single molecule conductance of molecular wires with redox-active organometallic units. **Y. Tanaka**, M. Akita
10:40 – 252. Photochromic ruthenium alkynyl complexes as molecular switches. M.C. Walkey, L.T. Byrne, M.J. Piggott, P.J. Low, **G.A. Koutsantonis***
11:00 – 253. Control of vinylidene rearrangement and 1,2-insertion of internal alkynes. **Y. Ishii***, Y. Ikeda, Y. Mutoh, S. Kodama
11:20 – 254. Phosphorescent N-heterocyclic allenylidene metal complexes as building blocks for supramolecular polymeric nanomaterials and mesophases. **W. Lu***

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 2

Dioxygen Activation Chemistry of Metalloenzymes and Models (#339)

Organized by: A. Rosenzweig, S. Itoh, W. Nam
Presiding: A. Rosenzweig

8:00 – 255. Biological methane oxidation. **A. Rosenzweig**
8:30 – 256. Cu(III) in the oxidation of methane in pMMO?. C.T. Citek, E. Wasinger, **T.P. Stack**
9:00 – 257. Primary copper-dioxygen adducts: New platforms, substrate reactivity, and reduction. **K.D. Karlin***
9:30 – 258. Copper-oxygen intermediates in oxidation catalysis. **W.B. Tolman***
10:00 – 259. Geometric and electronic structure contributions to Cu/O_2 reactivity. **E.I. Solomon***
10:30 – 260. Modeling reactive intermediates of copper monooxygenases. **S. Itoh**
11:00 – 261. Construction of asymmetric mixed-valent dicopper(II,III) complexes as an active site model of multicopper oxidase. **H. Masuda**, T. Ochiai, T. Inomata, T. Ozawa
11:30 – 262. Halide-promoted dioxygenolysis of a carbon-carbon bond in copper(II) diketonate complexes. **L.M. Berreau***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 1

New Frontiers in Bioinorganic Chemistry (#356)

Organized by: M. Yamaguchi, S. Cohen, X. Ottenwaelder
Presiding: S. Ogura, M. Stillman

8:00 – 263. Metal-binding pharmacophores for metalloenzyme inhibitors. **S. Cohen**
8:30 – 264. Oximate metal complexes as models of hydrolitic metalloenzymes. **P. Gómez-Tagle***, J.C. Lugo-González, A.K. Yatsimirsky
8:50 – 265. New approach to the fluorescence imaging of platinum drug processing. **C. Shen***, L. Dawson, T. Hambley, E. New
9:05 – 266. Switching of photochemical ligand release on ruthenium complexes by external stimuli. **M. Yamaguchi***, T. Eguchi, A. Kobayashi, T. Masano, K. Sato
9:25 – 267. CO-eeleasing molecules (CORMs) with targeted pharmacological activity. C. Mueller, C.G. Hartinger, **L.J. Wright***
9:55 Break
10:05 – 268. Biogenic polyamines capture CO_2 and accelerate extracellular bacterial $CaCO_3$ formation. **K. Yasumoto***, M. Yasumoto-Hirose, J. Yasumoto, K. Mori-Yasumoto, M. Jimbo, T. Kusumi, S. Watabe
10:20 – 269. Model studies of acetyl CoA synthase catalyzing CO_2 fixation in organisms. **T. Matsumoto***, K. Tatsumi
10:40 – 270. Synthesis and properties of magnesium(II) complexes of sugar-conjugated fluorochlorin derivatives as new photosensitizers. **H. Akashi***, T. Sawada, K. Moriwaki, S. Yano
11:00 – 271. Metal induced folding in metallothioneins: New results and ideas from time-, temperature-, and modification-dependent ESI-MS studies. **M. Stillman***
11:30 – 272. Gene delivery system based on zinc-chelated imidazole groups for gene expression enhancement. **S. Asayama**

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 3

Isotope Production--Providing Important Materials for Research and Applications (#363)

Organized by: D. Phillips, K. Gagnon, Y. Hatsukawa
Presiding: K.D. John, D.R. Phillips

8:00 Opening Remarks--Dennis R. Phillips
8:05 – 273. Overview of the U.S. Department of Energy isotope program. **J.E. Gillo***
8:30 – 274. Preparation of radioisotopes for new medial use in Osaka University. **A. Shinohara***
8:55 – 275. Production of medical isotopes by photo-neutron reaction. **B. Szpunar**, C. Rangacharyulu, S. Daté, H. Ejiri
9:15 – 276. Production of ^{186}Re at the Brookhaven Linac Isotope Producer via proton induced reactions on natural tungsten and osmium targets. **M. Gott***, C. Cullen, L. Muench, J. Nalepa, C.S. Cutler, A.R. Ketring, D. Wilbur, S.S. Jurisson, S. Smith
9:35 Break

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9:45 – 277. Nuclear workforce development – update on status of US training. **S.S. Jurisson***
10:10 – 278. Efficient method for recycling enriched ^{186}W target material used in the production of ^{186}Re via deuteron irradiation. **E. Balkin***, K.M. Gagnon, E. Dorman, R. Emery, B.E. Smith, K.T. Strong, P. Pauzauskie, M. Fassbender, C.S. Cutler, A.R. Ketring, S.S. Jurisson, D.S. Wilbur
10:30 – 279. High power accelerator targets for large scale production of radionuclides. **F.M. Nortier**
10:55 – 280. Recent developments in production and purification of novel PET isotopes. **S.E. Lapi***
11:20 – 281. Improved production of ^{89}Zr in a solution target. **M.K. Pandey**, J. Byrne, A. Packard, T. DeGrado
11:40 – 282. Production of $^{44}Ti/^{44}Sc$ generator at the Los Alamos Isotope Production Facility. **V. Radchenko***, J.W. Engle, D. Medvedev, J.R. Maassen, C.M. Naranjo, J.J. Wilson, E. Birnbaum, K.D. John, F.M. Nortier, M. Fassbender

Hawaii Convention Center
Halls I, II, III

Dynamic Aspects of Solid Materials: From Equilibrium to Non-equilibrium Systems (#376)

Organized by: M. Kawano, B. Abrahams, M. Garcia-Garibay, L. Zheng
Presiding: M. Kawano

Poster Session
10:00 – 12:00

283. Direct observation of growing process of MOF nanoparticles in solution by in-situ TEM. **T. Kikitsu***, H. Ohtsu, M. Kawano, D. Hashizume
284. Variation of morphology of K^+TPHAP^- single crystal surface in moisture by SEM observation. **D. Inoue***, G. Lee, Y. Yakiyama, M. Kawano, D. Hashizume
285. Dynamics and optical properties of a selenophene-bridged molecular gyrotops in a crystalline state. **T. Masuda**, Y. Inagaki, K. Yamaguchi, W. Setaka*
286. Synthesis and birefringence of a molecular gyrotop with a 4,4'-biphenylene rotor. **A. Fujiwara**, Y. Inagaki, K. Yamaguchi, W. Setaka*
287. Direct observation of enthalpy relaxation at around glass transition temperature. **J. Fujimura**, E. Nishiyama, I. Tsukushi*
288. Evaluation of thermodynamic fragility from heat capacity. **E. Nishiyama**, J. Fujimura, M. Yokota, I. Tsukushi*

Wednesday Afternoon

Hilton Hawaiian Village
Rainbow Tower, Rainbow 2

Organo-Main Group Avenues toward Advanced Materials (#16)

Organized by: T. Baumgartner, S. Liu, S. Yamaguchi
Presiding: C. Romero-Nieto

13:00 Lunch Break
13:20 – 289. Creating conjugated materials via exciton-driven elimination reactions of BN-heterocycles. S.K. Mellerup, D. Yang, S. McDonald, S. Gong, Z. Lu, **S. Wang***
13:50 – 290. Fluorescent and photoisomerizable azobenzene by utilization of interactions between main group elements. **N. Kano***, M. Yamamura, T. Kawashima
14:10 – 291. Application of NHC pincer ligands in silicon chemistry. **M. Asay***
14:30 – 292. Synthesis, structure, and properties of organophosphorus polymers and materials derived from phosphaalkenes. **D.P. Gates***
15:00 Break
15:10 – 293. Hypervalent pentacoordinated nirogen radical cations: Synthesis, structure, and application to singlet diradicaloid. **Y. Yamamoto***, M. Takeshita, K. Sato, J. Nakatsuji, A. Kurosaki, M. NAKANO, R. Kishi, K. Furukawa, K. Kamada
15:40 – 294. Lewis acidic organoantimony(V) derivatives: New approaches to anion sensing and organic reaction catalysis. **F.P. Gabbai**
16:10 – 295. Isolation of anionic η^2-sila-aldehyde-tungsten complexes. T. Fukuda, **H. Hashimoto***, H. Tobita
16:30 – 296. Synthesis, structures, and reactivity of stannole- and plumbole-based transition-metal complexes. **M. Saito***

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 1

Fundamentals and Applications of Solvent Extraction in the Recovery of Strategic Metals (#17)

Organized by: A. Chagnes, J. Lee, N. Welham, B. HAY
Presiding: B.A. Moyer

13:00 Opening remarks
13:05 – 297. Physico-chemical study of uranium peroxide precipitation. **M. Bertrand***, E. Plasari, h. Muhr, F. Auger
13:25 – 298. Uranium(VI) chemistry in phosphoric acid media. A. Dartiguelongue*, **G. Cote***, A. Chagnes, E. Provost, W. Furst
13:45 – 299. ALSEP process kinetics testing and speciation studies. **A. Gelis***, M. Brown, G.J. Lumetta
14:05 – 300. Demonstration of innovative partitioning processes for minor actinide recycling from high active waste solutions. **G. Modolo***
14:25 Break
14:35 – 301. Overview of advanced minor actinides recycling processes developed in the United States. **P. paviet***
14:55 – 302. Advancing TALSPEAK chemistry. **K.L. Nash***
15:15 – 303. Chemistry of a combined extraction system for separation of trivalent actinides and lanthanides. **A. Paulenova***, B.J. Gullekson, A. Gelis
15:35 Closing remarks

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Lewis Acid/Base Pair Chemistry in Molecular Transformations, Catalysis and Energy Storage (#65)

Organized by: T. Autrey, D. Stephan, z. Wang
Presiding: K. Chernichenko

13:00 – 304. Overcoming inherent limits in frustrated Lewis pair catalysis: Moisture tolerant hydrogenations. **T. Soos***
13:30 – 305. Transition metal Lewis acid/base ensembles to promote cooperative substrate binding and activation. **N. Szymczak***, G. Ritch, E. Dahl, O. Tutusaus
14:00 – 306. Frustrated Lewis pair catalysed dehydrogenation and dehydrocoupling of Lewis acid/base adducts. **O. Metters**, D. Wass*, I. Manners*
14:25 – 307. FLP chemistry involving in the reversible dehydrogenation/hydrogenation of nitrogen heterocycle catalyzed by a C_5*Ir complex. **Z. Wang**
14:50 Break
14:55 – 308. Using free energies for H^+ and H^- transfers to design catalysts for the reduction of CO_2. **A.M. Appel**, J. Linehan, E. Wiedner, B. Galan, M. Jeletic, C. Zall, S. Connelly
15:20 – 309. Ferrocene-based planar chiral Lewis pair systems. **A. Tagne Kuate**, J. Chen, R.A. Lalancette, F. Jaekle*
15:45 – 310. Modification of borole compounds: An interplay between sterics and electronics. H. Braunschweig, **H. Kelch***, L. Mailänder
16:10 – 311. Computational study of the donor-acceptor stabilization of low-oxidation state main group element hydrides. **A. Brown**, E. Rivard, E. Antoniuk
16:35 – 312. Methanol dehydrogenation catalyzed by defined ruthenium pincer complex: Insights from a DFT study. **M. Lei***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 4

Molecular Catalysis of Water Splitting Reactions (#76)

Organized by: K. Sakai, L. Sun, G. Brudvig, L. Spiccia
Presiding: L. Spiccia

13:00 – 313. Parallelization of water splitting photocatalysis. **R.S. Khnayzer***
13:20 – 314. Aminopyridine ligands as platforms for well-defined light-driven cobalt reduction and iron water oxidation catalysts. **D. Lloret Fillol***
13:40 – 315. Water oxidation catalysts derived from metal complexes. **L. Spiccia***
14:10 – 316. Noble-metal-free catalysts for hydrogen production and water oxidation: From molecular systems to nanomaterials. **P. Du**, Z. Sun, H. Chen, X. Liu
14:40 Coffee Break
15:00 – 317. Photocatalytic oxygen evolution by supramolecular assembly and semiconductor/molecular catalyst hybrid. **F. Li***, H. Li, Y. Wang, L. Sun
15:20 – 318. Photo- and electrochemical water oxidation with ruthenium polypyridyl complexes. **E. Fujita***, J.J. Concepcion, J.T. Muckerman, D.E. Polyansky, R. Thummel
15:50 – 319. Toward solar to fuel devices based on molecular components. **J.N. Reek**
16:10 – 320. On how nickel electrodes mediate water oxidation. **C.P. Berlinguette***, R.D. Smith
16:40 – 321. Photoinduced electron transfer reaction at the solid-liquid interface: The importance of surface of nanoparticle-based photosensitizers. **A. Kobayashi***, K. Sawaguchi, E. Saitoh, M. Yoshida, M. Kato

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 3

Frontiers of Organo-f-element Chemistry (#125)

Organized by: F. Edelmann, P. Diaconescu, Y. Chen, D. Emslie, P. Junk
Presiding: Y. Chen

13:00 – 322. Aspects of organocerium(IV) chemistry. **R. Anwander***, D. Schneider, J. Friedrich, C. Maichle-Mössmer, K.W. Törnroos
13:30 – 323. Recent advances in small molecule activation by organouranium complexes. **G. Cloke***
14:00 – 324. Bimetallic actinide complexes of constraining macrocycles for small molecule activation. **P.L. Arnold***, C. Stevens, R. White, M. Dutkiewicz, J. Farnaby, R. Caciuffo, C. Apostolidis, O. Walter, J. Love, M.G. Gardiner
14:30 – 325. Synthesis and reactivity of actinide-chalcogen multiple bonds. D.E. Smiles, **T. Hayton**
15:00 Coffee break
15:10 – 326. Reactivity, molecular, and electronic structure of uranium coordination complexes in unusual geometries and oxidation states. **K. Meyer***
15:40 – 327. Ligand vs. metal centred redox reactivity of low valent f elements. **M. Mazzanti**
16:10 – 328. Development of new ligand systems in actinide chemistry. **J. Arnold***
16:30 – 329. Recent advances in triamidoamine uranium-ligand multiple bonding. **S.T. Liddle**, D. King, B. Gardner, P. Cleaves, A. Wooles, G. Balazs, M. Scheer, F. Tuna, E. McInnes, J. McMaster, W. Lewis, A. Blake

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Non-covalent Interactions in Coordination Systems (#161)

Organized by: T. Konno, K. Lu, A. Hor
Presiding: K. Lu

13:00 – 330. Isoreticular metal-organic frameworks based on a rhombic dodecahedral metal-organic polyhedron as a tertiary building unit. **M. Lah***
13:20 – 331. Cytclotricatechylene supramolecular assemblies. **B.F. Abrahams***, B. Boughton, J. Holmes, R. Robson
13:40 – 332. Spin state behaviour of iron(II)/dipyrazolylpyridine complexes: New insights from crystallographic and solution measurements. L.J. Kershaw Cook, T.D. Roberts, G. Sherborne, S. Alvarez, **M.A. Halcrow***
14:00 – 333. Coordination polymers that convert to the discrete cage complexes for anions. **M. Kondo**, T. Inoue, S. Koike
14:15 – 334. Composite supramolecular frameworks: spin crossover in metal complexes encapsulated in halogen bonded networks. **J. McMurtrie***, M. Pfrunder
14:30 – 335. Fluoride anion encapsulation into vanadium–oxygen cluster anion cages. **Y. Kikukawa**, Y. Hayashi*
14:45 – 336. Platinum to metal dative bond with third-row transition-metal d^{10} ion as an acceptor. **T. Yamaguchi***, H. Taniguchi
15:00 Break
15:10 – 337. Coordination chemistry of macrocycles assembled by supramolecular Te···O interactions. P. Ho, S. Jocelyn, L.M. Lee, **I. Vargas-Baca***
15:25 – 338. Nonbonded interactions in bis(dinaphthylboryldimethylglyoximato)iron(II) complexes. **D.V. Stynes***, T. Doan
15:40 – 339. Synthesis of a helical trinickel(II) metallo-cryptand and regulation of its helix inversion rate by guest recognition. **S. Akine**, M. Miyashita, T. Nabeshima
15:55 – 340. Supramolecular MOFs organized by flexible and robust π-π stacking interactions: Metal complexes with unusual structures and properties. **D. Reger***
16:10 – 341. Site-selective adsorption and dynamic behaviors of guest molecules in the nanochannel of metal-macrocycle framework. **M. Shionoya***
16:30 – 342. Creating new structural motifs by manipulation of hybrid ligand spacers. **A.T. Hor***
16:50 Concluding Remarks

Hilton Hawaiian Village
Kalia Tower, Kahili 1 & 2

Innovative Approaches in Bond-Cleavage and Bond-Forming Reactions at Late Transition-Metal Centres (#186)

Organized by: M. Hirano, D. Fogg, A. Veige
Presiding: D. Fogg

13:00 – 343. C-H borylation: The roles of experiment and theory in catalysis. **M. Smith**
13:20 – 344. Unique bond cleavage and bond formation on the metal-boryl unit of PBP-type pincer iridium and rhodium complexes. **W. Shih***, W. Gu, M.C. MacInnis, O.V. Ozerov*
13:40 – 345. Choices of PC- and PCP-palladium catalysts for asymmetric P-H addition reactions. **P. Leung**
14:00 – 346. Retrohydroformylation reaction. **S. Kusumoto**, K. Nozaki*, T. Tatsuki

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14:20 – 347. Remarkable ligand effect of P(2-MeOC$_6$H$_4$)$_3$ on palladium-catalyzed direct arylation. **M. Wakioka**, Y. Nakamura, M. Michelle, F. Ozawa*
14:40 Break
14:50 – 348. Mechanistic insights into E-H activation reactions using palladium carbene complexes. **V.M. Iluc***
15:10 – 349. Chemoselective catalytic aerobic alcohol oxidation. **W.C. Ho***, A.J. Ingram, K. Chung, R. Waymouth
15:30 – 350. Reactions at high-oxidation state late transition metal centres generated from dicationic I(III) oxidants. **J.L. Dutton**
15:50 – 351. Model systems for unraveling fundamental redox processes of coinage metals in cross coupling catalysis. **X. Ribas***
16:10 – 352. Selective Negishi coupling of secondary alkylzinc reagents to aromatics: Solving the 5-membered ring heterocycle problem. M. Pompeo, B. Atwater, N. Chandrasoma, D. Mitchell, M. Rodriguez, F. Robert, **M.G. Organ***
16:30 – 353. Selectivity in Suzuki-Miyaura cross-coupling reactions. **C. Crudden***

Hilton Hawaiian Village
Kalia Tower, Hibiscus 2

Nuclear Probes in Nanoscale Characterization (#254)

Organized by: M. Takahashi, A. Hill, V. Sharma, J. Wang, M. Takahashi, M. Takahashi, K. Nomura, Y. Yamada
Presiding: V. Sharma, J. Wang

13:00 – 354. Magnetic nanoparticles for targeted drug delivery. **V.K. Garg***, H.S. Loushambam, S.S. Pati, A.C. de Oliveira
13:40 – 355. Mössbauer studies of ferrite nanoparticles for reactive adsorption desulfurization. **C. Liang***
14:00 – 356. Appropriate ratio of metallic-iron and maghemite nanoparticles for environment purification. **Y. Watanabe**, S. Kubuki, K. Akiyama, M. Ristić, K. Stjepko, K. Erno, H. Zoltán, T. Nishida
14:20 Coffee break
14:30 – 357. Mechanism of iron nanoparticle formation in eukaryotic cells modeling Friedrich's Ataxia. **P.A. Lindahl***, J.D. Wofford
15:10 – 358. Thermal reaction of iron carbide particles produced by sonochemical synthesis. **Y. Yamada***, R. Miyatani, Y. Kobayashi
15:30 – 359. Relationship between structural and visible light activated photocatalytic ability of iron containing alumino-silicate glass. **Y. Iida**, S. Kubuki, K. Akiyama, H. Zoltán, K. Erno, K. Balazs, S. Katalin, T. Nishida
15:50 coffee break
16:00 – 360. Mössbauer study of the Fe^{II}/Fe^{III} intermediates in PB/TiO_2 photo-Fenton system. X. Li, **J. Wang**, A. Rykov, V. Sharma, H. Wei, C. Jin, X. Liu, C. Sun, D. Dionysiou
16:20 – 361. Emission Mössbauer study on radioactive ^{57}Mn doped tin oxide films. **K. Nomura***, H. Gunnlaugsson, T.E. Mølholt, S. Shayestehaminzadeh, K. Johnston, R. Mantovan, H. Masenda, M. Ncube, K. Bharuth-Ram, H.P. Gíslason, G. Langouche, D. Naidoo, S. Ólafsson, G. Weyer
16:40 – 362. Computational study on Mössbauer parameters for ^{151}Eu and ^{237}Np by means of scalar relativistic density functional theory. **M. Kaneko**, S. Miyashita, S. Nakashima

Hilton Hawaiian Village
Rainbow Tower, Rainbow 1

Metal-containing ?-Conjugated Systems: Syntheses, Properties, Applications (#269)

Organized by: M. Humphrey, V. Yam, M. Akita
Presiding: G.A. Koutsantonis, W. Sun, V. Yam

13:00 – 363. Effects of the extended π-conjugation of diimine and cyclometalating ligands on the photophysics and reverse saturable absorption of heteroleptic cationic Ir(III) complexes. **W. Sun***
13:20 – 364. Study of charge transfer properties in metal containing block copolymer-carbon nanotube hybrid materials. H. Shi, L. Du, D.L. Phillips, **W. Chan***
13:40 – 365. Systematic studies to elucidate the role of metal ions in conducting metallopolymers. M.T. Nguyen, **B.J. Holliday***
14:00 – 366. Platinum containing π-conjugated oligomers and polymers: Triplet excited states and applications. **K. Schanze**
14:20 – 367. Conjugated materials incorporating metal thiophenedithiolenes: Synthetic approaches to tuning electronic and optical properties. K. . Konkol, E.J. Uzelac, C. Amb, **S. Rasmussen**
14:40 – 368. Novel rhodacyclopentadienes – a new class of luminescent organometallics. **T. Marder***
15:00 Coffee break
15:15 – 369. Femtosecond Z-scan studies of nonlinear absorption and refraction of metal-containing molecules and nanostructures. **M. Samoc**
15:35 – 370. Functional metallopolymers as precursors to magnetic metal alloy nanoparticles: Synthesis, lithographic patterning, and applications. **W. Wong***
15:55 – 371. Spectroscopic properties of a cholesteric liquid crystal glass platinum acetylide. **T.M. Cooper***, D. Krein, J. Haley, D. Stewart, S. Long, R. Ziolo, A. Glushchenko
16:15 – 372. Multinuclear sandwich complexes containing extended π-conjugated unsaturated hydrocarbon ligands. **T. Murahashi***
16:35 – 373. Metal-polycyclic-aromatic-hydrocarbon emitters. **J. Yip***
16:55 Closing remarks

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 2

Dioxygen Activation Chemistry of Metalloenzymes and Models (#339)

Organized by: A. Rosenzweig, S. Itoh, W. Nam
Presiding: S. Itoh

13:00 – 374. Proton-coupled electron transfer in catalysis by dioxygenases. **J. Roth***
13:30 – 375. New methods to activate dioxygen and generate and control the reactivity of high-valent metal-oxo porphyrinoid species. **D. Goldberg***, H. Neu, G. Baglia, J. Zaragoza, E. Joslin
14:00 – 376. Active intermediates generated in dioxygen activation and their reactivity relationships. **G. Yin***
14:30 – 377. Tuning Mn-peroxo O-O bond lengths, and the relative stability of dioxygen intermediates, via systematic ligand modification. **J. Kovacs***, M. Coggins, J. Rees, A. Johansen, M. Dedushko
15:00 – 378. Metal-oxo and metal-hydroxo species in biology. **A.S. Borovik**
15:30 – 379. Relationship of structure and reactivity of Ni-O_2 adducts. **J. Cho***
16:00 – 380. Intermollecular C-H activation by superoxide and chalcogenide nickel complexes. **C.G. Riordan***
16:30 – 381. Synthesis, characterization, and reactivity of high-valent transition metal-oxo complexes. **K. Ray**, C. Limberg, M. Driess

Hilton Hawaiian Village
Mid-Pacific Center, Coral 1

New Frontiers in Bioinorganic Chemistry (#356)

Organized by: M. Yamaguchi, S. Cohen, X. Ottenwaelder
Presiding: Y. Mikata, L.J. Wright

13:00 – 382. Inorganic radiopharmaceutical chemistry. **C. Orvig***
13:30 – 383. Photoinduced hydrogen evolution using [NiFe] hydrogenase with phospholipid liposomes system. **H. Ito**, T. Iwasaki, I. Okura, T. Kamachi*
13:50 – 384. Efficient co-delivery of a Pt(IV) prodrug and a p53 activator to enhance the anticancer activity of cisplatin. **G. Zhu**
14:10 – 385. Molecular strategies targeting the iron metabolism of cancer cells. **E. Tomat***, E.A. Akam
14:30 – 386. Effect of iron ion on the specificity of photodynamic therapy using 5-aminolevulinic acid. **S. Ogura**, M. Hayashi, H. Fukuhara, K. Inoue, T. Shuin, Y. Hagiya, M. Nakajima, T. Tanaka
14:50 Break
15:00 – 387. New metal-drug conjugates for treatment of parasitic diseases. **P. Chellan***, J. Davies, S.A. Ward, K.M. Land, P.J. Sadler
15:15 – 388. Bismuth(III) phosphinate complexes as antibacterial agents. **M. Werrett***, P. Andrews, R. Brammanantha, P. Crellin
15:35 – 389. Quinoline-based ligand design for fluorescent sensing of metal ions. **Y. Mikata***
15:55 – 390. Novel bio-luminogenic probes for continuous imaging of various biological phenomena in deep tissues of living animals. **Y. Urano***
16:25 – 391. Inorganic bridges between chemotherapy with bioimaging. **Z. Guo***
16:55 closing remarks

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 3

Isotope Production--Providing Important Materials for Research and Applications (#363)

Organized by: D. Phillips, K. Gagnon, Y. Hatsukawa
Presiding: K.M. Gagnon, S.E. Lapi

13:00 – 392. Production of alpha-emitting radioisotopes using the cyclotron facilities at Osaka University and JAEA Takasaki and the Tandem accelerator at Tokai, JAEA. **K. Washiyama***, R. Amano, E. Maeda, A. Yokoyama, I. Nishinaka, K. Hashimoto, S. Watanabe, N.S. Ishioka, N. Takahashi, A. Shinohara
13:25 – 393. Overview of the U.S. Department of Energy's effort to develop accelerator production of Ac-225. **K.D. John***, E. Birnbaum, R. Copping, D. Denton, J.W. Engle, M. Fassbender, M. Ferren, J. Fitzsimmons, D. Medvedev, S. Mirzadeh, J. Griswold, J. Krueger, K. Murphey, L. Mausner, V. Radchenko, W. Runde, D. Stracener, P. Pile, F.M. Nortier, D.R. Phillips
13:50 – 394. Isotopes for science and medicine: The pursuit, study, and application of theranostic isotopes at TRIUMF. **P. Schaffer**, J.R. Crawford, P. Kunz, H. Yang, R. Laxdal, L. Merminga, D. Wilbur, T. Ruth
14:15 – 395. Development of radiochemical separation of Ac isotopes from proton irradiated thorium target. **J. Fitzsimmons***, M. Fassbender, V. Radchenko, R. Copping, D. Denton, J.W. Engle, D. Medvedev, K. Murphey, J. Griswold, F.M. Nortier, E. Birnbaum, L. Mausner, S. Mirzadeh, K.D. John
14:35 – 396. Spectroscopic efforts to understand actinium behavior in solution. **M.G. Ferrier***, J.J. Wilson, V. Radchenko, S.A. Kozimor, J.W. Engle, K.D. John, E. Birnbaum
14:55 Break
15:10 – 397. Isolation of At-211 using a solid phase anion exchange method. **S. Watanabe***, S. Watanabe, I. Sasaki, D. Wilbur, N.S. Ishioka, Y. Ohshima, D. Hamlin, C. Ming-Kuan, E. Balkin
15:30 – 398. Development of a novel lanthanide and actinide separation method utilizing solid electrolytes. **K.G. Myhre***, M. Du
15:50 – 399. Harvesting of long-lived radioisotopes from an aqueous target at the National Superconducting Cyclotron Laboratory. **G.F. Peaslee***, A. Pen, B. Marois, N. Hubley, T. Mastren, S. Loveless, E. Bollinger, S.E. Lapi, D.J. Morrissey
16:15 – 400. Production of ^{119}Te from proton-irradiated ^{nat}Sb for generators of ^{119}Sb. **J.W. Engle***, V. Radchenko, J.J. Wilson, M.A. Mosby, P. Ellison, T.E. Barnhart, R.K. Nickles, M. Fassbender, S.A. Kozimor, K.D. John, E. Birnbaum, F.M. Nortier
16:35 – 401. Development of a pilot scale facility for production of enriched stable isotopes. **K.J. Hart**, B. Egle, B. Stevenson, W. Strunk, G. Giles

Wednesday Evening

Hawaii Convention Center
Halls I, II, III

Lewis Acid/Base Pair Chemistry in Molecular Transformations, Catalysis and Energy Storage (#65)

Organized by: T. Autrey, D. Stephan, z. Wang
Presiding: T. Autrey, D. Stephan, Z. Wang

Poster Session
19:00 – 21:00

402. Geminal Al/P-based frustrated Lewis-pair in molecular activation. **P. Wegener***, W. Uhl
403. FLP's as dehydrogenation catalysts: Research in an undergraduate inorganic laboratory course. **G.M. Edvenson***, C.B. Anderson, K. Gurung, B.A. Isaacson, S. Janakan, K.M. Jensen, C.W. O'Keefe, A. Rahimi, J.A. Rumreich
404. Solid phase frustrated Lewis pairs for small molecule activation. **J. Xing***, J. Buffet, D. O'Hare
405. Revival of frustrated Lewis pairs from shelf-stable complexes comprised of borane and *N*-phosphine oxide substituted imidazolylidene. **T. Kinoshita**, Y. Hoshimoto*, M. Ohashi, S. Ogoshi*
406. Effect of preparation method on 1,2-dichloropropane combustion with Fe_2O_3/WO_x-ZrO_2. **Y. Shinada***, N. Ikenaga
407. Reactivity of a Ga/P-based frustrated Lewis pair. **J. Possart***, W. Uhl
408. Planar N-heterocyclic carbene-borenium ion based Lewis acid catalysis. **L. Cao**
409. Main group Lewis-acid catalyzed hydrothiolation of alkenes. **E. Mosaferi***, M. Perez, D. Stephan
410. Controlling the Lewis acidity of boranes: Balancing front- and back-strain. **É. Dorkó***, H. Mehdi, T. Soós
411. Reduction of ketones and aldehydes with moisture tolerant FLP catalyst. **M. Bakos***, Á. Gyömöre, I. Pápai, T. Soós
412. Metal-free frustrated Lewis pair hydrogenation catalysis. **E.N. Daley**, D. Stephan
413. Oxidation reactions and C-O bond cleavage catalyzed by organorhenium oxides. **B. Zhang**, C. Li, F. Kuhn, T. Zhang

*** Principle Author**

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Hilton Hawaiian Village
Kalia Tower, Hibiscus 2

Nuclear Probes in Nanoscale Characterization (#254)

Organized by: M. Takahashi, A. Hill, V. Sharma, J. Wang, M. Takahashi, M. Takahashi, K. Nomura, Y. Yamada
Presiding: K. Nomura, M. Takahashi

19:00 – 414. In-beam Mössbauer spectra of ^{57}Mn implanted in mixed matrices of CH_4 and Ar. S. Tanigawa, **Y. Kobayashi**, Y. Yamada, M.K. Kubo, M. Mihara, W. Sato, J. Miyazaki, Y. Sato, D. Natori, S. Sato, A. Kitagawa
19:05 – 415. Time-resolved In-beam Mössbauer spectra obtained after ^{57}Mn implantation in LiH and LiD. **Y. Sato**, Y. Kobayashi, Y. Yamada, M.K. Kubo, M. Mihara, T. Nagatomo, J. Miyazaki, W. Sato, S. Tanigawa, D. Natori, S. Sato, A. Kitagawa
19:10 – 416. Emission Mössbauer study on radioactive ^{57}Mn doped In_2O_3 films . **K. Nomura***, A. Mokhles Gerami, H.P. Gunnlaugsson, T.E. Mølholt, K. Johnston, R. Mantovan, H. Masenda, Y. Matveyev, V.N. Adoons, M. Ncube, S. Shayestehaminzadeh, I.U. Solozabal, K. Bharuth-Ram, H.P. Gíslason, P.B. Krastev, G. Langouche, D. Naidoo, S. Ólafsson, G. Weyer, A. Zenkevich
19:15 – 417. Structure investigation of Fe substituted Ni-Si intermetallics as hydrodesulfurization catalysts. **C. Liang**
19:20 – 418. Mössbauer study of iron (III) sulfide particles produced by a polyol method. **I. Kubono***, Y. Yamada, Y. Kobayashi
19:25 – 419. Mössbauer study of iron carbide nanoparticles produced by laser ablation in organic solvents. **S. Amagasa***, Y. Yamada, Y. Kobayashi
19:30 – 420. Formation of rock-salt structured iron nitride thin films using pulsed laser deposition. **M. Sato**, Y. Yamada, Y. Kobayashi
19:35 – 421. Formation process of oxygen vacancy in ZnO studied by perturbed angular correlation method. **S. Komatsuda***, W. Sato, Y. Ohkubo
19:40 – 422. Development of dilute magnetic materials - magnetic property and Mossbauer spectra of SrSnO3 doped with Fe and Sb. **S. Suzuki***, Y. Koike, K. Nomura, A. Okazawa, N. Kojima
19:45 – 423. New type of cationic ordering in Prussian Blues. A. Rykov, X. Li, K. Nomura, **J. Wang**
19:50 – 424. Mössbauer spectra of organoatnimony(V) complexes having Sb–Au bond. **M. Takahashi***, S. Ohno, S. Matsukawa
19:55 Discussion

Hawaii Convention Center
Halls I, II, III

Dioxygen Activation Chemistry of Metalloenzymes and Models (#339)

Organized by: A. Rosenzweig, S. Itoh, W. Nam

Poster Session
19:00 – 21:00

425. Copper active-oxygen complexes generated by using N_3-tridentate ligands bearing cyclic-diamine moiety with 2-(2-pyridyl)alkyl sidearm. **T. Abe**, Y. Morimoto, H. Sugimoto, N. Fujieda, S. Itoh
426. Biomimetic model studies on dicopper peroxo species using a pre-organized ligand. **Y. Funahashi**, K. NAGATA, T. Hatanaka
427. Aerobic alkane oxidation catalysis of iron and cobalt complexes with scorpionate ligands. **Y. Hayashi**, J. Nakazawa, S. Hikichi*
428. Construction of non-heme iron oxygenases-mimicking active sites on mesoporous silica supports. **S. Hikichi**, J. Nakazawa
429. Electrochemical properties of iron bispidine catalysts. S. Auras, P. Comba*, **M. Kerscher**, A. Waleska
430. Structure variations of transition metal complexes with N,N'-(ethylene-di-p-phenylene)bis(pyridine-2-carboxamide) ligand and their catecholase activities. **O. Kim**, h. Lee*, S. Sarkar
431. Iron-catalyzed aerobic oxidation of primary aliphatic alcohols to carboxylic acids. **K.I. Lagerblom***, T. Repo
432. Electrochemical and spectroscopic studies of Cu-nitrosoarene complexes. **Y. LE MEST**, M.S. Askari, L. Wojcik, N. Le Poul, X. Ottenwaelder
433. New dinuclear models of galactose oxidase: Electrochemical and spectroscopic studies. F. Gennarini, I. Lopez, C. Belle, H. Jamet, R. David, M. Réglier, **Y. LE MEST***, N. Le Poul
434. Quinone formation on the Tyr98 residue of the caddie protein correlative to the catalytic mechanism of tyrosinase. **Y. Matoba***, S. Kihara, N. Bando, M. Sakaguchi, K. Kayama, T. Kumagai, T. OGURA, M. Sugiyama
435. Hydroxylation of aromatic compounds with hydrogen peroxide catalyzed by Ni-complexes supported by pyridylalkylamine ligands. **Y. Morimoto***, S. Bunno, Y. takagi, S. Itoh
436. Ligand influence on superoxide dismutation by model Ni-complexes. **A. Mukherjee**, N. Singh, V. Snider
437. Synthesis and spectroscopic characterization of a cryptate complex of tricopper-peroxo as a biomimetic model of multicopper oxidase. **K. NAGATA***, T. Hatanaka, T. Inomata, T. Ozawa, H. Masuda, Y. Funahashi
438. Characterization of mononuclear non-heme iron(III) superoxo and hydroperoxo complexes with N5 donor set. **J. Nakazawa***, F. Oddon, S. Hikichi*
439. Characterization of mononuclear non-heme cobalt(III) dioxygen complexes with N5 donor sets. **T. Nishiura***, J. Nakazawa, S. Hikichi
440. Reactivity of nickel–acylperoxo complexes. **F. Oddon***, J. Nakazawa, S. Hikichi
441. Development of homogeneous and heterogeneous nickel complex catalysts based on triazolyl-BOX ligands and their catalytic activities toward alkane oxidation with *m*CPBA. **K. Sakamaki**, J. Nakazawa, S. Hikichi*
442. Mutations at the potential electron donors located in the outer coordination sphere of the trinuclear copper center in CueO. **T. Sakurai***, K. Kataoka, M. Yamamoto
443. Dioxygen activation in human indoleamine 2,3-dioxygenase isoform-1 (*h*IDO1): Uncovering the mechanism of catalytic O-O bond cleavage that avoids enzyme deactivation. I.M. Chrisman, L.S. Dameron, **V.V. Smirnov***
444. Development of multi-functionalized poly(oxazolinyl)borate ligands and characterization of their nickel(II) complexes. **K. Takamura***, S. Hikichi, J. Nakazawa
445. Photochemical reactivity of cyclometalating iridium(III) complexes with flavonols. **A. Takura**, K. Ohno, A. Nagasawa, T. Fujihara
446. Alkane oxygenation catalysis of nickel complexes with oxazoline-based bidentate and tridentate ligands. **I. Takashi***, J. Nakazawa, S. Hikichi
447. Four-electron reduction of dioxygen catalyzed by dinuclear cobalt complex. **M. Wada**, Y. Miyazato, T. Wada

Hawaii Convention Center
Halls I, II, III

Isotope Production--Providing Important Materials for Research and Applications (#363)

Organized by: D. Phillips, K. Gagnon, Y. Hatsukawa

Poster Session
19:00 – 21:00

448. Production of radiochemically pure Ho-163 sources for the ECHo experiment. **C.E. Duellmann***, K. Chrysalidis, T. Day Goodacre, H. Dorrer, K. Eberhardt, C. Enss, L. Gastaldo, R. Haas, C. Hassel, K. Johnston, T. Kieck, U. Köster, B. Marsh, C. Mokry, S. Rothe, J. Runke, F. Schneider, T. Stora, A. Türler, K. Wendt, f. the ECHo collaboration
449. Improvement in production yield of $^{85}Sr@C_{60}$ using nuclear recoil. **Y. Miyashita**, K. Akiyama, Y. Hatsukawa, S. Kubuki
450. Molecular laser isotope separation without tunable lasers: Isotope-selective ionization of N_2 isotopologues using femtosecond laser-induced molecular alignment. **H. Akagi***, T. Kasajima, T. Kumada, R. Itakura, A. Yokoyama, H. Hasegawa, Y. Ohshima
451. Measurement of alpha-induced reaction cross sections of Cr isotopes on natural Ti. **H. Kikunaga***, M. Murakami, Y. Komori, H. Haba
452. High-activity fission fragment sources: Challenges of producing sources for CARIBU. **J. Burns**, S.M. Van Cleve, N.J. Sims, E.H. Smith, D. Stracener, R. Boll
453. Isotope fractionation in AgI super – ionic conductor by centrifugation. **M. Ono***, S. Okayasu, Y. Iguchi, F. Esaka, E. Ishitsuka, T. Osawa, Y. Ogata, T. Mashimo
454. Kinetic study of hydrogen isotope effect on hydrogen electrode reactions. **S. Shibuya**, H. Matsushima, M. Ueda
455. Metallofullerene encapsulating artificial radio element of Pm. **S. Miyauchi**, K. Akiyama, H. Kikunaga, S. Kubuki

Thursday Morning

Hawaii Convention Center
Halls I, II, III

Organo-Main Group Avenues toward Advanced Materials (#16)

Organized by: T. Baumgartner, S. Liu, S. Yamaguchi

Poster Session
10:00 – 12:00

456. BN-acenes: Synthesis, reactivity, and optoelectronic properties. **J.S. Ishibashi**, S. Liu
457. Electrophilic borylation for the synthesis of B,N containing poly aromatic hydrocarbons. **A. Escande**, M.J. Ingleson*
458. Toward highly conjugated materials: The quest for polyazaborinines. **S.K. Mellerup**, S. Wang
459. Synthesis of boron- and nitrogen-containing conjugated systems by reaction of bis(silyl)pyrazines with haloboranes. **M. Noguchi**, T. Yurino, H. Tsurugi, K. Mashima, K. Suzuki, M. Yamashita*
460. Basicity of non-solvated boryl anion: Deprotonation of benzene. **T. Osato**, Y. Okuno, S. Ishida, T. Iwamoto, M. Yamashita*, K. Nozaki*
461. Synthesis and reactivity of neutral diborenes – the alkene analogs. **S. Ullrich**, H. Braunschweig*
462. Synthesis, structure, and reactivity of the first isolable diarylborinium ion. **N. Tanaka**, Y. Shoji, T. Fukushima*
463. Reactivity of (*tert*-butylimino)mesitylborane. **M. Schäfer***, H. Braunschweig
464. Diboron chelate complex with oxalyl pyrrolide as a new electron-accepting unit. **H. Shimogawa**, A. Wakamiya*, Y. Murata*
465. Fluorescent main-chain and side-chain polymers derived from boron difluoride formazanate complexes. **S.M. Barbon**, S. Novoa, R.R. Maar, J.A. Paquette, J.B. Gilroy*
466. Synthesis and properties of triarylborane Lewis acids with phosphine oxide groups. **M. Park***, J. Kwak, N.V. Nghia, M. Lee*
467. Highly efficient organic light emitting diodes using donor-acceptor type triarylboron compounds showing thermally activated delayed fluorescence. **K. Suzuki**, S. Kubo, K. Shizu, A. Wakamiya, T. Fukushima, Y. Murata, C. Adachi, H. Kaji*
468. Synthesis and properties of alumina- and galla-benzenes. **T. Nakamura**, K. Suzuki*, M. Yamashita*
469. Indium complexes with pendatate dinucleating ligands for poly(lactic acid) polymerization. **A. Kremer**
470. Cationic chiral indium complexes and their reactivity in polymerization of functionalized monomers. **C. Chang***, P. Mehrkhodavandi
471. Small molecule activation under mild conditions by main group metal clusters. **P. Vasko**, H.M. Tuononen, P.P. Power*
472. Band edge control of crystalline silicon by chemical functionalization of the surface. **N.T. Plymale**, A.A. Ramachandran, A.N. Lim, B.S. Brunschwig, N.S. Lewis*
473. Synthesis, properties, and reactions of quinone-fused siloles. **K. Sakamoto***, T. Kawasaki, C. Kawabe, T. Watanabe
474. Bright solid-state emission in disilane-bridged arenes including donor and acceptor moieties. **M. Shimada**, R. Sakamoto, Y. Yamanoi*, H. Nishihara*
475. Theoretical calculation and synthetic study on Si-bridged π-conjugated systems. **E. Ohta**, T. Ogaki, T. Aoki, Y. Oda, Y. Matsui, H. Ikeda*
476. Synthesis of 1,4-naphthalenediyl-bridged molecular gyrotops and cage-size effects on dynamics in solution. **Y. Nishiyama**, A. Koyama, Y. Inagaki, K. Yamaguchi, W. Setaka*
477. Synthesis of a dimeric silylyne tungsten complex and its dissociation equilibrium with a monomer in solution. **T. Yoshimoto**, H. Hashimoto, N. Hayakawa, T. Matsuo, H. Tobita*
478. Palladium and platinum complexes of an isolable dialkyldisilyne. **S. Ishida***, Y. Misawa, T. Iwamoto*
479. Transformation of azulenes using an isolable dialkylsilylene. **T. Kosai**, S. Ishida, T. Iwamoto*
480. Cationic donor-acceptor complexes of group 14 elements in multiple oxidation states. **P.A. Gray**, N. Burford*, B. Patrick
481. Preparation and reactions of oxygen-functionalized dibenzodisilacyclohexadiene. **T. Kawasaki**, K. Sakamoto*
482. Preparation and reactions of 1-cyclobutenylsilanes. **T. Sugino**, K. Sakamoto*
483. Synthesis, properties, and reactions of oligosiletanes. **W. Yang**, K. Sakamoto*
484. Synthesis of a novel molecular gear having a germanium junction and its gear slippage. **K. Okamura**, Y. Inagaki, K. Yamaguchi, W. Setaka*
485. Molecular gyrotop with germanium junctions: Dynamics of a phenylene rotor in a crystalline state. **Y. Inagaki**, K. Yamaguchi, W. Setaka*
486. Phosphaviologens: Powerful electron-acceptors with tunable optical and electronic properties. **M. Stolar**, C. Reus, T. Baumgartner*
487. Synthesis and physicochemical properties of phosphorus analogs of phthalimides and naphthalimides. **K. Hatanaka**, Y. Takeda, S. Minakata*

*** Principle Author**

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488. Triphosphasumanenes: A Janus-type π-surface. **S. Furukawa***, Y. Suda, J. Kobayashi, T. Kawashima, M. Saito
489. Synthesis, structure, photophysical property, and one-electron reduction of boryl-substituted diphosphene. **S. Asami**, M. Okamoto, K. Suzuki, M. Yamashita*
490. Synthesis of phospha-, stiba-, and bismutha-benzenes via transmetallation of the 2,5-bis(silyl)-1-alumina-2,4-cyclohexadiene. **T. Ishii**, T. Nakamura, K. Suzuki*, M. Yamashita*
491. Structures and electronic states of hypervalent antimony compounds having Sb-Au bond. **S. Ohno**, M. Takahashi, S. Matsukawa
492. Preparation and some reactions of trilithiocyclododecatriene. **S. Oka**, K. Sakamoto*
493. Reactions of di-*tert*-butylcyclopropenone with Peterson and Wittig reagents. **K. Hanitani**, K. Sakamoto*
494. Syntheses of compounds bearing ferrocenylthiocarbonyl groups toward functional dyes. **H. Miyake***, T. Tajima, Y. Takaguchi
495. Synthesis and development of 1,2,4,6-thiatriazinyl and 1,2,4,6-selenatriazinyl π-radicals for applications in molecular electronics. **N. Yutronkie**, A. Leitch, J. Klein, I. Korobkov, J. Brusso*
496. 1,1-Carboboration as a facile route to tellurium-boron heterocycles. **F. Tsao**, D. Stephan
497. Reactivity and photochemistry at the tellurium center of π-conjugated tellurophenes. **E.I. Carrera**, T.M. McCormick, M.J. Kapp, A.J. Lough, D.S. Seferos*

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 3

Functional Nanomaterials Based on Coordination Chemistry (#73)

Organized by: T. Uemura, M. MacLachlan, H. Matsui
Presiding: T. Uemura

8:00 Opening remarks
8:05 – 498. Crystalline sponge method updated. **M. Fujita***
8:30 – 499. Exploring the synthesis and solid state behavior of coordination polymers and complexes. **J. Marti-Rujas***
8:50 – 500. Dynamic metal-oragnic polyhedra. **S. Kang**, K. Hamachi, S. Kanegawa, O. Sato
9:05 – 501. Directing the assemblies of organic donor-acceptor type chromophores within metal-organic frameworks for improved luminescence. **J.K. Klosterman**
9:20 – 502. Variation in porous coordination polymer structure due to deprotonation level of hydroxyl groups of a flexible bifunctional linker. A.A. Bezrukov, K.W. Törnroos, **P.D. Dietzel**
9:35 – 503. Discrete cyclic supramolecules and nanotubes self-assembled to form porous materials. **A. Comotti***, S. Bracco, L. Marchio', A. Ienco, P. Sozzani
9:55 Break
10:05 – 504. Polyaromatic coordination capsules displaying unique host-guest behavior. **M. Yoshizawa***
10:25 – 505. Metal-directed assembly of discrete coordination cage. **F. Li**
10:40 – 506. Chemical systems and materials using subcomponent self-assembly. **J.R. Nitschke**
11:00 – 507. Controlling the electronic states and physical properties of semiconducting MX- and MMX-type chain complexes. **H. Iguchi***, M.R. Mian, S. Takaishi, M. Yamashita
11:15 – 508. New strategy for designing silver(I) coordination complexes for olefin/paraffin separations. **M.G. Cowan**, W. McDanel, H.H. Funke, Y. Kohno, D. Gin, R.D. Noble
11:30 – 509. Photoresponsive materials using metal-ion coordination. **A.D. Ostrowski***
11:45 – 510. Highly efficient incarceration and selective extraction of inorganic anions from water by self-assembled nanojars. **G. Mezei***

Hawaii Convention Center
Halls I, II, III

Molecular Catalysis of Water Splitting Reactions (#76)

Organized by: K. Sakai, L. Sun, G. Brudvig, L. Spiccia

Poster Session
10:00 – 12:00

511. Unravelling the mechanism of water oxidation catalysed by novel tacn-based ruthenium complexes. **C. Casadevall***, D. Lloret Fillol, D. Costas
512. Molecular photo-charge-separators enabling single-pigment-driven multi-electron storage leading to catalytic hydrogen evolution. **K. Kitamoto**, K. Sakai*
513. Development of novel penta-nuclear hetero-metal clusters and their electrochemical properties. **H. Izu**, M. Okamura, R. Kuga, P. Vijayendran, N. Katsuta, S. Kawata, M. Kondo, S. Masaoka*
514. Studies on electrochemical hydrogen evolution from water catalyzed by bis(dithiolato)nickelate(II) complexes. **K. Koshiba**, K. Yamauchi*, M. Huynh, S. Hammes-Schiffer, K. Sakai*
515. Construction of new water oxidation catalyst with a pyrophosphate-bridged Ru_2(III, IV) flamework. **Y. Miyazato***, T. Wada
516. Photochemical hydrogen evolution from water catalyzed by cobalt-NHC complexes under low driving forces. **K. Kawano**, K. Yamauchi*, K. Sakai*
517. Water oxidation catalyzed by the dinuclear ruthenium complex bridged by bis(terpyridyl)anthraquinone. **S. Nishimura**, T. Wada*, Y. Miyazato
518. Hydrogen evolution from water catalyzed by nickel(II) pyridinethiolate complexes having oligopeptide residues. **K. Miyazaki**, K. Kitamoto, K. Yamauchi, K. Sakai*
519. Dinuclear acetato-bridged palladium(II) complexes for photoreductive production of hydrogen. **T. Kitamura***, Y. Kataoka, T. Kawamoto
520. Development of molecular catalysts for hydrogen evolution using a one-step two-electron reduction scheme. **S. Nakashima**, K. Yamauchi*, K. Sakai*
521. Water oxidation reaction catalyzed by a pentanuclear iron complex. **M. Okamura**, M. Kondo, R. Kuga, S. Hayami, M. Yoshida, K. Yoneda, S. Kawata, S. Masaoka*
522. Tandem photocatalysis as a strategy for water splitting. **N. Alderman***, J. Sommers, C.J. Viasus, **S. Gambarotta**
523. Improving stability during photoinduced water oxidation catalysis by cobalt porphyrins. **T. Nakazono**, A.R. Parent, K. Sakai*
524. Study of water splitting at the Mo-Cu center of carbon monoxide dehydrogenase using realistic in silico models. **D. Rokhsana***, T. Large, M. Dienst, M. Retegan, F. Neese
525. Photochemical hydrogen evolution from water catalyzed by Pt(II)-based molecular catalysts encapsulated with a supramolecular cage. **S. Tanaka**, T. Nakazono, K. Yamauchi, K. Sakai*
526. Enhancing electrocatalytic hydrogen evolution by nickel molecular catalysts with the aid of Lewis acids in aqueous media. **H. Shao**, H. Soo
527. Photochemical water oxidation catalyzed by a water soluble copper phthalocyanine derivative. **R. Terao**, T. Nakazono, A.R. Parent, K. Sakai*
528. Hydrogen production from water under visible light using tetranuclear metal (Pd and Ni) complexes. **Y. Yan***, T. Kawamoto
529. Kinetic studies of Pt(II)-catalyzed H2 evolution revealing the formation of diplatinum intermediates. **F. Wakiyama**, K. Yamauchi*, K. Sakai*
530. Synthesis of multinuclear manganese complexes having a cage-type ligand: Structural models of oxygen evolving center. **S. Yonaga**, K. TANGE, T. Hatanaka, Y. Funahashi*
531. Z-scheme photosynthesis for H_2 evolution from water forming a three-electron-reduced species. **K. Yamamoto**, K. Kitamoto, K. Sakai*

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 1

Coordination and Supramolecular Chemistry for Aqueous Metal Ion Separations (#97)

Organized by: R. Ellis, D. Robinson, R. Motokawa

8:00 – 532. New highlights on niobium and tantalum chemistry in alkaline media. **V. Weigel**, G. Deblonde*, G. Cote, S. Bélair, A. Chagnes
8:25 – 533. Assessing the effects of new reagents for iron control in medium temperature sulphide concentrate leaching. **E. Asselin**, B. Abdul
8:50 – 534. Thermodynamic study of uranium peroxide and oxalate neodymium precipitations. **M. Bertrand***, S. Lalleman, E. Plasari, F. Auger, p. moisy
9:15 – 535. Polyoxothiometalate chain of unprecedented $[Mo_{17}O_{68}S_8]^{18-}$ clusters. Y. Yu, H. Wang*, C. Zhao, Z. Zhang, **H. Ma***, **H. Pang***
9:40 – 536. Recycling processes of lithium-ion batteries. **A. Chagnes***, G. Cote
10:05 Break
10:20 – 537. Solvent extraction separations using CYANEX® 572. **M.D. Soderstrom***, T. McCallum, A. Quilodran
10:45 – 538. Cutting the fat - using model systems to probe metal ion-extractant interactions. **M.I. Ogden**, K.R. Barnard
11:10 – 539. Extraction of the rare rarth elements from neodymium manget leachate via solvent extraction using non-phosphorourous organic extractants (amides derivatives). **M. Gergoric***, M. Tyumentsev, T. Retegan, C. Ekberg, B. Steenari
11:35 – 540. Fundamental investigation of structure of neodymium-di-(2-ethylhexyl) phosphoric acid combinations usinf ESI and MALDI spectrometry and NMR spectroscopy. **C. Scharf***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 1

Frontiers of Molecular Magnetism (#109)

Organized by: H. Oshio, J. Miller, R. Oakley, S. Brooker, S. Gao, M. Ohba
Presiding: G. Christou, H. Oshio

8:00 Opening Remarks
8:05 – 541. New homo- and heterometallic single-molecule magnets and related clusters. **G. Christou**
8:35 – 542. Symmetry strategy to enhance the magnetic anisotropy of single-molecule magnets. J. Liu, Y. Chen, J. Liu, L. Ungur, L. Chibotaru, **M. Tong**
8:55 – 543. New polynuclear metal complexes with unprecedented structural motifs and single-molecule magnetic behaviors. P. Perlepe, D. Alexandropoulos, J. Tang, G. Christou, **T. Stamatatos***
9:15 – 544. Magnetically interesting coordination complexes of macrocyclic ligands - from single ion magnets to MRI contrast agents. **M. Pilkington***
9:35 – 545. Molecule-based quantum magnets composed of poly-HF ligands. **J.L. Manson***
9:55 Break
10:10 – 546. New trends and advances in single-molecule magnets. **M. Murugesu***
10:30 – 547. We can get higher spins and higher anisotropy but how can we get higher blockimg temperatures for SMMs?. **A. Powell***
10:50 – 548. SMM behaviors of isostructural Zn(II)-Ln(III)-Zn(II) tri-nuclear complexes (Ln = Ce, Nd, Tb, and Dy). **T. Kajiwara**, C. Takehara, P. Then, Y. Kataoka
11:10 – 549. Molecular magnets based on a modular approach. **K.R. Dunbar**
11:30 – 550. Lanthanide single-molecule magnets: Design and relaxation dynamics. **J. Tang***

Hawaii Convention Center
Halls I, II, III

Frontiers of Organo-f-element Chemistry (#125)

Organized by: F. Edelmann, P. Diaconescu, Y. Chen, D. Emslie, P. Junk

Poster Session
10:00 – 12:00

551. Direct allylation of benzylic alcohols with allylsilanes catalyzed by $Sc(OTf)_3$. **Y. Di***, Y. Kimura, A. Toshimitsu, T. Kondo*
552. Tris(pyrazolyl)borate-supported lanthanide(III) amide-halide complexes. **R. Thim**, C. Maichle-Mössmer, R. Anwander
553. Rare earth metal-mediated group transfer polymerization of vinylphosphonates: Tuning the metal ligand interaction via steric crowding at the rare earth center and novel highly efficient initiators from C-H bond activation. **B.S. Soller***, B. Rieger
554. Molecular structure and luminescence of a series lanthanide complexes with helical structures. **M. Hasegawa***, A. Ishii
555. Toward C-H activation of hydrocarbons by rare earth NHC-complexes. **J. Rieb***, P.L. Arnold, F. Kuhn
556. Exploring a new coordination mode of f-elements: Ln(III) complexation with nitrogen-phosphorus donor ligands. **Z. Zhang**, X. Li, P. Zanonato, P.D. Bernardo, L. Rao
557. Advances in tris(amido) uranium chemistry: Work toward generating U=P bonds. **B.C. Stobbe**, R.K. Thomson*
558. Cerium-catalyzed aerobic oxidation of arylmethanols under dioxygen atmosphere. **H. Tsurugi***, M. Paul, S. Shirase, L. Mathey, M. Balasubramanian, S. Tanaka, K. Mashima*
559. Synthesis and characterization of high symmetry phosphinimide-actinide complexes. **S.B. Younger-Mertz**, R.K. Thomson
560. Assessing single-molecule magnet and luminescent properties of ferrocene diamide rare earth complexes. **J.L. Brosmer***, W. Huang, P.L. Diaconescu

Hawaii Convention Center
Halls I, II, III

Electron Transfer and Electrochemistry of Inorganic and Organometallic Materials (#126)

Organized by: H. Nishihara, P. Harvey, W. Wong
Presiding: P.D. Harvey, H. Nishihara, W. Wong

Poster Session
10:00 – 12:00

561. Synthesis and characterization of new late transition metal(II) thiosemicarbazone complexes. **N. Arefyeva***, A. Klein

*** Principle Author**

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562. Synthesis and carrier transport properties of semiconducting materials consisting of HAT derivatives and copper halides. **K. Himoto**, T. Okubo*, M. Maekawa, T. Kuroda-Sowa
563. Syntheses and physical properties of 1D halogen-bridged metal complexes by using hydroxyl functional groups. **M.R. Mian***, H. Iguchi, S. Takaishi, M. Yamashita
564. Electrochemical behavior of the Ni-mixed Prussian-blue analog spin-coated thin film. **M. Ishizaki**, K. Ono, K. Kanaizuka, M. Kurihara
565. Fabrication of oriented Prussian-blue nanocrystalline thin films and their electrochemical properties. **K. Ono**, M. Ishizaki, K. Kanaizuka, M. Kurihara*
566. Development of thin film solar cells of d-π complexes using HATNA-Cl_6. **Y. Kono**, K. Himoto, K. Nakatani, K. Tanishima, T. Okubo*, M. Maekawa, T. Kuroda-Sowa
567. High performance zinc tin oxide thin-film transistor through gate-dielectric interface effect. **K. Lim**, E. Lee, J. Ko, Y. Kim, N. Cho, C. Jo, J. Park, Y. Kim*
568. Synthesis of nanoparticles of a copper coordination polymer with octamethylene ditiocarbamate and application to organic photovoltaics. **K. Nakatani**, T. Okubo*, M. Maekawa, T. Kuroda-Sowa
569. Crystal structures and conducting properties of 3D coordination polymers with dithiocarbamate derivatives. **K. Tanishima**, T. Okubo*, M. Maekawa, T. Kuroda-Sowa
570. Investigations on the mechanism of the catalytic conversion of nitrite to nitric oxide by a ruthenium nitrosyl complex. **J.H. Jorolan**, K.M. Miranda
571. Synthesis and analysis of new graphitic carbon nitride analogs. **S. Okamura**, T. Togashi, K. Kanaizuka, M. Kurihara*
572. Synthesis of $LiMnPO_4$ by the microwave heating method. **T. Naka**, M. Sato, M. Higuchi*, K. Katayama
573. Electrochemical properties of [M-7M-M] type nonanuclear clusters derived by asymmetric multidentate ligands. **Y. Tsuji***, T. Togo, A. Mishima, T. Koshiyama, M. Ohba
574. Charge-transfer phase transition, phase separation, and visualization of local electronic states in a Pd-Br chain complex. **T. Yoshida***, S. Takaishi, H. Iguchi, M. Yamashita
575. Multistep electrochromic behavior of an acetamidato-bridged dinuclear platinum complex bearing a cyclometalating ligand. **M. Yoshida**, N. Yashiro, H. Shitama, A. Kobayashi, M. Kato*
576. C^N^C cyclometallated platinum(II) complexes and their electrochemical behavior. **S. Garbe***, A. Klein
577. Cyclometalated Ni(II) complexes carrying anionic tridentate C, N, N-ligands and varying coligands - synthesis and spectroelectro-chemistry. **N. Vogt***, A. Klein
578. Cyclometallated Ni(II) complexes of the type [(R-Phbpy)NiBr] – synthesis and electrochemical studies. **A. Sandleben***, A. Klein

Hawaii Convention Center
Halls I, II, III

Non-covalent Interactions in Coordination Systems (#161)

Organized by: T. Konno, K. Lu, A. Hor
Presiding: T. Konno, N. Kuwamura, N. Yoshinari

Poster Session
10:00 – 12:00

579. New transition metal complexes of ferrocene-bridged bisimine ligands with examples of rare Fe-M interactions. **K. Jess**, A.R. Petrov, M. Freytag, D. Baabe, T. Bannenberg, P. Jones, M. Tamm*
580. Structural characterization of ferrocene-dipeptide conjugates bearing pyridine oxide moiety. T. Moriuchi, **H. Wu**, T. Hirao
581. Pseudo crystal polymorphism of halogen-substituted tetraaza[14] annulene complexes. **N. Inaba***, S. Ichimura, M. Saeki, Y. Tamaki, K. Miyamura
582. Crystal structure analysis of alkyl quaternary ammonium-[Ni(dmit)$_2$] complex salts bearing terminal cyclohexyl group. **S. Kakihara***, M. Saeki, S. Ichimura, Y. Tamaki, K. Miyamura
583. Structural change process in single crystal of bis(diphenylglyoximato)nickel(II)-based complexes by alkoxy chain elongation. **K. Ueji***, S. Ichimura, K. Tomono, Y. Tamaki, K. Miyamura
584. Synthetic and structural comparisons between group 14 dithiolato metalylenes and first row transition metal dithiolato complexes. **J.K. Pratt**, P.P. Power
585. Ruthenium complexes bearing tridentate polypyridyl with noncoordinating donor atoms: Construction of specific coordination space involving non-covalent interactions. D. Oyama*, T. Yamanaka, R. Tokoyoda, **R. Abe**, T. Takase
586. Synthesis and characterization of a pyrophosphate-bridged dinuclear ruthenium complex with 1,4,7-triethyl-1,4,7-triazacyclononane. **H. Tokinobu**, Y. Miyazato, T. Wada*
587. Synthesis and electronic structure of dirhodium(II,III) complex with benzamidinato as bridging ligand. **S. Mikami***, Y. Kataoka, T. Kawamoto, T. Ikeue, M. Handa
588. Synthesis and structures of platinum(II) complexes containing 8-(dimethyl or diphenylphosphino)quinoline. **M. Mori**, T. Suzuki, Y. Sunatsuki
589. Synthesis and characterization of novel salicylaldimine – or napththaldimine-derivative ligands and their metal complexes. **N. Beynek**, N. Tan, H. Beynek
590. Effect of an amino group on electrochemical properties of di- and mononuclear iron complexes with N,C,S-tridentate ligands. **T. Nakae**, M. Hirotsu*, I. Kinoshita
591. Redox properties and catalytic ability toward electrochemical proton reduction of sulfur-bridged trinuclear molybdenum complexes. **K. Kawamoto***, A. Ichimura, H. Hashimoto, I. Kinoshita, M. Hirotsu, T. Nishioka, Y. Hayashi
592. Redox properties of linear octanuclear palladium complexes supported by tetraphosphine ligands. **K. Nakamae**, B. Kure, T. Nakajima, T. Tanase*
593. Molecular mechanisms for enhanced thermal and light stabilities of flavonoids by metal cations and polysaccharide. **T. Ohno***, N. Tachibana, A. Urabe, H. Otake, Y. Kimura
594. Acid-induced vapochromism on a charge-transfer salt composed of an organic acceptor and an iron(II) complex. **R. Tanaka**, N. Matsushita*
595. Synthesis of bis-cyclens linked by aromatic rings and complexing property toward silver ions. **M. Iwase**, M. Ikeda, C. Kachi-Terajima, S. Kuwahara, Y. Habata*
596. Humidity-dependence of luminescent property on a charge-transfer salt composed of tetracyanidoplatinate(II) and an organic acceptor cation. **A. Kato**, W. Uenohara, N. Matsushita*
597. Self-assembled construction of M_2L_4 cage complex for visual detection of $ClO4^-$. **A. Somiya**, A. Handa, M. Kondo
598. Controlling aurophilicity in an emissive dinuclear Au(I) building block towards coordination polymers for sensing toxic gases. **R.J. Roberts**, D. Le, D.B. Leznoff
599. Incorporation of a halide anion guest into an inorganic bowl cavity. **S. Kuwajima**, Y. Kikukawa, Y. Hayashi*
600. 3D coordination polymer for removal of perchlorate ion from aqueous solutions. **M. Sato**, E. Inoue, M. Kondo
601. Molecular capsules that trap perchlorate ion and alkali cation. **R. Suzuki**, T. Inoue, K. Yamanishi, M. Kondo
602. Thermoresponsive 2D Ag(I) sheet assembly in the crystalline state using an assembled dipeptide ligand as a template. **R. Miyake**, Y. Nakagawa
603. Harnessing weak interactions toward the synthesis of highly birefringent coordination polymers. **J.R. Thompson**, V.E. Williams, D.B. Leznoff*
604. Mechanochemically induced structural transformation in [(3,6-dimethoxy-1,2,4,5-tetrazine)silver(I)]X (X= CF_3SO_3, ClO_4) involving anion-π interactions. **J. Lee**, P. Kang, H. Kang, M. Choi*
605. Linear hexanuclear platinum trihydride complex supported by triphosphine ligands. **K. Yamamoto**, K. Nakamae, B. Kure, T. Nakajima, T. Tanase*
606. Cluster-to-cluster transformations: Controlled self-assembly of luminescent polynuclear gold(I) μ_3-sulfido clusters. **L. Yao**, F. Hau, V. Yam
607. Properties of a series of M_2M' type heterometallic trinuclear complexes containing N-heterocyclic carbene and triply bridging sulfide ligands. **Y. Maeda**, H. Hashimoto, T. Nishioka*
608. Lattice dynamics of charge-separated ionic crystals of an $Au^{I}_4Co^{III}_2$ hexanuclear complex. **T. Kojima**, N. Yoshinari, M. Kawano, T. Konno*
609. Development of a one-step selective hydroxylation of benzene with hydrogen peroxide catalyzed by Tris(2-pyridylmethyl)amine copper(II) complex. **M. Yamada***, K.D. Karlin, S. Fukuzumi
610. S-bridged multinuclear palladium(II) complexes with aminothiolate-type ligands. **M. Kouno***, Y. Miyashita, T. Konno
611. Reactivity of D-penicillaminato cobalt(III) complex toward copper(I). **N. Oya**, N. Yoshinari, A. Igashira-Kamiyama, T. Konno
612. pH-Controlled chiral inversion and molecular dimerization in a gold(I)-cobalt(III) system with S-containing amino carboxylates. **S. Surinwong***, P. Lee, A. Igashira-Kamiyama, T. Konno
613. Vapochromic and mechanochromic behavior of platinum(II) complexes with mixed polypyridine and thioglucose. **N. Kuwamura**, N. Kitani, K. Tsuge, T. Tsukuda, T. Konno
614. Coordination behavior of a trigold(I) metalloligand with mixed tripodal triphosphine and D-penicillaminate. **K. Imanishi***, Y. Hashimoto, N. Yoshinari, T. Konno
615. Formation and interconversion of gold(I)-nickel(II) multinuclear complexes with mixed thiomalic acid and diphosphines. **K. Igawa***, N. Yoshinari, T. Konno
616. Coordination behavior of digold(I) metalloligands with mixed diphosphine and D-penicillaminate toward nickel(II). **T. Itai**, A. Igashira-Kamiyama, N. Matsushita, T. Konno
617. Parity-controlled formation of gold(I)–copper(II) supramolecular helices with penicillamine and bis(diphenylphosphino-)alkane. **N. Yoshinari***, A. Kakuya, T. Konno

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Activation and Transformation of Small Molecules Mediated by Early Transition Metal Complexes (#170)

Organized by: K. Theopold, K. Mashima, Z. Xie
Presiding: K. Mashima

8:00 – 618. Group 4 metal-catalyzed olefin oligomerization for natural product synthesis. **K. Nozaki**
8:30 – 619. Addition reactions across metal-nitrogen multiple bonds in niobium bis(Imido) complexes. **B.M. Kriegel**, L. Grant, A. Obenhuber, R. Bergman, J. Arnold*
8:50 – 620. Hydrohydrazination of alkynes via C-H bond activation pathways and other element-hydrogen bond cleavage/nitrogen-element bond forming reactions of titanium hydrazido compounds. **P. Mountford***
9:20 – 621. Synthesis and characterization of the homoleptic Group 5 ketimide complexes, $M(N{=}C^tBu_2)_4$ (M = V, Nb, Ta). P.L. Damon, J. Telser, **T. Hayton**
9:40 – 622. Electronic vs. steric effects in the reactivity of aryloxo vanadium(III) and (IV) compounds with carbon dioxide. **C.J. Viasus**, N. Alderman, S. Gambarotta, I. Korobkov
10:00 – 623. Carbon–carbon bond cleavage and rearrangement of benzene by a multinuclear titanium hydride complex. **S. Hu**, T. Shima, X. Kang, G. Luo, Y. Luo, Z. Hou*
10:20 – 624. Molecular titanium nitrides: New synthetic entries and reactivity. **D. Mindiola**
10:50 – 625. Direct evidence for [4+2] cycloaddition mechanism of alkynes to tantallacyclopentadiene as a model of alkyne cyclotrimerization. **K. Yamamoto***, H. Tsurugi, K. Mashima
11:10 – 626. New group VI amidate complexes and reactivity. **J.M. Smith**, R.K. Thomson*
11:30 – 627. Addition to metal-metal δ bonds. **Y. Tsai**

Hawaii Convention Center
Halls I, II, III

Innovative Approaches in Bond-Cleavage and Bond-Forming Reactions at Late Transition-Metal Centres (#186)

Organized by: M. Hirano, D. Fogg, A. Veige
Presiding: D. Fogg, M. Hirano, A.S. Veige

Poster Session
10:00 – 12:00

628. Synthesis, characterization, and unique catalytic activities of a fluorinated nickel enolate. **R. Doi**, M. Ohashi, S. Ogoshi*
629. Reversible transformation between phosphinite-Ni(0) and phosphide-Ni(II) via migratory alkoxide group transfer. **S. Kim**, Y. Kim, S. Oh, Y. Lee*
630. Deep and ultra deep hydrodesulfurizations: Increased reactivity of a polynuclear nickel cluster toward difficult C–S bond activations. **M.M. Shoshani**, S.A. Johnson*
631. Mechanistic study on C-C bond formation of a nickel(I) monocarbonyl species with alkyl iodide. **C. Yoo**, J. Choi, Y. Lee*
632. Synthesis and reactivity of PCS bis-pincer palladium and nickel complexes. **W. Shih***, L.P. Press, O.V. Ozerov
633. Radical perspective on palladium: Ligand-centered redox chemistry. **C.A. Sanz***, R. Hicks
634. C-P palladacycles as catalysts for asymmetric synthesis of P-chiral diarylphosphinites. **J. Chiew**, P. Leung*
635. Markovnikov-selective catalytic hydrosilylation of electron-deficient alkenes by a mono(phosphine)palladium(0) complex. **R. Suda**, M. Abe, N. Komine, M. Hirano*
636. Formation of indium-iron complexes and the catalytic activity toward double hydrosilylation of nitrile. **M. Ito**, M. Itazaki, S. Nakashima, H. Nakazawa*
637. Synthesis and photophysical properties of rhodium complexes having fluorene-based diphosphine ligands. **Y. Matsusaka**, K. NOMURA, A. Inagaki
638. C–H silylation reactions of arylalkynes catalyzed by 16-electron ruthenium complexes having a xanthene-based bis(silyl) ligand xantsil. **T. Kitano**, T. Komuro, H. Tobita*

*** Principle Author**

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639. Ruthenium-catalyzed monoalkenylation of aromatic ketones via selective aromatic carbon–heteroatom bonds cleavage. **H. Kondo**, N. Akiba, T. Kochi, F. Kakiuchi*
640. 2:1 Coupling of terminal alkynes with secondary amines catalyzed by quinolinolato rhodium complexes. **M. Hamada**, K. Mochizuki, T. Kochi, F. Kakiuchi
641. Internal concerted carbocation transfer in formation of ruthenacycle by C-O bond cleavage. **N. Araki**, T. Yasumuro, N. Komine, M. Hirano
642. Remote rearrangement of the metal center in (η^6-C_6Me_6)M(II) (M = Ru, Os) complexes. **K. Takano**, Y. Ikeda, S. Kodama, Y. Ishii*
643. Syntheses and reactivities of phosphine-quinolinolato rhodium complexes: Formation of vinylidene-bridged dirhodium complexes. **S. Takano**, T. Kochi, F. Kakiuchi*
644. Synergy effect between lithium hydride and iron used in ammonia synthesis. **W. Peikun**, J. Guo, F. Chang, P. Yu, W. Gao, G. Wu, P. Chen
645. Evaluation of a silane-cobalt interaction in the synthesis of a silyl cobalt(II) complex. **J. Kim**, K. Park, S. Kim, Y. Lee*
646. Hindrance to cyclometalation: A study on *N*-demethylation triggered from *ortho*-metalation of sterically-hindered ligands. **H.J. Chen**, R.H. Teo, J. Wong, Y. Li, S.A. Pullarkat, P. Leung*
647. Reactivity study of nickel amido complexes supported by a diphosphinosilyl ligand. **K. Park**, J. Kim, Y. Lee*
648. Efficient iron and aluminum catalysts for coupling reaction of CO_2 and epoxides. **C. Bae**, J. Kim, Y. Lee*
649. Mixed ligand approach to palladium-catalyzed direct arylation polymerization (DArP): Synthesis of DA polymers with diketopyrropyrrole units. **R. Takahashi**, E. Iizuka, M. Wakioka, F. Ozawa*
650. Base metal catalysts for petroleum and biomass hydrotreatment. **O. Brown**, J.M. Stryker*
651. Synthesis of pincer-type nickel(II) complexes and application to nickel-catalyzed cross-coupling reaction of aryl halides with arylmagnesium halides. **Y. Yamaguchi***, E. Asano, N. Kurisu
652. Palladium and nickel NNN-pincer complexes and their ability to stabilize oxygen containing moieties. **M. Lim***, R. Roesler, Y. Jiang
653. Inductive effects of substituted pyridylindole ligands on Pt catalyzed hydroarylation. **B.A. Suslick**, A.L. Liberman-Martin, T. Tilley*
654. Mixed ligand approach to palladium-catalyzed direct arylation polymerization (DArP): Synthesis of DA polymers with dithienosilole units. **E. Iizuka**
655. Oxidative addition of oxime derivatives to transition metal complexes followed by C–H activation: Mechanistic consideration and synthetic application. **T. Shimbayashi**, K. Okamoto*, K. Ohe*
656. Selective alkene insertion into transition metal-hydrogen bonds assisted by mono(phosphorus ligand)palladium(0) complexes. **N. Komine***, R. Ito, H. Suda, M. Hirano, S. Komiya
657. Structures and chemical reactivity of binuclear Pd and Ru complexes with N,S,S,N-ligands containing the *ortho*-aminothiophenol motif. **M. Bierenstiel***
658. Control of reaction selectivity in palladium-catalyzed transformations through fine tuning of ligand structures. **K.H. Shaughnessy***
659. R/X exchange reaction on Pd and Pt complexes with phosphine ligand, *cis*-[MR_2{$P(NMeCH_2)_2X$}$_2$] (M = Pd, Pt) via an intermediate of phosphenium complex. **M. Itazaki***, Y. Shigesato, N. TSUCHIDA, K. Takano, H. Nakazawa*
660. Unusual α-selective hydrosilylation of electron-deficient alkynes using rhodium(I) dithiolate complex. **T. Sato***, H. Yashiki, H. Takano, D. Kanno, S. Oi
661. Efficient dehydrogenation of formic acid using bifunctional iridium complexes bearing sulfonylated diamine ligands. **A. Matsunami***, Y. Kayaki, T. Ikariya
662. [3,3]-Sigmatropic rearrangement of pyridyl ketone oxime esters at an Ir complex. **H. Takahashi**, S. Kodama, Y. Ishii*
663. Synthesis of amine and imine from thioamide through the desulfurization by hydrosilane with the help of an iron complex. **K. Fukumoto**, A. Sakai, H. Nakazawa*
664. Catalytic cross-dimerization of diarylacetylene with methyl methacrylate by a ruthenium(0) complex. **S. Kiyota**, S. Watanabe, N. Komine, S. Komiya, M. Hirano*
665. Three component coupling reaction of alkene, alcohol,and sodium formate through chelation assisted O-H bond cleavage by Ru(0) complex. **W. Park**, C. Lee, D. Kim, C. Jun*
666. $Ru_3(CO)_{12}$-catalyzed chemical modification of polybutadiene with ester functionality through chelation-assisted O-H bond cleavage of alcohol. **C. Lee**, W. Park, D. Kim, C. Jun*

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

Transition Metal Complexes of N-Heterocyclic and Mesoionic Carbenes: Structure, Materials and Catalytic Applications. (#195)

Organized by: C. Crudden, S. Chang, M. Albrecht, D. Allen, U. Complete

8:00 – 667. Protic N-heterocyclic carbenes - synthesis and reactivity. **E. Hahn***
8:30 – 668. Singlet carbenes for the isolation of highly reactive transition metal complexes. **G. Bertrand**
9:00 – 669. Carbon-element bond forming reactions with f-block NHC complexes. **P.L. Arnold**, N. Bell, T. Cadenbach, K. Wang, I. Marr, Z. Turner, R. Tooze, M. McMullon, J. Rieb, F. Kuhn, A. Fyfe
9:30 – 670. Controlled assembly of NHC self assembled monolayers on gold. **C.A. Smith**, M. Narouz, C. Crudden*
9:50 – 671. Carbodicarbene complexes of ruthenium: highly active catalysts for the hydrogenation of olefins. **C. Pranckevicius**, D. Stephan*
10:10 – 672. Rollover cyclometalation pathway in rhodium catalysis: Dramatic NHC effects in the C–H bond functionalization. **S. Chang**
10:30 – 673. N-heterocyclic carbene as a ligand and a catalyst for atom-economical and selective C-N and C-C bond formation reactions. **S. Hong***
11:00 – 674. Catalytic synthesis of benzoxasiloles via activation of organosilanes using η^2-aldehyde nickel(0)/N-heterocyclic carbene complex. **Y. Hoshimoto***, R. Kumar, M. Ohashi, S. Ogoshi
11:20 – 675. Exploring the geometric and electronic structure of oxidatively activated iridium carbene water oxidation catalysts. **P. Kennepohl***
11:40 – 676. NHC ligation for metal-chalcogenide cluster assembly. **J.F. Corrigan**, M. Azizpoor Fard

Hawaii Convention Center
Halls I, II, III

Nuclear Probes in Nanoscale Characterization (#254)

Organized by: M. Takahashi, A. Hill, V. Sharma, J. Wang, M. Takahashi, M. Takahashi, K. Nomura, Y. Yamada

Poster Session
10:00 – 12:00

677. Monitoring of the changes of iron forms in Fe/AC catalysts during catalytic wet peroxide oxidation of m-cresol using Mössbauer spectroscopy. **Y. Wang**, H. Wei, P. Liu, J. Wang, X. Li, Y. Zhao, C. Sun*

Hawaii Convention Center
Halls I, II, III

Metal-containing ?-Conjugated Systems: Syntheses, Properties, Applications (#269)

Organized by: M. Humphrey, V. Yam, M. Akita
Presiding: M. Akita, M. Humphrey, V. Yam

Poster Session
10:00 – 12:00

678. Donor–Acceptor–Donor nature of nickel bimetal dithilene complex bridged by tetrathiooxalate (tto) skeleton and its potential use for a closed shell single component molecular conductor. **M. Hayashi***, K. Otsubo, M. Maesato, K. Sugimoto, A. Fujiwara, H. Kitagawa
679. Ferrocene- and cyclopentadiene-fused acenes and tropones. B. Maharjan, **J.P. Selegue***, S. Parkin
680. Synthesis and characterization of group 10 metal complexes with indigo-like ligands. **D.T. Hofsommer**, R. Hicks*
681. Toward the synthesis of new dyes, ligands, and complexes inspired by dipyrromethenes. **G.N. Boice**, R. Hicks
682. Multistory discrete Pd(II) complexes: Construction, molecular behavior, and properties. **H. Lee**, O. Jung
683. Visible-light driven homo- and copolymerization of styrenes by bichromophoric Ir-Pd photocatalyst. **A. Inagaki***, K. Saito, S. Kikuchi, K. Murata, M. Akita
684. Theoretical study on the open-shell characters and third-order nonlinear optical properties of organometallic compounds. **S. TAKAMUKU**, Y. Kitagawa, M. NAKANO
685. Metal complexes of a quadruply fused porphyrin: Structure, redox properties, and Lewis acidity of the central metal ion. **T. Ishizuka***, K. Komamura, Y. Saegusa, T. Kojima
686. Diverse copper(I) ethylene complexes with related 3,6-bis(2-pyridyl)-1,2,4,5-tetrazine ligands. **M. Maekawa***, T. Okubo, T. Kuroda-Sowa, M. Munakata
687. Synthesis of multinuclear Ru-Fe metalladitholene complexes. **T. Sagawa***, S. Tsukada, T. Gunji
688. Dinuclear complexes with a fused ligand having phthalocyanine and Schiff-base coordination sites. M. Handa, **K. Wada**, K. Murakoshi, Y. Kataoka, M. Mikuriya
689. Dinuclear complexes with a fused ligand having phthalocyanine and salen-like coordination sites. **M. Handa**, K. Kanagawa, K. Fujii, T. Ikeue, Y. Kataoka, T. Sugimori, M. Mikuriya
690. Anomalous thermal behaviour of [Ni-(salen)] derivatives having methyl substituent groups at nitrogen brige. **T. Yoshida***, K. Taniguchi, S. Ichimura, Y. Tamaki, K. Miyamura
691. Synthesis of cobalt dithiolene complex having dihalobenzenedithiolate ligand. **M. Kondo**, S. Tsukada, T. Gunji*
692. Evaluation of electronic communication of dinuclear mixed-valence complexes by the IR spectroscopic method. **H. Takahashi**, Y. Tanaka, M. Akita*
693. Synthesize and properties of molybdenum dithiolene complexes. **N. Abe**, S. Tsukada, T. Gunji*
694. Research about the structure of $Ba_2[Ni(pdt)_2]_4 11H_2O$ (pdt = 2,3-pyrazinedithiolate) and its magnetic and electric properties. **M. Kanari**, H. Iguchi, S. Takaishi, B.K. Breedlove, K. Kagesawa*, M. Yamashita*
695. Thermal behavior of Ni, Cu, and Pd complexes of phenylalkylene substituted salicylaldimine. **Y. Shioya***, M. Saeki, A. Honda, Y. Tamaki, K. Miyamura
696. Synthesis of insulated molecular wires functionalized by metals coordination to their backbones. **T. Hosomi**, H. Masai, J. Terao, T. Fujihara, Y. Tsuji
697. Enhanced phosphorescence in the solid state by cyclic insulation of platinum-acetylide polymers. **H. Masai**, J. Terao, S. Makuta, Y. Tachibana, T. Fujihara, Y. Tsuji
698. Mono- and dinuclear Ru(dppz) DNA light-switch complexes incorporating groove-binding tethers. **H. Saeed**, J. Thomas*
699. Pentiptycene-incorporated tridentate platinum(II) alkynyl complexes: Synthesis, photophysical properties, and mechanochromicity. **C. Lin***, J. Yang
700. Ruthenium alkynyl-functionalized tris-(phenylpyridine)iridium complexes. **M. Cifuentes***, H. Zhao, P. Simpson, M. Morshedi, A. Barlow, G. Moxey, M. Humphrey*
701. Synthesis and photophysical characterization of some binuclear gold(I) alkynyls with phenanthryl-based bridges. **B. Babgi***, M. Humphrey
702. CAC vs. ACC (A = S, Se, Te, BOMe, $SnMe_2$, PR; R = Cl, Ph, Cy) bridged bimetallics. **R.A. Manzano**, A.L. Colebatch, **Y. Han**, A.F. Hill*, K.M. von Nessi, R. Shang, M. Sharma, J.S. Ward
703. Selenium-interrupted carbonchain bridged bimetallics. **R.A. Manzano**, T. Evers, A.F. Hill*, J.S. Ward

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 1

Metal Mediated Polymerization (#292)

Organized by: P. Hayes, R. Waterman, T. Mizuta, Y. Tang, P. Sangtrirutnugul
Presiding: P.G. Hayes, J. Okuda

8:00 Introductory Remarks
8:05 – 704. Control of metal-mediated olefin polymerizations through the first and second ligand sphere. **J. Okuda***
8:35 – 705. Cooperative effects in homo- and heterobimetallic catalysts for ethylene polymerization/copolymerization. **M. Delferro**, T.J. Marks
8:55 – 706. Synthesis of (Imido)niobium(V) complexes as catalyst precursors for olefin polymerization. **N. Srisupap**, K. NOMURA*
9:15 – 707. Structures of α-, β- and γ-agostic species alkyltitanocene complexes. **M.C. Baird***, A. Dunlop-Brière, P.H. Budzelaar
9:45 Intermission
10:00 – 708. Precise synthesis of fine polyolefins by ethylene copolymerization with sterically encumbered monomers, cyclic olefins, and with comonomers containing reactive functionality. **K. NOMURA***
10:30 – 709. Using the coordination chemistry toolbox for polymerization catalysis. **C. Redshaw***
10:50 – 710. Iron-catalyzed homo- and copolymerization of propylene. **T. Kawakami**, S. Ito, K. Nozaki*
11:10 – 711. New insight into the early stages of reaction by the self-initiating Phillips ethylene polymerization catalyst. **S.L. Scott***, Y. Wang, A. Fong, B. Peters

Hilton Hawaiian Village
Kalia Tower, Kahili 1 & 2

Novel Heme Proteins and Model Systems (#305)

Organized by: J. Dawson, T. Hayashi, M. Stillman
Presiding: M. Stillman

8:00 break

*** Principle Author**

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8:40 – 712. Using heme to make a heme: The unusual chemistry and biology of HemQ. **J. DuBois**, A.I. Celis, G.S. Lukat-Rodgers, K. Rodgers
9:00 – 713. Interplay of structure, dynamics, and protein-protein interactions enable bacterioferritin's central role in bacterial iron homeostasis. **M. Rivera***, H. Yao, S. Lovell, Y. Wang
9:20 – 714. Heme uptake in pathogenic bacteria: *Streptococcus pyogenes* and *Corynebacterium diphtheriae*. **D.W. Dixon***
9:40 – 715. Elucidating the biosynthesis and transport of heme A. **E.L. Hegg**, E. Herwaldt, E. Rivett, A. White
10:00 – 716. Heme transport and metabolism in *Yersinia pseudotuberculosis*. **S. Ozaki***, S. Nagano, T. Hino
10:20 – 717. H_2O_2-dependent hydroxylation of C–H bond by myoglobin reconstituted with a manganese porphycene complex. **K. Oohora***, T. Hayashi
10:40 – 718. Investigating the mechanism of signal transduction within globin coupled sensors. **E.E. Weinert***, J.L. Burns
11:00 – 719. Fine-tuning heme protein model myoglobin by post-translational modification. **Y. Lin***
11:20 – 720. Effect of polar functional group at the distal side of the myoglobin model complex on its ligand binding property (O_2 and CO) in aqueous solution. **H. Kitagishi***, N. Kitamura, K. Kano
11:40 – 721. Electronic control of myoglobin function. **Y. YAMAMOTO***, R. NISHIMURA, Y. KANAI, T. SHIBATA, S. YANAGISAWA, T. OGURA, H. TAI, T. Matsuo, S. Hirota, S. Neya, A. SUZUKI

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Metal Coordination Sphere Design for Challenging Bond Transformations (#318)

Organized by: K. Caulton, A. Hill, S. Johnson, M. Yamashita
Presiding: K. Caulton, C. Lu

8:00 Welcome Remarks
8:05 – 722. Hydroarylation of olefins using Ru(II) catalysts: Influence of ancillary ligand. **T.B. Gunnoe**, S.A. Burgess, E.E. Joslin, T.R. Cundari, M. Sabat, W.H. Myers
8:25 – 723. Transfer, metathesis, and catenation: Reactivity patterns emerging from borylene complexes. **H. Braunschweig**
8:45 – 724. Hemilabile N,O-chelating ligands: Dynamic coordination modes for promoting reactivity and hydroaminoalkylation catalysis. **L.L. Schafer***
9:05 – 725. Iron-catalyzed cross-coupling aided by olefin substituents. **A. Jacobi von Wangelin**
9:20 – 726. Donor properties and high valent metals: Parameterizing catalyst rates and other properties. B. Billow, T. McDaniel, **A. Odom***
9:35 – 727. Synthesis, design, and catalytic applications of trianionic pincer ligands in transition metal chemistry. **A.S. Veige**, S.S. Nadif, M.E. O'Reilly, S. VenkatRamani, I. Ghiviriga, K.A. Abboud
9:50 – 728. Mediatorless aerobic C-H oxidation by a Pt(II)/Pt(IV) redox couple. **D.B. Watts**
10:05 – 729. Making C-H bonds with CO_2: Tuning molecular iron electrocatalysts with ligand design. A. Taheri, N.D. Loewen, **L.A. Berben***
10:25 – 730. Antimony Lewis acids in the secondary coordination sphere of gold complexes: An opportunity for redox-controlled catalysis. H. Yang, **F.P. Gabbai**
10:45 – 731. Modifications to the geometry and reactivity of low-coordinate Fe(II) complexes through modular ligand design. **N.M. Hein***, T. Suzuki, T. Ogawa, M. Fryzuk
11:00 – 732. Oxidative addition of chlorohydrocarbons to a rhodiumtrispyrazolylborate complex. **W.D. Jones***, Y. Jiao
11:15 – 733. Facile synthesis and versatile reactivity of cyclometalated Rh^{I} and Ni^{II} pincer complexes. **J. van der Vlugt***
11:30 – 734. Investigating the flexibility of the catalytic pocket in transition metal complexes. **L. Cavallo***, L. Falivene, R. Credendino
11:45 Flash Presentation 1

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 2

Dioxygen Activation Chemistry of Metalloenzymes and Models (#339)

Organized by: A. Rosenzweig, S. Itoh, W. Nam
Presiding: W. Nam

8:00 – 735. Oxygen activation at diiron cluster-containing oxygenases: Structures of key intermediates. R. Banerjee, C.J. Knoot, A. Komor, B.S. Rivard, A.J. Jasniewski, L. Que, **J.D. Lipscomb***
8:30 – 736. Demystifying the chemical magic of non-heme-iron enzymes in natural product biosynthesis. **J.M. Bollinger**, C. Krebs
9:00 – 737. Mechanisms of enzymatic thiol dioxygenation. **G.N. Jameson***
9:30 – 738. Amazing high-valent iron-oxo reaction landscape. **L. Que***
10:00 – 739. Carboxylamido ligand effect on the nature of mononuclear nonheme oxoiron species. **Y. Hitomi**
10:30 – 740. Dioxygen activation and oxyfunctionalization of C-H and C=C bonds by biomimetic iron complexes. **T.K. Paine***
11:00 – 741. Chemistry without cofactors: How an extraordinary family of enzymes activates O_2. **J. DuBois**, M. Machovina, V. Smirnov
11:30 – 742. Biomimetic metal-oxygen intermediates in dioxygen activation chemistry. **W. Nam***

Hawaii Convention Center
Halls I, II, III

New Frontiers in Bioinorganic Chemistry (#356)

Organized by: M. Yamaguchi, S. Cohen, X. Ottenwaelder

Poster Session
10:00 – 12:00

743. Effect of chemical structure of artificial co-enzyme with 4,4'-bipyridinium skeletons on the CO_2 reduction catalytic activity with formate dehydrogenase. **S. Ikeyama**, Y. Amao
744. Roles of N- and C-terminal domains in the ligand binding properties of cytoglobin. **S. Hanai**, H. TSUJINO, R. YANASAKA, T. YAMASHITA, T. UNO
745. Dinuclear nickel complex modeling the functions of nickel superoxide dismutase. **T. Shimodaira***, Y. Kataoka, T. Kawamoto
746. Syntheses of far-red-absorbing porphyrin derivatives and photodynamic antitumor activities. **y. iwasaki**, R. Higashino, M. Nakai, R. Clarke, T. Storr, S. Yano, Y. Nakabayashi
747. Metal complexes of the antiparasitic drug Metronidazole. J.H. Palmer, J. Wu, **R.K. Upmacis***
748. Biophysical analysis of anticancer platinum complex binding to DNA and proteins – a multifaceted approach. **B.J. Pages**, J. Sakoff, J. Gilbert, A. Rodger, N. Jones, D.L. Ang, J. Aldrich-Wright*
749. Anticancer effects of a new aminosugarconjugated platinum complex anticancer agent against gastric cancer cells. **S. Yano***, N. Hayashi, H. Kataoka, K. Kawamoto, T. Shibahara, Y. Kinosita, A. Nomoto, A. Ogawa, K. Morimoto
750. Cancer and cell resistance: Optimised methods for the preparation of platinum and ruthenium complexes as selective chemotherapeutic agents. **R.I. Taleb***, N. Mansour, S. Mehanna, B. Bassil, C. Daher, M. Mroueh, M. El-Sibai
751. Control of photochemical ligand exchange reaction of ruthenium complexes by addition of acid or base. **A. Kobayashi**, M. Yamaguchi, K. Sato
752. Investigating the biological activity and therapeutic potential of ruthenium (II) tpm compounds. A. Mlitan*, M.R. Gill, **R.L. Mowll**, J. Thomas, C. Smythe
753. Simple alternatives to TPP as enhanced mitochondrial delivery agents. **f. garcia***, Z. Hu, E.K. Yeow
754. Development of multifunctional small molecules that modulate metal-Aβ interactions toward treating Alzheimer's disease. **M. Jones***, E. Mathieu, T. Storr
755. Effect of 5-aminolevulinic acid on cytochrome P450-based prodrug activation. **M. Miura***, K. Ito, M. Hayashi, T. Tanaka, I. Okura, S. Ogura
756. Syntheses of Re and ^{99m}Tc CAIX inhibitors cancer diagnositcs. **M. Nakai***, J. Pan, K. Lin, J.R. Thompson, Y. Nakabayashi, T. Storr
757. Cointercalation of doxorubicin and cisplatin anticancer drugs into zirconium phosphates nanoparticles for drug delivery applications. **J.R. Gonzalez-Villegas***, J. Colon
758. Artificial biocatalysts with a covalently-linked copper terpyridine complex embedded within the cavity of nitrobindin. **T. Himiyama**, D. Sauer, A. Onoda, J. Okuda, T. Hayashi
759. Advanced EPR characterization of the copper-amyloid peptides. **S. Kim**
760. Reaction dynamics for the C-H bond activation by iron(IV)-oxo complexes: Natural vs. biomimetic systems. **B.K. Mai**, Y. Kim*
761. CO_2 and CO transformation at a nickel center supported by a pincer-type PNP ligand. **C. Yoo**, Y. Lee*
762. Carbon dioxide activation inspired by the CODH active site. **Y. Kim**, J. Kim, Y. Lee*
763. Nickel, palladium, and platinum complexes with multidentate sugar incorporated N-heterocyclic carbene ligands. **T. Nishioka***, Y. Maeda, Y. Imanaka, H. Hashimoto
764. Ferrocenoyl histidine conjugates and Its interactions with zinc, cadmium and other metal ions. **A. Ferranco***, H. Kraatz

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 3

Isotope Production--Providing Important Materials for Research and Applications (#363)

Organized by: D. Phillips, K. Gagnon, Y. Hatsukawa
Presiding: Y. Hatsukawa, A. Shinohara

8:00 – 765. Recovery of enriched Mo targets for economic production of ^{99}Mo medical isotope without use of highly enriched uranium. **P. Tkac**, G.F. Vandegrift
8:20 – 766. Preparation of ^{99m}Tc and ^{124}I for use of nuclear medicine. **N. Takahashi***, Y. Hayashi, K. Nakai, A. Shinohara, H. Ikeda, J. Hatazawa, M. Fukuda, K. Hatanaka
8:40 – 767. Medical radioisotope production with accelerator neutrons by deuterons. **K. Tsukada***, N. Sato, S. Watanabe, N.S. Ishioka, Y. Hatsukawa, K. Hashimoto, T. Kin, S. Takeda, M. Kawabata, H. Saeki, Y. Nagai
9:00 – 768. High power solid target station and turnkey system for the production of ^{99m}Tc on the GE PETtrace cyclotron. **M.S. Kovacs***, N. Cockburn, J. Corsaut, K. Buckley, V. Hanemaayer, J. Klug, S. Zeisler, J. Tanguay, A. Celler, F. Prato, J. Valliant, T. Ruth, F. Benard, P. Schaffer
9:20 – 769. Production of medical radioisotopes including ^{99}Mo by using accelerator neutrons. **Y. Nagai***, M. Kawabata, K. Hashimoto, Y. Hatsukawa, H. Saeki, s. motoishi, K. Tsukada, A. Ohta, T. Shiina, Y. Kawauchi
9:45 Break
10:00 – 770. Cyclotron produced ^{99m}Tc: Downstream processing optimization and automation. **J.D. Andersson***, J.S. Wilson, B.A. Thomas, A.J. McEwan, D.N. Abrams, S.A. McQuarrie, K.M. Gagnon
10:20 – 771. Experimental validation for optimization of transcurium isotope production: Target design, fabrication, and processing. **J. Burns***, S. Hogle, C. Alexander, J. Ezold
10:40 – 772. Neutron flux filtering for the optimization of transcurium isotope production. **S. Hogle***, C. Alexander, J. Burns, J. Ezold
11:00 – 773. Production of ^{95m}Tc for Compton Camera imaging. **Y. Hatsukawa***, K. Tsukada, K. Hashimoto, T.K. Sato, M. Asai, A. Toyoshima, Y. Nagai, T. Tanimori, S. Sonoda, s. kabuki, H. Kimura
11:20 – 774. Measurement of production cross sections of Tc and Re isotopes in deuteron-induced reactions on ^{nat}Mo and ^{nat}W up to 24 MeV. **Y. Komori***, M. Murakami, H. Haba
11:40 – 775. Production of exotic radionuclides at the PSI Accelerator Complex. **E.A. Maugeri***, R. Dressler, S. Heinitz, M. Schumann

Hilton Hawaiian Village
Rainbow Tower, Rainbow 2

Telomeres and other G-quadruplex Structures as Targets for Metallodrugs (#459)

Organized by: J. Aldrich-Wright, N. Sugimoto, J. Chaires, S. Ralph
Presiding: J. Aldrich-Wright, S.F. Ralph

8:00 Welcome
8:00 – 776. Understanding the roles of the G-quadruplex and i-motif alongside supercoiling in the MYC promoter as a basis for the development of new therapeutic strategies. **L.H. Hurley***, C. Sutherland, V. Gokhale
8:30 – 777. Selective recognition of thymine containing loops in G-quadruplexes by bifunctional Zn(II) complexes. **J.R. Morrow***, K. Siters, M. Fountain
9:00 – 778. Structural and mechanistic insights into catalytic heme-DNA/RNA complexes: From biology to green chemistry. **D. Sen***, N. Shumayrikh, T. Canale
9:30 – 779. Ferrocenylnaphthalene diimide derivatives as a novel tetraplex DNA ligand. **S. Takenaka***
10:00 Morning tea break
10:10 – 780. C-quadruplex? Adventures with the "other" strand. E.P. Wright, Q. Sheng, H. Day, C.J. Morris, **Z.A. Waller***
10:40 – 781. Determination of ligand-binding quartets in telomeric G-quadruplex by mechanochemical dissection. **C. Ghimire**, S. Park, C. Xu, H. Sugiyama, **H. Mao***
11:00 – 782. Optical probes for specific quadruplex DNA structures. **J. Thomas***
11:30 – 783. G-quadruplexes regulate transcription and translation. H. Tateishi-Karimata, T. Endoh, S. Takahashi, **N. Sugimoto**

*** Principle Author**

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Thursday Afternoon

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 3

Functional Nanomaterials Based on Coordination Chemistry (#73)

Organized by: T. Uemura, M. MacLachlan, H. Matsui
Presiding: M. MacLachlan

13:00 – 784. Shape-shifting supramolecular structures regulated through coordination chemistry. **C.A. Mirkin***
13:25 – 785. Chemical and electrochemical switching of a ferrocene-based molecular rotor: Toward non-interlocked molecular actuators. **J.D. Crowley***, S.Ø. Scottwell, A.B. Elliott, K.C. Gordon, J. McAdam, K.J. Shaffer, A. Nafady
13:40 – 786. Electrochromism in metallo-supramolecular polymers. **M. Higuchi***
14:00 – 787. Coordination-based molecular assemblies as electrochromic materials: Ultrahigh switching stability and coloration efficiencies. **M. Lahav**
14:15 – 788. High-resolution separation of thiolate-protected gold clusters. **Y. Negishi***
14:35 Break
14:45 – 789. Self-assembly approaches toward photon-harvesting and upconverting molecular systems. **N. Kimizuka**
15:10 – 790. Multifunctional nanoballs. **S.R. Batten**
15:25 – 791. Surface assisted self-assembly of porphyrin wires. **J. WEISS***, J.A. WYTKO, Y. KIKKAWA
15:45 – 792. Control of the molecular orientation of metalloporphyrin on surface. **S. Yoshimoto***
16:05 – 793. Investigating the role of defects in semiconducting polymer nanowires. **C. Luscombe***
16:25 – 794. Selective synthesis of Co_8S_{15} cluster inside the bowl-shaped templating fullerene ligand. **Y. Matsuo***

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 1

Coordination and Supramolecular Chemistry for Aqueous Metal Ion Separations (#97)

Organized by: R. Ellis, D. Robinson, R. Motokawa

13:00 – 795. Speciation of rare-earth-element ions at liquid-vapor interfaces. M.K. Bera, G. Luo, M.L. Schlossman, L. Soderholm, S. Lee, **M.R. Antonio***
13:25 – 796. Understanding of self-assembly of heteropolyanions in bulk aqueous solutions and at air-water interfaces. **M.K. Bera**, M.R. Antonio
13:50 – 797. Active interface in liquid/liquid extraction processes probed by non-linear optics and neutron/x-ray reflectivity: static and dynamics. **O. Diat***, E. Scoppola, H. El Ouazzani , J. Dufreche, D. Meyer, P. Guilbaud, A. Jonchere, P. Brevet, G. Fragneto, O. Konovalov, P. Gassin
14:15 – 798. Understanding the structures of solvent extraction in the organic phase at the all-atom resolution. **B. Qiao**, M. Olvera de la Cruz, R. Ellis
14:40 – 799. Cluster-based uranium separation chemistry with excellent atom economy. **M. Nyman**, H. Neal
15:05 Break
15:20 – 800. Biomolecules for supramolecular separations of the actinides. **M. Jensen***, J. Gogolski
15:45 – 801. Colloidal model for separation chemistry. **J. Dufreche**, T. Zemb, M. Duvail, A. Karmakar, Y. Chen, N. Nguyen, P. Guilbaud
16:10 – 802. X-ray observations of ion-extractant complexes arrested at the oil-water interface during solvent extraction. **M.L. Schlossman***
16:35 – 803. SANS and EXAFS study of hierarchical structure assembled by coordination species in biphasic solvent extraction. **R. Motokawa**, T. Kobayashi, H. Endo, S. Suzuki, T. Yaita

Hilton Hawaiian Village
Mid-Pacific Center, Coral 1

Frontiers of Molecular Magnetism (#109)

Organized by: H. Oshio, J. Miller, R. Oakley, S. Brooker, S. Gao, M. Ohba
Presiding: R. Clerac, S. GAO

13:00 – 804. Molecular magnetism controlled by solid-state electrochemistry. **K. Awaga***
13:30 – 805. Weak ferromagnetic ordering of Li[TCNE] (TCNE = tetracyanoethylene). **J.S. Miller**, J. Her, P. Stephens, R. Davidson, J. Novoa, F. Mota, F. Palacio
13:50 – 806. Explaining the puzzling magnetism of two-coordinate first row transition metal complexes. L.M. Davis, C.F. Lovitt, C.M. Spicer, G.R. Potratz, B.B. Trinh, M.J. Nilges, S.A. Stoian, W.M. Reiff, **G.S. Girolami**
14:10 – 807. Transport properties of pi-stacked radical polymer based on trioxotriangulene neutral radicals. **Y. Morita***, C. Yamada, T. Torii, T. Murata
14:30 Break
14:45 – 808. Lanthanide phosphonates with tunable magnetic behaviors. **L. Zheng**
15:05 – 809. Organometallic single-ion magnets. **S. GAO**
15:25 – 810. Self-assembly of coordination complexes with regular arraysof metal ions: Rings, helices, and grids. **T. Shiga***, H. Sato, G.N. Newton, H. Oshio*
15:45 – 811. Electronic, electrochemical, and magnetic properties of mixed-valence polyoxometalates with $3d^n/3d^{n-1}$ and $4d^n/4d^{n-1}$ configurations. **D. Venegas-Yazigi**, F. Fernandez-Vidal, J. Gonzalez, N. Soto, K. Wrighton, C. Aliaga, V. Paredes-Garcia, E. Spodine
16:05 – 812. Protecting molecular spin qubits against dipolar decoherence. **S. Hill***, M. Shiddiq, D. Komijani, Y. Duan, S. Cardona-Serra, A. Gaita-Ariño, E. Coronado

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 2

Electron Transfer and Electrochemistry of Inorganic and Organometallic Materials (#126)

Organized by: H. Nishihara, P. Harvey, W. Wong
Presiding: T. Michinobu, H. Nishihara

13:00 – 813. Photofunctional bottom-up bis(dipyrrinato)zinc(II) complex nanosheet. **R. Sakamoto***
13:30 – 814. Photofunctional 1D coordination polymer featuring bis(dipyrrinato)zinc(II) complex motif. **R. Matsuoka**, R. Sakamoto, H. Nishihara*
13:50 – 815. New redox-active multilayer thin films and their silver complexes by alkyne-acceptor click chemistry. **T. Michinobu***
14:20 – 816. Controlling the charge state in heterolayer films of sequential assembled Ru complexes toward molecular memory devices. **M. Haga***, T. Nagashima, H. Ozawa
14:40 – 817. External stimuli-induced intramolecular electron transfers in cyanide-bridged multinuclear complexes. **M. Nihei***, Y. Sekine, K. Shiroyanagi, H. Oshio
15:10 – 818. Multi-electron redox tuning of bimetallic complexes with open coordination sites. **D. Villagran***, K. Ventura, N. Valdez, Y. Wu, J. Veleta, A. Metta-Magana
15:30 – 819. Valence-detrapping in the mixed-valence state of biosmocenium(II, IV) salts. H. Yasuhara, **S. Nakashima***
15:50 – 820. Cu(II)/Cu(I) electron transfer coupled to dioxygen activation in biomimetic complexes: Mononuclear vs. dinuclear approach. **Y. LE MEST***, N. Le Poul, B. Douziech
16:20 – 821. Electrochemical evaluation of pseudo-Jahn-Teller effects in polyoxometalate anions. **K. Eda***, K. Koike, H. Hirabaru, T. Ueda, T. Osakai
16:40 – 822. Mechanism of the oxidation of acetylferrocene and 1-ferrocenylethanol by dicyanobis(phenanthroline)iron(III). **R. Khattak***, I.I. Naqvi

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Activation and Transformation of Small Molecules Mediated by Early Transition Metal Complexes (#170)

Organized by: K. Theopold, K. Mashima, Z. Xie
Presiding: K.H. Theopold

13:00 – 823. Titanium tris-anilide cation: Discovery of a bis-titananoxy carbene bonding mode for CO_2 and oxalate formation. A. Paparo, J. Silvia, H. Spinney, C. Clough, **C. Cummins***, T. Spaniol, J. Okuda, C. Kefalidis, L. Maron
13:30 – 824. N_2-splitting and functionalization in the coordination sphere of rhenium. **I. Klopsch**, C. Würtele, M. Finger, S. Schneider*
13:50 – 825. Tantallacarborane-mediated cleavage of C-N multiple bond. **Z. Xie**
14:20 – 826. Construction of novel phosphorus functionalised carbynes of molybdenum and tungsten. **A.F. Hill***, A.L. Colebatch, R. Shang, A.C. Willis
14:40 – 827. Zirconium-mediated activation of small molecules: Synthesis of functional carboranes. **Z. Qiu**
15:00 – 828. Paddlewheel Mo_2-catalyzed hydrodehalogenation reaction of polyhaloalkanes. **H. Tsurugi**, S. Kando, R. Supriya, A. Hayakawa, Y. Sugino, K. Mashima*
15:20 – 829. Quintuple bond reactivity and high catalyst economy in coordinative chain transfer polymerization. **R. Kempe***
15:50 – 830. Halogen exchange reaction of alkyl fluorides with organic halogen sources. **Y. Mizukami**, Z. SONG, T. Takahashi*
16:10 – 831. Metal carbonyls as nucleophilic partners for frustrated Lewis pairs. **M. Sharma**, A.F. Hill*, N. Otten
16:30 – 832. Activation of molecular nitrogen by early transition metal complexes. **M. Fryzuk***, A. Yeo

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

Transition Metal Complexes of N-Heterocyclic and Mesoionic Carbenes: Structure, Materials and Catalytic Applications. (#195)

Organized by: C. Crudden, S. Chang, M. Albrecht, D. Allen, U. Complete

13:00 – 833. Transition metal complexes bearing carbenes beyond classical NHCs: Synthesis and catalytic activity. Y. Bidal, m. lesieur, M. Melaimi, f. nahra, G. Bertrand, **C. Cazin***
13:20 – 834. Design of selective reactions of olefins. **R.H. Grubbs***
13:50 – 835. Mono arylation of primary amines and ammonia using specially designed Pd-NHC complexes. R. Rucker, S. Sharif, N. Chandrasoma, D. Mitchell, M. Rodriguez, **M.G. Organ***, C. Lombardi
14:10 – 836. Cationic 4-phosphonio-substituted NHCs and their coordination chemistry. **J.J. Weigand***
14:30 – 837. *N*-Heterocyclic olefins - a new class of tuneable ligands. **C. Hering-Junghans**, K.C. Powers, E. Rivard*
14:50 – 838. Metal complexes of mesoionic carbenes: Electron reservoirs and catalysis. **B. Sarkar**
15:10 – 839. Enantiomerically pure bidentate amine tethered N-heterocyclic carbenes: Synthesis, transition metal complexes, and their asymmetric catalytic applications. **K. Wan**, H. Rebmann, A.J. Lough, R.H. Morris*
15:30 – 840. 3D structure determination of surface species by DNP enhanced solid-state NMR. **D. Gajan**, P. Berruyer*, M. Lelli, A. Zagdoun, A. Rossini, M. Conley, O. Ouari, P. Tordo, C. Copéret, A. Lesage, L. Emsley
15:50 – 841. Low-electron count platinum complexes stabilized by N-heterocyclic carbenes: From stoichiometric reactions to efficient catalysts. **S. Conejero**
16:20 – 842. Selective CH and CN bond activation on an iridium triazolylidene platform. **M. Albrecht***

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 3

Photofunctional Chemistry Based on Metal Complexes and/or Supramolecules (#239)

Organized by: K. Ishii, Z. Chen, P. Ford, G. Hanan

13:00 Opening remarks
13:05 – 843. Toward controlling electron transfer in solution with bond-specific infrared excitation. M. Delor, P. Scattergood, M. Towrie, A. Parker, G. Greetham, T. Keane, I.V. Sazanovich, A. Meijer, **J.A. Weinstein***
13:30 – 844. Synthesis of luminescent thiolato copper(I) complexes with bis-pyridyl ligands. **K. Tsuge**, T. Suzuki, M. Sato, H. Ohtsu, K. Nozaki
13:45 – 845. Development of intelligent sensors based on Cu(I)-cluster luminophore. **A. Kobayashi***, T. Hayashi, M. Yoshida, M. Kato
14:00 – 846. Structural and photophysical diversity in d10 metal complexes. **T. Tsubomura**
14:15 – 847. Luminescent chromic metal complexes. **M. Kato***
14:40 – 848. Insights into lanthanide sensitisation using ultrafast spectroscopy. **E.G. Moore***
14:55 Coffee break
15:05 – 849. Luminescent nanoparticles composed of lanthanide coordination polymers. **Y. Hasegawa***
15:20 – 850. Interfacial europium complex on SiO_2 nanoparticles for reduction-induced blue emission system. **A. Ishii***, M. Hasegawa
15:35 – 851. Triarylboron-functionalized lanthanide complexes and their applications. J. Peng, T. Wu, **S. Wang***
15:50 – 852. Detection of enzyme activities using luminescent lanthanide complexes. **T. Terai***, H. Ito, T. Nagano, Y. Urano*
16:05 – 853. Mixed transition-metal/lanthanide complexes as bifunctional imaging agents. **M. Ward***
16:20 – 854. Phosphorescent rhenium complexes: New building blocks for metabolism trackers. **M. Massi***, M. Werrett, P. Wright, S. Plush, D. Brooks, S. Stagni
16:35 – 855. Exploitation of the photophysical and photochemical properties of luminescent rhenium(I) and iridium(III) polypyridine complexes in the design of biological probes and photocytotoxic agents. **K. Lo***

*** Principle Author**

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Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 2

Inorganic Complexes for Solar Energy Harvesting (#256)

Organized by: M. Wolf, K. Sakai, F. MacDonnell
Presiding: F.M. MacDonnell

13:00 Opening Remarks
13:05 – 856. Ultrafast photodriven redox processes in photcatalysts for artificial photosynthesis. **M.R. Wasielewski***, R. Lindquist, M. Majewski, W. Han, B.T. Phelan
13:40 – 857. Photoenergy conversion processes studied by time-resolved infrared spectroscopy. **K. Onda***
14:15 – 858. Electrochemical and excited-state properties of cyclometalated Ir(III)-Pt(II) and Ir(III)-Ir(III) bimetallic complexes bridged by dipyridylpyrazine. Y. Cho, H. Son, M. Baik, **S. Kang***
14:35 – 859. Ultrafast charge transfer across the 5P-pyridine/ZnO(10-10) interface. **J. Stähler***, J. Deinert, C. Richter, L. Bogner, M. Wolf
14:55 Break
15:10 – 860. Perspective of Karen Brewer's approach to solar fuel chemistry using supramolecular complexes. K.J. Brewer, **E.M. Naughton***, J.A. Beach, K.M. Felice, R.B. Moore
15:45 – 861. Photophysics of metal complexes with π-conjugated ligands. **M.O. Wolf**, M. Majewski, A. Howarth
16:05 – 862. Measurement of the activation energies of exciton migration in ruthenium(II) and rhodium(III) polypyridyl and phenanthroline complexes via luminescence at cryogenic temperatures. J.W. Kenney*, **G.A. Crosby**, P. Weaver, J. Macwillie

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 1

Metal Mediated Polymerization (#292)

Organized by: P. Hayes, R. Waterman, T. Mizuta, Y. Tang, P. Sangtrirutnugul
Presiding: B. de Bruin, C.M. Kozak

13:00 – 863. Organolithium compounds for construction of olefin polymerization catalysts and for initiation of anionic styrene polymerization. **B. Lee***
13:30 – 864. Synthesis of cyclic olefin copolymers by half-titanocene catalysts. **w. zhao**, K. NOMURA*
13:50 – 865. Characterizaton and mechanism of formation of the active site in the Phillip's ethylene polymerizatoin catalyst. **A.E. Stiegman**, S.L. Scott
14:10 – 866. Versatile approach to amine-containing polymers via tandem sequential hydroaminalkylation and ROMP. **L.L. Schafer***
14:40 Intermission
14:55 – 867. Synthesis of PE Oil, wax and UHMWPE by developing olefin polymerization catalysts. **X. Sun***, Y. Tang
15:25 – 868. Copolymerization of ethylene with methyl acrylate by bisphosphine monoxide-palladium catalysts enabled by ligand-controlled insertion regioselectivity. **Y. Mitsushige**, C. Brad P., S. Ito, K. Nozaki*
15:45 – 869. Copolymerization of polar monomers and α-olefins with late transition metal post-metallocene catalyst. **Y. Konishi**, N. Sato, K. Hirokane, H. Shimizu, H. Uchino, F. Shimizu, A. Tanna, T. Tayano
16:05 – 870. Extraordinarily active zwitterionic nickel catalysts for CO-ethylene alternating copolymerization. **L. Jia***

Hilton Hawaiian Village
Kalia Tower, Kahili 1 & 2

Novel Heme Proteins and Model Systems (#305)

Organized by: J. Dawson, T. Hayashi, M. Stillman
Presiding: J. Dawson

13:00 break
13:40 – 871. Activation of cytochrome P450BM3 by decoy molecules for gaseous alkane hydroxylation. **O. Shoji***, Y. Watanabe*
14:00 – 872. Mechanisms of C-H oxygenation by heme-thiolate peroxygenases and related model systems. **J.T. Groves***
14:20 – 873. Capture and characterization of reactive intermediates in P450 catalysis: Insights into biological C-H bond activation. **M. Green**
14:40 – 874. Rerouting of cytochrome P450 ferryl intermediates for hydrocarbon biosynthesis. **T.M. Makris**
15:00 – 875. Light-driven P450 biocatalysts. **L. Cheruzel***
15:20 – 876. Vibrational coherence and kinetic studies of novel heme proteins. **P. Champion***
15:40 – 877. Effector role of pdx in P450cam studied by double electron-electron resonance. **D.B. Goodin***, S. Liou, X. Shi, M. Mahomed, x. Cheng, W. Myers, R. Britt
16:00 – 878. Controlled oxidation of aliphatic C-H bonds in recombinant P450 BM3: Mechanistic insights derived from studies on deuterated and fluorinated substituents. **S.S. Yu***, C. Yang, C. Lin
16:20 – 879. Heme porphyrin in NO synthase acts like a wire to deliver an electron at a specific step during catalysis. **D. Stuehr***

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Metal Coordination Sphere Design for Challenging Bond Transformations (#318)

Organized by: K. Caulton, A. Hill, S. Johnson, M. Yamashita
Presiding: S.A. Johnson, O.V. Ozerov

13:00 – 880. Bond cleavage by using low-coordinate group 9 metal complexes possessing a boron-based pincer ligand. **M. Yamashita***
13:20 – 881. Syntheses and reactions of new fused-ring metallabenzenes. B.J. Frogley, T.M. Christy, **L.J. Wright***
13:40 – 882. Chemoselectivity in activation of E-H and C-X bonds at late transition metals. **R.N. Perutz***, B. Procacci
14:00 – 883. N-N cleavage and functionalization by multinuclear iron systems. K.C. MacLeod, **P.L. Holland***
14:15 – 884. Oxidative addition to gold(I): It is all a question of ligand design. A. Amgoune, **D. Bourissou***
14:35 – 885. Amine oxidation mediated by iridium pincer complexes. **S. Schneider**
14:50 – 886. Palladium carbene complexes as persistent radicals. **V.M. Iluc***
15:05 – 887. Exploiting the redox activity of ligands with tetrazine functionality. B. Cook, D. Skomski, R. Lord, A. Polezhaev, S.L. Tait, C. Chen, M. Pink, **K. Caulton***
15:25 – 888. PCP pincer ligands anchored by carbene donors: M=C cooperative function in catalytic processes. **W.E. Piers***, L.E. Doyle, E. Lapierre, J.D. Smith, M. Sgro, D. Spasyuk
15:45 – 889. Macrocyclic platforms for small molecule redox chemistry: defining reaction space in di- and tetranuclear complexes. **J. Love***, J.R. Pankhurst, T. Cadenbach, M. Curcio
16:00 – 890. Controlling the reactivity of paramagnetic Group 10 metal complexes using flexible multidentate ligands. **L. Mirica***
16:15 – 891. Robust, ancillary ligand-free, catalysts of the first-row transition elements – hydrodesulfurization and hydrodeoxygenation under mild conditions. **J.M. Stryker**
16:30 – 892. Studies of the synthesis and reactivity of 2-nickelaoxetanes. A. Desnoyer, E. Bowes, **J. Love***
16:45 Flash Session 2

Hilton Hawaiian Village
Rainbow Tower, Rainbow 2

Telomeres and other G-quadruplex Structures as Targets for Metallodrugs (#459)

Organized by: J. Aldrich-Wright, N. Sugimoto, J. Chaires, S. Ralph
Presiding: J. Aldrich-Wright, N. Sugimoto

13:00 – 893. Fifty shades of G: Quadruplexes come in many forms. **J. Mergny**
13:30 – 894. Binding interactions between nickel Schiff base complexes and DNA. **K.J. Davis***, C. Richardson, A. Willis, A. Guedin, J. Mergny, J.L. Beck, S.F. Ralph
13:50 – 895. Tetraplex nucleic acids in drug discovery and biosensing. **F. Shao***
14:20 – 896. G-quadruplex DNA interactions of dinuclear Pt(II) complexes. B. Harper, R. Vilar, N. Jones, S. Hoffmann, D.L. Ang, **B.J. Pages**, J. Aldrich-Wright*
14:40 Afternoon tea
14:55 – 897. Thioflavin T analogs as G-quadruplex indicators and their applications to bioanalysis. Y. Kataoka, H. Fujita, **M. Kuwahara***
15:15 – 898. G-quadruplex ligands toward photodynamic therapy. **D. Miyoshi***, K. Murata, H. Matsuno, N. Sugimoto
15:35 – 899. Assessment of the selectivity of Ni(II)-complexes towards G-quadruplex topologies. **A. De Rache***, L. Sabater, L. Lecarme, F. Thomas, G. Pratviel, J. Mergny
15:55 – 900. NMR insights into folding intermediates and novel tetrahelical G-rich structures. **J. Plavec**
16:25 – 901. Design and development of quadruplex-binding small molecules targeting human cancers. **S. Neidle***

Thursday Evening

Hawaii Convention Center
Halls I, II, III

Functional Nanomaterials Based on Coordination Chemistry (#73)

Organized by: T. Uemura, M. MacLachlan, H. Matsui

Poster Session
19:00 – 21:00

902. Efficient post-assembly modification of dynamic metallosupramolecular architectures. **D.A. Roberts**, J.R. Nitschke
903. Double-malate bridging tri-europium cluster encapsulated arsenotungstates with long-life luminescence. P. Ma, M. Imran, D. Zhang, J. Wang, **J. Niu**
904. Catalytic properties of metal–organic frameworks composites loading metal nanoparticles prepared through arc plasma deposition. **M. Sadakiyo***, S. Yoshimaru, H. Kasai, K. Kato, M. Takata, M. Yamauchi*
905. Modular assembly and guest-binding behavior of biomimetic coordination super-containers. **F. Dai***, Z. Wang, Z. Chen
906. Structural study of gold nanoparticles with sugar-type surfactant using SANS, SAXS, and XAFS methods. **K. Akutsu***, H. Iwase, Y. Nakatani, T. Yoshimura
907. Heteropentanuclear metal string complex Mo_2NiMo_2 with V-shaped quadruple bonds and a high spin square planar Ni(II) ion. **W. Hung**, G. Lee, S. Peng
908. Direct evidence of an equilibrium between tungsten (VI) alkyl-alkylidyne and its bis(alkylidene) tautomer through its reaction with surface N-donor ligands. **A. Bendjeriou-Sedjerari***, J. Sofack-Kreuter, E. Abou-Hamad, K. Huang, J. Basset
909. Fe(II)/Pt(II) based multifunctional heterometallo-supramolecular polymer. **C. Chakraborty***, S. Moriyama, M. Higuchi
910. Negative linear compressibility in a chiral coordination polymer. **H.H. Yeung***, A.K. Cheetham, S. Moggach
911. Synthetic, structural, and property analysis of a heterometallic Ni(II)/Cu(II) cage. **N.D. Shepherd***, F. Li, L.F. Lindoy, Y. Zhang
912. Phosphine-functionalized thiophene-based metallopolymers. **J. Clifton***, I. Manners, P.G. Pringle
913. Characterization for metal-oxide nanoparticles generating radicals with X-ray irradiation. **C. NUMAKO***, S. Miyazaki, K. Sato, S. Takami, C. Ogino, A. Kondo
914. Structual control of chloranilate-based hybrid compounds. **K. Kanazashi**, R. Ishikawa, S. Kawata
915. DNA aptamer interactions with aqueous gold interfaces: Influences of interfacial shape, presence of citrate, and temperature on structure disorder. **K.L. Drew**, Z.E. Hughes, J. Palafox-Hernandez, T.R. Walsh
916. Direct synthesis and evaluation of complexes in an inner aqueous phase of liposome. **M. Honjo***, T. Koshiyama, M. Ohba
917. Metal-to-metal charge transfer and spin-crossover in mixed-valence iron coordination polymers. **K. Nakamura**, S. Kang, S. Kanegawa, O. Sato
918. Building block approach in the design of coordination polymers based on metal-pyrazinediol complexes. **M. Ogawa**
919. Velocity visualization of rotational motions in a dirhodium-centered, circularly-arranged four-gear system. **K. Sanada**, H. Ube, M. Shionoya*
920. Controlled radical copolymerization of vinyl monomers in a porous metal complex with coordinatively unsaturated sites. **S. Mochizuki**, T. Uemura, S. Kitagawa
921. Reversibly electroswitchable photoluminescence using fe(ii)-based metallo-supramolecular polymer. **T. Suzuki***, T. Sato, J. ZHANG, M. Higuchi, H. Maki
922. Ferroelectric coordination polymers self-assembled from liquid crystalline zinc(II) porphyrin and dipyridyl ligands. **J.K. Hui**, H. Kishida, K. Takemasu, M. Morikawa, N. Kimizuka*
923. Synthesis of human serum albumin having a terpyridyl group and its dimer formation by metal-coordination. **S. Suzuki**
924. Design of novel inorganic-organic hybrids constructed from chloranilic acid and n-alkylamine. **S. Yagishita**, S. Kawata, R. Ishikawa, A. HIMEGI
925. Syntheses and properties of planar-typed complexes bridged by TCNQ derivatives. **S. Ueno**, R. Ishikawa, S. Kawata
926. Stepwise regioselective quarter sphere hexa-imidization of $[Mo_6O_{19}]^{2-}$, $[Mo_3W_3O_{19}]^{2-}$, $[Mo_3V_4O_{20}]^{2-}$ by applying $[Mo_3O_7(NAr)_3(\mu_2\text{-}NAr)_3]^{8-}$ as a structure-directing template. **J. Zhang**, Y. Huang, J. Hao, Y. Wei
927. Synthesis and structure of ladder-type Pd-halide chain complex. **R. Kimura**, S. KUMAGAI, H. Iguchi*, S. Takaishi, M. Yamashita*
928. Syntheses and characterizations of tiara-shaped metal-thiolate macrocyclic hosts. **Y. Shichibu***, K. Yoshida, K. Konishi
929. Formation of sub-micron coordination particles using a phosphonate ligand. **K.J. Bladek**, B. Gelfand, G. Shimizu
930. Helical metallo-supramolecular polymer and their DNA binding and cytotoxicity study. **U. Rana***, M. Higuchi
931. Ionic conductivity of metallo-supramolecular polymers having linear and 3D structure. **R.K. Pandey***, T. Sato, M.D. Hossain, S. Moriyama, M. Higuchi

*** Principle Author**

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932. Control of coordination bond angles in $[Mn^{V}(N)(CN)_4]^{2-}$ using dabco-$(CH_2)_{x-1}$-CH_3 cations (X=15~18) and parity effect on the redox potentials. **Y. Kitamura**, R. Ohtani, K. Takami, m. nakamura, S. Hayami
933. Metal-directed short peptide folding and assembly for unique entangled nanostructures. **T. Sawada**, A. Matsumoto, M. Yamagami, M. Fujita*
934. Large indium-selenide triangular ring cluster: Structure and templating effect. **J. Dai***, **Q. Zhu***, Y. Wang
935. Fabrication and its diode behavior of heterolayer film composed of the Ru complex and Prussian blue nanocrystals. **H. SATO**, H. Ozawa, K. Kanaizuka, M. Kurihara, M. Haga*
936. Synthesis and guest encapsulation of sugar sponge. **G. Ning**, Y. Inokuma, M. Fujita*
937. Nanosized neutral luminescent organometallic macrocycles based on Ir(III) porphyrin: From controlled self-assembly to optical functional supramolecules. **L. Qin**, C. Che
938. Polysilane confined in coordination nanospaces. **T. Kitao***, T. Uemura, S. Kitagawa
939. Synthesis and structural determination of metal directed julolidine based optical sensors. **D.J. Fanna***, F. Li, J. Reynolds
940. Synthesis of porphyrin wire connected by Pd(II) coordination. **Y. Yagisawa**, Y. Yamazawa, T. Komatsu*
941. Mixing of immiscible polymers using nanoporous coodrdination templates. T. Uemura*, T. Kaseda, **Y. Sasaki**, S. Kitagawa
942. Structural control of crystalline folded peptide coordination networks. **M. Yamagami**, T. Sawada, M. Fujita*
943. Large spin-crossover $[Fe_4L_4]^{8+}$ tetrahedral cage. **L. Li**, **L.F. Lindoy**, **C. Li**, **J. Aldrich-Wright**, **F. Li**

Hawaii Convention Center
Halls I, II, III

Coordination and Supramolecular Chemistry for Aqueous Metal Ion Separations (#97)

Organized by: R. Ellis, D. Robinson, R. Motokawa

Poster Session
19:00 – 21:00

944. Separation and recovery of rare metal ions from saline water using synthetic peptides. **T. Jung**, D. Pamidimarri, S. Hong, S. Jeon, S. Chung, J. Na*
945. From molecular coordination to supramolecular structure of organic phases: Multiscale experimental and theoretical studies. **G. Ferru***
946. Sulfonamide extractants and analogs in separations and sensing applications: Combining coordination chemistry and solvent extraction principles for designing selective extractants and sensors for toxic metals and other ionic targets. **K. Kavallieratos***
947. Effect of metal salts on the oxidation reaction of (acetylphenyl)ferrocenes. **S. Yamamoto***, Y. Okada
948. Understanding actinide and lanthanide complexation in solution: From fundamentals to applications. **P.V. Dau**, Z. Zhang, L. Rao*
949. Progress towards new calix[4]arene based stationary phases useful in the separation of rare earth metals. **S.R. Menon**, J.A. Schmidt*
950. Coordination ability of 1,1'-disubstituted ferrocenes bearing pyridyl group. **M. Murayama***, Y. Okada
951. Coordination ability of 1,1'-disubstituted ferrocenes bearing ethyleneoxy chain. **T. Morita***, Y. Okada

Hawaii Convention Center
Halls I, II, III

Frontiers of Molecular Magnetism (#109)

Organized by: H. Oshio, J. Miller, R. Oakley, S. Brooker, S. Gao, M. Ohba

Poster Session
19:00 – 21:00

952. Cyanide-bridged Co–W bimetal assembly exhibiting photo-induced charge transfer phase transition at room temperature. **Y. Miyamoto***, N. Ozaki, Y. Umeta, K. Imoto, H. Tokoro, K. Nakabayashi, S. Ohkoshi
953. Spatially inhomogeneous, stepwise phase transitions in a heterocyclic thiazyl diradical: Geometrical frustration induced by mismatch between translational symmetry and lattice transformation. **R. Suizu**, Y. Shuku, K. Awaga
954. 2,5-Disubstituted transition metal 1,3,4-oxadiazoles for spin crossover compounds. **C. Köhler**, E. Rentschler*
955. Research for the relationship between structure and spin crossover phenomena in new type of iron(III) dithiocarbamato complex. **T. Yamabayashi**, K. Kagesawa*, B.K. Breedlove, M. Yamashita*
956. NO responsivity of a Hofmann-type porous coordination polymer and magnetic behavior of its NO clathrate. **A. Mishima**, R. Ohtani, A. Hori, R. Matsuda, S. Kitagawa, T. Koshiyama, M. Ohba*
957. Mononuclear and polynuclear spin-crossover iron(II)-bis(pyrazol-1-yl)pyridine complexes. **I. Salitros***
958. Synthesis, structure, and SMM behavior of a Zn(II)-Ce(III)-Zn(II) complex with pseudo threefold symmetry. **N. Irie**, S. Kayahara, H. Wada, S. Ooka, C. Takehara, P. Then, Y. Kataoka, T. Kajiwara, T. Yamamura
959. Fe(II) spin crossover complexes with hexadentate tripodal ligands derived from 1R-1,2,3-triazole-4-carbaldehyde and tris(2-aminoethyl)amine. **R. Minoura**, H. Hagiwara*
960. Linear two-coordinate transition metal complexes: Potential candidates for single molecule magnets?. **C. Lin***, P.P. Power
961. Spin transition behavior of mixed-metal porous magnetic solid solution. **M. Tsuji**, A. Mishima, Y. Ohtsubo, T. Koshiyama, M. Ohba*
962. Magnetic property and optical property of cesium manganese pentacyanidonitrosylmolybdate assembly. **M. Komine**, K. Imoto, Y. Miyamoto, K. Nakabayashi, S. Ohkoshi
963. Pushing the limits of magnetic anisotropy in monometallic 3d single-molecule magnets. K.E. Marriott, L. Bhaskaran, C. Wilson, R.J. Deeth, S.T. Ochsenbein, S. Hill, **M. Murrie***
964. Effect on the ferromagnetic transition temperature of the cobalt layered hydroxides by employment of the monovalent diarylethene derivative with a carboxyl group. **Y. Inada**, S. Kubota, A. Okazawa, N. Kojima, M. Enomoto
965. Study of single-chain magnet-like behavior in $(NH_4)_2MnF_5$. **J. Satoh**, K. Kagesawa*, S. Takaishi, B.K. Breedlove, M. Yamashita*
966. High-spin ground state and single-molecule magnet behavior in tri- and hexanuclear iron clusters. **R. Hernández Sánchez**, G. Ménard, T. M. Powers, T. Betley*
967. Magnetic properties of hydroxyl-bridged heptanuclear complexes. **Y. Tsuji***, T. Togo, A. Mishima, T. Koshiyama, M. Ohba
968. Optical bistability in a photochromic valence tautomeric cobalt cluster. **A. Kurimoto**, M.M. Paquette, N.L. Frank*
969. Spin-crossover FeIIN6 complexes of nonplanar tridentate ligands: An overview. **S. Javed***
970. Multistep phase transition in cyanide-bridged multinuclear complexes. **M. Nihei***, Y. Yanai, H. Oshio
971. High ionic conductivity on cyano-bridged metal assemblies. **K. Nakagawa**, K. Imoto, S. Ohkoshi
972. Synthesis and characterization of a new air stable 1,2,4-triazinyl radical and its coordination complexes. I.S. Morgan, A. Mansikkamäki, P. Koutentis, R. Clerac, **H.M. Tuononen***
973. Hysteretic spin crossover with remarkable shift of critical temperature in new iron(II) complexes with 1,2,3-triazole containing tetradentate ligand. **S. Okada**, H. Hagiwara*
974. Magnetic properties of dysprosium(III)-yttrium(III) phthalocyaninato quadruple-decker complexes. **Y. Horii**, K. Katoh, B.K. Breedlove, M. Yamashita
975. Insufficiency of the anisotropy barrier, as the sole criterion, for the design of lanthanide single-molecule magnets. **K.S. Pedersen***, J. Bendix, J. Dreiser, M. Soerensen, R. Sibille, H. Mutka, S. Piligkos
976. Photoinduced magnetization in spin-crossover Fe-$[Nb(CN)_8]$-based assembly. **K. Imoto**, H. Tokoro, S. Ohkoshi
977. Reactivity of novel diiron complex with anthracene framework. **K. Fujimoto**, T. Suzuki, T. Inomata, T. Ozawa, H. Masuda, M. Fryzuk
978. Syntheses and SMM behaviors of lanthanide(III) azacrown-ether complexes: Correlation between magnetic behaviors and crystal structures. **H. Wada***, S. Ooka, P. Then, C. Takehara, Y. Kataoka, T. Kajiwara, T. Yamamura
979. Magnetic properties of Co^{2+} ion doped Hofmann-type spin-crossover complex: $Fe_{1-x}Co_x(3\text{-Fluoropyridine})_2[Au(CN)_2]_2$. **S. Matsumoto***, J. Okabayashi, T. Kitazawa
980. Structures and magnetic properties of a series of Ln_4 tetrahedral complexes: A Dy analog with single-molecule magnet behaviour. **H. Tsai***, P. Huang
981. Tuning interchain interaction by ligand manipulation in 2D network assembled with Mn(III) Schiff-base complex and dicarboxylic acids. **K. Kagesawa***, y. aono, h. yoshida, K. Katoh, B.K. Breedlove, M. Yamashita*
982. Magnetic and guest adsorption properties of porous magnets having dianion-based pseudo-pillared-layer type structure. **N. Tomokage***, H. Miura, A. Mishima, T. Koshiyama, M. Ohba
983. Two Gd^{III} coordination polymers derived from flexible dicarboxylate ligands as attractive cryogenic magnetorefrigerants. **S. Liu**, T. Zheng, H. Wen
984. Proton-induced switching of the SMM properties of a terbium(III)–pthalocyaninato double-decker complex. **Y. Horie**, Y. Horii, K. Katoh, B.K. Breedlove, M. Yamashita
985. Single ion magnets with multiple relaxation processes based on Co(II) and Ni(II) complexes. **R. Boca**
986. Syntheses and magnetic properties of transition-metal complexes with multichelating and high-spin radical ligands. **A. Okazawa***, T. Ishida, N. Kojima, K. Ogawa
987. Hydrogen adsorption and ortho-para conversion in porous magnets. **Y. Ohtsubo**, A. Mishima, A. Hori, T. Koshiyama, S. Kitagawa, M. Ohba
988. Magnetometry on nanoscale iron-oxide deposits in the human brain. **L. Dlhan***, M. Kopani, R. Boca
989. Correlation between charge transfer on a magnetic layer of the iron mixed valence complex and molecular polarization of cationic intecalants. K. Arai, H. Ida, A. Okazawa, N. Kojima, **M. Enomoto**
990. Magnetic properties of π-stacked pillared layer framework complexes with intercalated $[MCp^*_2]^+$. **H. Fukunaga**, Y. Sekine, W. Kosaka, K. Taniguchi, H. Miyasaka*
991. Effect of the direction of naphthalene moiety in $[Fe(qnal)_2]$ system. **Y. Norifumi**, T. Okubo, M. Maekawa, T. Kuroda-Sowa
992. Synthesis and physical properties of a cyanide-bridged Fe-Co cage complex. **R. Wei**, T. Shiga, G.N. Newton, H. Oshio*
993. Bis(tridentate) Schiff-base bridged spin transition iron complexes using ''click'' chemistry. **H. Hagiwara***, T. Tanaka, S. Hora
994. Crystal structures and physical properties of electron accepting thiadiazole dioxide compounds and their transition metal complexes. **Y. Shuku**, K. Awaga*
995. Modulation of magnetic dynamics of Dy-complexes driven by crystal packing. **M. Kamila***, G. Cosquer, M. Yamashita
996. Strongest ferromagnetic exchange coupling in gadolinium(III)-nitroxide coordination compounds. **T. Kanetomo***, T. Yoshitake, T. Ishida
997. Effect of the hydrogen-bond network in $[Fe(qsal\text{-}c)_2]$ spin crossover system. **T. Kuroda-Sowa***, A. Hinano, K. Sugimoto, T. Okubo, M. Maekawa
998. Counter-ion effects on magnetic properties of dicarboxylate-bridged [MnIII(salen)] complexes having two-dimensional network structure. **Y. Nishimura**, **h. yoshida**, **B.K. Breedlove**, **K. Kagesawa***, **M. Yamashita***
999. Syntheses and SMM behaviors of linear Zn^{II} - Ln^{III} - Zn^{II} trinuclear complexes with pseudo threefold symmetry (Ln = Pr, Nd). **S. Kayahara***, N. Irie, S. Ooka, H. Wada, C. Takehara, P. Then, Y. Kataoka, T. Kajiwara, T. Yamamura
1000. Crystal structures and magnetic properties of photoresponsive 2p-4f heterospin complexes. **K. Murashima**, S. Karasawa*, N. Koga*
1001. Synthesis, crystal structure, and magnetic properties of the face-shared triply bridged linear trinuclear complexes. **Y. Sunatsuki***, T. Kobayashi, T. Fujino, M. Iwayama, M. Kojima, T. Suzuki, N. Matsumoto, N. Re
1002. Magnetic properties of heterospin single-molecule magnets (SMMs) in frozen solution: Roles of S_{total} value in SMMs. **S. Karasawa***, K. Nakano, D. Yoshihara, J. Tanakashira, N. Yamamoto, T. Yoshizaki, Y. Inagaki, N. Koga*
1003. Chirality-assisted preparation of hetero metallic complexes and their physical properties. **S. Kanegawa**, S. Kang, O. Sato
1004. Unexpected, cooperative spin-crossover in iron(II)/dipyrazolylpyridine complexes with large Jahn-Teller distortions. L.J. Kershaw Cook, R. Kulmaczewski, G. Chastanet, T.P. Comyn, **M.A. Halcrow***
1005. Reversible photomagnetic effect on FeNb-octacyano bimetal assembly. **H. Tokoro***, K. Imoto, S. Ohkoshi*
1006. Preparations, molecular structures, and magnetic properties of photoresponsive cyclic dinuclear Mn^{II}, Fe^{II}, and Ni^{II} complexes in heterospin systems. **K. Mori**, D. Yoshihara, S. Karasawa*, N. Koga*

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Activation and Transformation of Small Molecules Mediated by Early Transition Metal Complexes (#170)

Organized by: K. Theopold, K. Mashima, Z. Xie
Presiding: J. Arnold

19:00 – 1007. Catalytic alkyne and diyne metathesis. **M. Tamm**
19:30 – 1008. Group 4 metal complexes containing amine/phosphine biphenolate ligands: Structure and catalysis. **L. Liang***
20:00 – 1009. Synthesis of the well-defined silica supported molybdenum-catalyst for metathesis of n-decane. **J. Basset**, S. Kavitake, M. Samantaray, R. Dey

*** Principle Author**

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20:30 – 1010. Sidearm approach to catalysts for olefin polymerization: Controllable synthesis of polyethylene. **Y. Tang**

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Transition Metal Complexes of N-Heterocyclic and Mesoionic Carbenes: Structure, Materials and Catalytic Applications. (#195)

Organized by: C. Crudden, S. Chang, M. Albrecht, D. Allen, U. Complete

Poster Session
19:00 – 21:00

1011. Dinickel(I) complexes bearing bulky NHC ligand as catalysts in the Kumada-Tamao-Corriu coupling of aryl halides. **K. Matsubara***, Y. Koga, K. Nonaka, T. Inatomi

1012. Carbene complexes with main group element and transition metal halides: Syntheses and applications. **G. Roeschenthaler***, T. Boettcher, L. Lewis-Alleyne

1013. Exploring new ligand architectures for ruthenium-mediated olefin metathesis. **G. Lavoie***, T. Larocque, A. Badaj

1014. Pincer complexes with central N-heterocyclic carbene donor for small molecule activation. **Y. Jiang**, R. Roesler*

1015. Homo- and hetero-bimetallic coinage metal N-heterocyclic carbene complexes. **P.J. Barnard**

1016. Application of open chain tetraimidazolium ruthenium-NHC complexes in catalysis. **M. Hollering***, C. Jandl, A. Pöthig, F. Kuhn

1017. Palladium-catalyzed asymmetric allylic alkylation using C_2-symmetric chiral bis(*N*-heterocyclic carbene) ligands. **Y. Yamaguchi***, Y. Suzuki, M. Asami

1018. Saturated *N*-heterocyclic carbenes-Pt complexes: Synthesis and catalytic activity for olefin hydrosilylation. **B. Yoo***, J. Han

1019. Dehydrocoupling of amine-boranes catalyzed by cyclometalated-NHC iron complex: Isolation of intermediate borato complexes and reaction kinetics. **H. Takahashi**, T. Watanabe, H. Tobita*

1020. Nickel-catalyzed alkynylation of anisoles via carbon-oxygen bond cleavage. M. Tobisu*, **T. Takahira**, N. Chatani

1021. Synthesis and reactivities of pincer-type complexes bearing protic N-heterocyclic carbene and pyrazole. **T. Toda**, S. Kuwata*, T. Ikariya

1022. Enantioselective Rh-catalyzed addition of arylboronic acids to aldehydes using NHC ligands bearing a cyclodextrin. **S. TSUDA**, K. ASAHI, T. Iwasaki, S. Fujiwara, H. Kuniyasu, N. Kambe

1023. Control of *cis*-selectivity and tacticity in ring-opening metathesis polymerization. **L. Rosebrugh**, V. Marx, T. Ahmed, J. Hartung, R.H. Grubbs*

1024. Synthesis, structures, and photoluminescence of pincer type C^C^C-N-heterocyclic carbene platinum(II) complexes. **J. Liu**, C. Che*

1025. Imidazo[1,5-*a*]pyridine carbene: Synthesis and characterization of annulated N-heterocyclic carbenes. **Y. Koto***, F. Shibahara, T. Murai

1026. Syntheses and catalytic ability of palladium complexes with sugar-incorporated N-heterocyclic carbene pincer ligands. **Y. Imanaka**, H. Hashimoto, T. Nishioka*

1027. Buchwald-Hartwig amination of aryl halides catalyzed by Ni(I) complexes and studies on the reaction mechanism. **T. Inatomi**

1028. Synthesis and structure of gold complexes using macrocyclic *N*-heterocyclic carbene ligands. **K. Fukasawa**, T. KATO, N. NISHINA*

1029. Proton induced generation of remote N-heterocyclic carbene–Ru complexes. **T. Fukushima***, K. Kobayashi, K. Tanaka

1030. Synthesis and structure of gold complexes using alkyne substituted *N*-heterocyclic carbene ligands. **E. Hasegawa**, N. NISHINA*

1031. Utilization of (η^6-arene)Ni(*N*-heterocyclic carbene) complexes as a precursor of Ni(0) source. **Y. Hayashi**, Y. Hoshimoto, M. Ohashi, S. Ogoshi*

1032. Bi- and trimetallic gold complexes of diphenylphosphinoethyl-functionalized imidazolium salts and their N-heterocyclic carbenes: Synthesis and photophysical properties. **S. Bestgen**

1033. Nickel-catalyzed reductive cleavage of anisole derivatives in the absence of external reductant. M. Tobisu*, **T. Morioka**, N. Chatani

1034. Atmospheric CO_2 fixation using ruthenium complexes having a CNC-type pincer ligand. **T. Nakamura**, S. Ogushi, E. Kazushige, Y. Arikawa, K. Umakoshi

Hawaii Convention Center
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Photofunctional Chemistry Based on Metal Complexes and/or Supramolecules (#239)

Organized by: K. Ishii, Z. Chen, P. Ford, G. Hanan

Poster Session
19:00 – 21:00

1035. Synthesis of bacteriochlorophyll-*d* amino-analogs and their self-aggregation. **H. Watanabe***, S. Shoji, T. Mizoguchi, H. Tamiaki

1036. Circularly polarized luminescence in lanthanide(III) complexes having a chiral bis(oxazolinyl) pyridine ligand and its application. **J. Yuasa**, K. Uemura, T. Kawai

1037. Very long-lived photoinduced charge-separated states of triphenylamine-naphthalenediimide dyads in rigid media. **K. kimoto***, T. Satoh, K. Nozaki, M. Iwamura, T. Horikoshi, S. Suzuki, M. Kozaki, K. OKADA

1038. Luminescence properties and anion sensing with Ln(III) complexes containing pybox ligands. **Y. Kataoka***, M. Harai, I. Tomotsuka, S. Shinoda, T. Kajiwara

1039. Advances in optical imaging through the design, synthesis, and fundamental investigation of phosphorescent metal tetrazolato complexes. **M. Werrett**, M. Massi, P. Rigby, S. Muzzioli, S. Stagni

1040. Theoretical study on metal-arene interaction for modulating light absorption and fluoresence. **M. Sugimoto***

1041. Temperature and pressure dependences of flexible cubane-like framework in crystalline state: Structure and luminescent properties of $[Ag_4I_4\{P(p\text{-tol})_3\}_4]$. **M. Nishiyama**, Y. Ozawa*, Y. Akahama, K. Toriumi, M. Abe

1042. Photoexcited state energy transfer of dual-emission in cubane-like tetranuclear copper (I) halide complexes. **S. Nagaoka***, S. Yamasaki, Y. Ozawa, K. Toriumi, M. Abe

1043. Chiral sensing of amino acids in water using circularly polarized luminescence from achiral rare-earth complexes. **M. Iwamura***, T. Uchida, K. Nozaki

1044. Synthesis and optical properties of a bimetallic complex with a [7]helicene ligand. **M. Akiyama**, Y. Tsuchiya, A. Ishii, M. Hasegawa, K. Nozaki*

1045. Tuning the excited state of water-solutble iridium (III) -based DNA intercalators for the construction of optical probes. **S. Stimpson***, J. Thomas

1046. Synthesis and photochemical properties of BODIPY-imine oligomers. **M. Tsuchiya**, R. Sakamoto*, H. Nishihara*

1047. Photophysical and redox properties of copper(I) complexes and their oxygen responsive luminescence in the solid state. **M. Nishikawa**, T. Tsubomura*

1048. Photocatalysis of transition metal complexes for production of hydrogen peroxide from water and dioxygen utilizing water oxidation catalysts. **Y. Isaka**, K. Oyama, T. Suenobu, Y. Yamada, S. Fukuzumi*

1049. Electrochemically-controlled photophysical properties of both emission and coloration by using luminescent lanthanide(III) complex and viologen derivatives. **K. Nakamura***, K. Kanazawa, Y. Komiya, N. Kobayashi

1050. Photophysical properties of lanthanide clusters with closed Ln-O lattice. **T. Nakanishi***

1051. Photon upconversion based on triplet-triplet annihilation upconversion from near-IR to visible region using metal phthalocyanines. **J. You**, F. Zhang, J. Han, T. Morifuji, H. Yonemura*, S. Yamada, X. Li*, S. Wang, Y. Xiao

1052. Synthesis and photophysical properties of novel metal complexes having arylborane units. **E. Sakuda***, Y. Kanno, K. Takaki, A. Ito, N. Kitamura, S. Horiuchi, Y. Arikawa, K. Umakoshi*

1053. Face-capping and terminal ligands effects on excited triplet states of octahedral hexamolybdenum clusters: $(^nBu_4N)_2[Mo_6X_8Y_6]$ (X = halogen, Y = halogen). **S. Akagi***, N. Kitamura

1054. Near-UV emitting phosphorescent gel of iridium(III) complexes. **N. Darmawan***, L. De Cola*

1055. Molecular pin boards as optical sensors for biomolecules. **T. Andrews**, J. Thomas, G. Leggett

1056. Ruthenium (II) metallo-intercalating complexes conjugated to nanoparticle materials as novel probes for DNA. **S.J. Ashworth***, J. Thomas

1057. Mono and dinuclear complexes as anticancer therapeutic leads. **P.J. Jarman**, J. Thomas*

1058. Luminescence anion sensing with mixed-Ln(III) complex containing tridentate pybox ligand. **K. Nakamura***, M. Nokami, I. Tomotsuka, M. Harai, Y. Kataoka, T. Kajiwara

1059. Chromotropism of hydrido-bridged dinuclear rhodium(III) complexes containing a tripodal tridentate phosphine ligands. **M. Kashihara**, T. Suzuki, Y. Sunatsuki

1060. Synthesis and photophysical properties of platinum complexes having arylborane units. **s. miyoshi**, E. Sakuda, A. Nakagawa, N. Kitamura

1061. Synthesis and valence tautomerism of cobalt complexes with a dioxolene ligand containing a π-conjugated system. **K. Katayama**, M. Hirotsu*, I. Kinoshita, Y. Teki*

1062. Synthesis and excited-state characteristics of novel tricarbonyl rhenium(I) complexes having multiple arylborane charge transfer units. **Y. Kang***, A. Ito, E. Sakuda, N. Kitamura

1063. Synthesis of novel dicationic pyrene derivative and photochemical properties of the pyrene/clay hybrids. **D. Morimoto**, K. Sato, K. Saito, M. Yagi, T. Yui

1064. Electrochemical analysis of photoreaction of metal complexes in solution. **A. Fukatsu**, M. Okamura, Y. Okabe, M. Kondo, S. Masaoka*

1065. Synthesis of a bridging ligand with dual metal binding sites and multistep assembly with zinc(II) ion. **Y. Imai**, J. Yuasa, T. Kawai

1066. Optical resolution of *cis*-$Ru(dbb)_2(CN)_2$ and photoinduced racemization of enantiomer. **Y. Aihara**, K. Sato, K. Shinozaki*

1067. Enhancement of MLCT absorption and phosphorescence of polypyridyl ruthenium(II) complexes based on arylborane substituent. **A. Nakagawa**, E. Sakuda, A. Ito, N. Kitamura*

1068. Organometallic copper luminophores supported by a series of tridentate ligands. **Y. Kim**, S. Ahn, J. Kim, S. Kim, Y. Lee*

1069. Characteristic luminescent properties of seven-coordinated lanthanide complexes. **K. Yanagisawa**, T. Nakanishi, Y. Kitagawa, T. Seki, H. Ito, K. Fushimi, Y. Hasegawa*

1070. Luminescent mechanochromic system of silver(I) complexes containing diphosphines bridged by aromatic groups. **T. Tsukuda**

1071. Photocatalytic CO_2 reduction using Cu and Fe complexes. **H. Takeda**, O. Ishitani*

1072. Luminescence/quenching properties in solutions and in the solid state of lanthanide complexes with tridentate ligand based on intermolecular interaction. **Y. Tsuchiya***, A. Ishii, M. Hasegawa

1073. Oxidation chemistry of metal(II)-diphenolato complexes with salen-type ligands: Electronic structure and reactivity relationship. **Y. Shimazaki**

1074. Physical properties of synthetic chlorophyll derivatives possessing a sulfur-functional group. **K. Kim**, H. Tamiaki

1075. Photophysical and magneto-optical properties of nonanuclear Tb(III) clusters with chiral ligands. **S. Wada**, Y. Kitagawa, T. Nakanishi, K. Fushimi, Y. Morisaki, K. Fujita, K. Konishi, K. Tanaka, Y. Chujo, Y. Hasegawa*

1076. Effective photosensitized energy transfer of nonanuclear terbium clusters using methyl salicylate derivatives. **S. Omagari***, T. Nakanishi, Y. Kitagawa, T. Seki, Y. Takahata, K. Fushimi, H. Ito, Y. Hasegawa

1077. CO_2 photoreduction based on Ru (II) complex having triarylborane unit. **N. Ishizaki***, E. Sakuda, N. Kitamura

1078. Monolithic devise for solar CO_2 reduction using H_2O by semiconductor/metal-complex hybrid photocatalyst. **S. Sato**, T. Arai, T. Morikawa

1079. Syntheses of phosphorescent iridium complexes with tridentate 3{5}-substituted pyrazole ligands. **T. ODAKA**, H. Ozawa, M. Haga*

1080. Synthesis and photochemical properties of new 2-aminophenolato complexes. **R. Tanaka**, M. Wakizaka, T. Matsumoto, H. Chang*

1081. Faraday effects based on 4f-4f transitions depending on the lanthanide ion and crystal field of the complexes. **Y. Kitagawa***, S. Wada, T. Nakanishi, K. Fushimi, Y. Hasegawa

1082. Photoactivation of single molecule magnet behavior in manganese-based complex. **A. Fetoh***, G. Cosquer, M. Morimoto, M. Irie, M. Yamashita

1083. Photoactivated NO-releasing Ru(ebpp)(NO) complexes. **M. Kim**, h. Lee*

1084. Highly luminescent thulium complex of a hexadentate ligand with long alkyl chains. **K. Kuroda***, K. Sugimoto, A. Ishii, M. Hasegawa

1085. Luminescent Eu(III) coordination polymers cross-linked with transition metal ions. **M. Yamamoto***, T. Nakanishi, Y. Kitagawa, T. Seki, H. Ito, K. Fushimi, Y. Hasegawa

1086. Syntheses and luminescence properties of Ln(III) complexes containing pentadentate pybox derivative. **M. Nokami***, K. Nakamura, I. Tomotsuka, M. Harai, Y. Kataoka, T. Kajiwara

1087. Circularly polarized luminescence from Pt(N^C^N)X excited-dimer and -trimer having chiral ligand. **S. Tanaka***, K. Sato, T. Tsubomura, K. Shinozaki

1088. Shape-memory platinum(II) complex: Intelligent sensor for vapor, pressure, and temperature. **Y. Shigeta***, M. Yoshida, A. Kobayashi, M. Kato

1089. Efficient photocatalytic CO_2 reduction involving a CO_2-capturing Re(I) complex. **T. Morimoto***, O. Ishitani

1090. Synthesis and luminescence of copper(I) complexes bearing a diphosphine dioxide ligand. **T. Nishi**, M. Nishikawa, T. Tsubomura*

1091. Ratiometric optical sensors based on dual emission of a blue fluorescent coumarin and a red phosphorescent cationic iridium(III) complex for oxygen sensing in living cells. **T. Yoshihara***, S. Tobita

*** Principle Author**

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1092. Synthesis and photophysical property of supramolecular complexes with platinum(II) organometallics including two pyridine units as metalloligands. **M. Shiotsuka***, Y. Itou, T. Toda, K. Sako
1093. Crystal structures and photophysical properties of cyclometalated platinum(II) complexes drastically controlled by a carboxy group. **M. Ebina**, M. Yoshida, A. Kobayashi, M. Kato
1094. Chiroptical properties of Pd(0) complexes bearing chiral diphosphine ligands. **Y. Yamada**, M. Nishikawa, T. Tsubomura*
1095. Oxygen-dependent emission of copper(I) complexes bearing fluorinated diphosphine and phenanthroline ligands. **M. Washimi**, M. Nishikawa, T. Tsubomura*
1096. Triplet excimer formation and ciroptical properties of platinum(II) complexes bearing 2-phenylpyridine and chiral *β*-diketonate ligand. **j. morikubo**, M. Nishikawa, T. Tsubomura*
1097. Syntheses of macrocyclic tetranuclear ruthenium complexes by self-assembly and light-harvesting photoreaction of guest moleculses in the cavity. **S. Shibata**, M. Yamaguchi, K. Sato
1098. Influence of the volumen and rigidity of ancillary ligand in cyclometalated Ir(III) complexes with applications in Light Emitting Electrochemical Cells (LECs). **P. Dreyse***, I. González, D. Cortés-Arriagada, O. Ramirez, I. Salas
1099. Luminescence of Tris(oxyalato)chromate(III), Tris(malonato)chromate(III) and Tris(2,2'-bipyridine)ruthenium(II) complexes in frozen mixed-solvent of water and ethanol. **T. Otsuka***, Y. Kaizu, A. Inagawa, T. Okada
1100. Synthesis and photophysical properties of polypyridyl ruthenium(II) complexes having stable radical substituents. **A. Ito***, N. Kobayashi, Y. Teki
1101. Development of phthalocyanine-based fluorescence probes for detecting ascorbic acid. **T. Yokoi**, K. Ishii*
1102. Effect of cavity size toward photochemical properties of a ruthenium(II) terpyridyl group encapsulated in cage-type ligands. **K. Hara***, T. Hatanaka, Y. Funahashi
1103. Synthesis and luminescence properties of ionic liquid based on an anionic cyclometalated Pt(II) complex. **T. Ogawa**, M. Yoshida, A. Kobayashi, M. Kato
1104. Magneto-optical effects of phthalocyanine-based thin films on ferromagnetic inorganic substrates. **M. Karasawa**, K. Ishii*
1105. Near-infrared Os(II) phosphors with metal-ligand-to-ligand charge transfer transition character. **Y. Chi**, J. Liao
1106. Reversible spectral change of copper(I) complexes bearing a 2-(2'-pyridyl-)benzimidazole ligand. **T. Miura**, M. Nishikawa, T. Tsubomura*
1107. Development of near-infrared-light induced electron transfer system based on distorted phthalocyanine. **E. Takafumi**, M. Kondo, S. Masaoka
1108. Photoisomerization of bis-cyclometalated iridium(III) complexes with a tertiary phosphite ancillary ligand. **H. Konno***, Y. Ido, K. Koike
1109. Development of a novel measurement system for magneto-chiral dichroism using a pulsed electromagnet. **S. Hattori**, T. Miyatake, K. Ishii*
1110. Molecular catalysis in photochemical hydrogen evolution from water driven with low driving forces. **K. Yamauchi***, K. Kawano, K. Koshiba, K. Sakai*
1111. Design of ratiometric fluorescent probes based on arene-metal ion contact and their application to imaging of hydrogen sulfide in living cells. **R. Kawagoe**, I. Takashima, A. Ojida
1112. Synthesis and luminescence of sterically regulated iridium complexes. **Y. Koga**, K. Matsubara
1113. Emission-color tuning of stable Cu(I) complexes based on systematic introduction of aromatic rings to diphosphine ligands. **Y. Okano**, H. Ohara, M. Yoshida, A. Kobayashi, M. Kato

Hawaii Convention Center
Halls I, II, III

Novel Heme Proteins and Model Systems (#305)

Organized by: J. Dawson, T. Hayashi, M. Stillman
Presiding: J. Dawson, T. Hayashi, M. Stillman

Poster Session
19:00 – 21:00

1114. Hemoglobin-albumin clusters having different mammalian hemoglobin as an O_2-binding site. **K. Yokomaku**, R. Shinohara, T. Komatsu*
1115. Human(hemoglobin-albumin) clusters having various O_2-affinities. **R. Shinohara**, T. Komatsu*
1116. Using free radical metabolites to distinguish the similarities and differences of haem and non-heme peroxidases. S. Khan*, N. Aljuhani*, K. Michail, A. Morgan, **A. Siraki**
1117. Iron porphyrin carbene catalytic intermediates: Ferrous or ferryl?. R. Khade, W. Fan, Y. Ling, L. Yang, **Y. Zhang**
1118. Modification of small heme proteins to produce novel organometallic catalysts that function in water. **M.W. Wolf**
1119. Metalloprotein design using genetic code expansion. **J. Wang***
1120. Molecular basis of heme transfer between NEAT transporters in *Staphylococcus aureus*. **J.M. Caaveiro***, K. Morante, N. Vu, Y. Moriwaki, K. Tsumoto
1121. Regulation of electronic structures of iron(III) porphyrin radical cation complexes by means of axial ligands. **A. Ikezaki**, M. Takahashi, T. Ikeue, M. Nakamura
1122. Myoglobins reconstituted with cobalt tetra- and bis-dehydrocorrins as a methionine synthase model. **Y. Morita**, K. Oohora, T. Hayashi
1123. Isd cog-wheel kinetics. Heme shuttle pathway in *Staphylococcus aureus*. **M. Stillman***

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Metal Coordination Sphere Design for Challenging Bond Transformations (#318)

Organized by: K. Caulton, A. Hill, S. Johnson, M. Yamashita
Presiding: P.J. Brothers, S.N. Brown, M. Yamashita

19:00 – 1124. Novel C-E activations induced by pincer type ligands. **R.D. Young***
19:15 – 1125. Synthesis and reactions of multiproton-responsive complexes bearing poly(pyrazole)-type ligands. **S. Kuwata***
19:30 – 1126. Complexes with appended functionality to regulate reductive catalysis. **N. Szymczak**, C. Moore, J. Geri, K. Tseng
19:45 – 1127. General routes to terminal and bridged complexes of carbides, physical properties of carbide as a ligand. **A. Reinholdt***, T.J. Morsing, J.E. Vibenholt, M. Schau-Magnussen, K. Herbst, J. Bendix
20:00 – 1128. Cooperative small molecule activation at the nickel-carbon double bond of nickel $PC_{carbene}P$ pincer complexes. **E.A. LaPierre**, W.E. Piers*, D. Spasyuk
20:15 – 1129. Catalytic dehydrocoupling of amine-boranes. **E. Leitao**, I. Manners
20:30 – 1130. Versatile reactivity of borylene complexes: Metathesis, borylene-carbonyl coupling and more. H. Braunschweig, **R. Shang**
20:45 – 1131. High-spin clusters: Creating reaction sites for small molecule activation. **T. Betley**

Friday Morning

Hilton Hawaiian Village
Rainbow Tower, Rainbow 2

Experimental and Theoretical Actinide Chemistry: From Fundamental Systems to Practical Applications (#42)

Organized by: J. Gibson, G. Schreckenbach, T. Yaita, J. Li, P. Yang
Presiding: J. Gibson, P. YANG

8:00 Introductory Remarks
8:05 – 1132. Theoretical studies of orbital mixing in actinide-ligand bond. **E.R. Batista***
8:35 – 1133. Soft X-ray synchrotron radiation spectroscopy of radioactive materials coupled with theory: Increasing the impact. **D.K. Shuh***
9:05 – 1134. Molecular design of *N,N*-dialkyl monoamide for selective separation of U(VI). **S. Suzuki***, T. Kobayashi, H. Shiwaku, T. Yaita
9:35 – 1135. Size recognition properties of multidentate N-donor ligands for f-series elements. **M. Nakase***, T. Kobayashi, K. Takeshita, H. Shiwaku, T. Yaita
9:55 Break
10:10 – 1136. Chemical periodicity and the chemistry of protactinium. **R. Wilson***, V. Vallet
10:40 – 1137. Calculating magnetic properties of actinide complexes from first principles. **J. Autschbach**
11:10 – 1138. Thermochemstry of gas-phase actinide molecular ions. **P.B. Armentrout**
11:40 – 1139. Computational studies of actinide "Pacman" complexes. **G. Schreckenbach***, Q. Pan, X. Zhang

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 3

Functional Nanomaterials Based on Coordination Chemistry (#73)

Organized by: T. Uemura, M. MacLachlan, H. Matsui
Presiding: H. Matsui

8:00 – 1140. Exploiting the confined environment of P22 virus-like particles for chemical catalysis. **T. Douglas**
8:25 – 1141. Viruses as building blocks for functional nanomaterials development. **Q. Wang**
8:45 – 1142. Versatile nanoscale Prussian blue coordination polymers: Design, preparation, characterization, and multimodal biomedical imaging of Prussian blue analogs. **K. Sorasaenee***, P. Promdet, B. Rodriguez, A. Henry, T. Khuu, A. Hovsepyan, J. Galan-Mascaros
9:00 – 1143. Short peptides self-assemble in the presence of metals to produce catalytic nanomaterials. C. Rufo, Y. Moroz, O. Moroz, O. Makhlynets, P. Gosavi, J. Stoehr, T. Smith, X. Hu, W. DeGrado, **I. Korendovych***
9:15 – 1144. Designing protein crystals for bioinorganic nanomaterials. **T. Ueno***
9:35 – 1145. Exploiting the specific, non-covalent, interactions of peptides with inorganic nanoparticles to engineer functional and responsive interfaces on the atomic scale. **M.R. Knecht**
9:55 break
10:05 – 1146. Selective uranyl binding by a protein-based reagent. **C. He***
10:25 – 1147. Programmable metal array arrangement on peptides: Composition- and configration-controlled heterometallic hybrid materials. **H.R. Takaya***
10:45 – 1148. Manipulating the interface between biomolecules and nanomaterials: Challenges and advances for bridging theory and experiment. **T.R. Walsh***, L. Wright, J. Palafox-Hernandez, Z.E. Hughes, K.L. Drew
11:05 – 1149. Utilizing nascent protein interaction sites to construct hybrid natural/synthetic nanostructures. **V. Nanda**
11:25 – 1150. Stimuli-responsive pi-conjugated systems bearing rotational units. M. Takeuchi, **A. Takai**
11:45 – 1151. Liquid crystalline metallomacrocycles toward soft materials with nanospaces. **S. Kawano**, K. Tanaka*

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 2

Recent Discoveries in the Chemistry of Bismuth and Related Elements: the Green Alternative (#93)

Organized by: K. Whitmire, H. Sun, P. Andrews
Presiding: P. Andrews

8:00 – 1152. Integrative biology approach for investigation of bismuth antiulcer drugs. **H. Sun***, Y. Hong, G. Chan, L. Hu
8:30 – 1153. Recruiting bismuth in the fight againt multi-resistant bacteria. **P. Andrews**
9:00 – 1154. From bismuth oxido clusters to metal oxide-based materials. **M. Mehring***
9:30 – 1155. Toward understanding and controlling the assembly of bismuth salicylate nanoclusters in solution. **T. Friscic**, D. Tan, S.A. Kimber
10:00 Break
10:15 – 1156. Inhibition of urease through disruption of GTPase UreG by bismuth. **H. Li**, X. Yang, Y. Chang, H. Sun*
10:30 – 1157. Diversifying the coordination chemistry of bismuth. **N. Burford**
11:00 – 1158. Low coordinate bismuth amides: Cations and radicals. **M.P. Coles***, R.J. Schwamm, B.M. Day, J. Harmer, M. Lein, C.M. Fitchett
11:30 – 1159. Novel bismuth-transition metal interactions. **C. Limberg***, C. Tschersich, C. Herwig, B. Braun

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 1

Coordination and Supramolecular Chemistry for Aqueous Metal Ion Separations (#97)

Organized by: R. Ellis, D. Robinson, R. Motokawa

8:00 – 1160. High throughput method to determine selectivity of ion phase transfer in multi-component chemical systems: Toward predictive modeling of extraction. **H. Moehwald**
8:25 – 1161. Design and synthesis of polymer-supported complexants applied to wet process phosphoric acid. **S.D. Alexandratos***, X. Zhu
8:50 – 1162. Microfluidic solvent extraction of rare earth elements. F.H. Kriel, R.P. Catthoor, S. Middlemas, G. Hatch, **C. Priest***
9:15 – 1163. Creation of novel thermo responsive polymer brushes for mutual separation of actinides and lanthanides. **N. Yokachuksuse***, K. Park, T. Tsukahara
9:40 – 1164. Extraction and throughput for micro-solvent extraction of platinum using a single chip and a multi-chip module. **F.H. Kriel***, C. Priest, J. Ralston, L. Parkinson, S. Woollam, N. Plint, R.A. Grant, P. Ash
10:05 Break

*** Principle Author**

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10:20 – 1165. Relating experimentally measured quantum yields of luminescent lanthanides to their hydration number at different temperatures. A.T. Johnson, A.M. Mattson, M.R. Finck, **L.R. Martin**
10:45 – 1166. Solvation structures of metal Ions in a protic ionic liquid (PIL) comprising *N*-alkylethylenediamine and a reversible extraction of transition-metal Ions from aqueous media using the PIL. **M. Iida***
11:10 – 1167. Solution and solid-state structural chemistry of tetravalent f-element-organic ligand based compounds. **K.E. Knope**
11:35 – 1168. Metal separation property of macrocyclic and pseudomacrocyclic compounds as extraction reagents. **K. Ohto***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 1

Frontiers of Molecular Magnetism (#109)

Organized by: H. Oshio, J. Miller, R. Oakley, S. Brooker, S. Gao, M. Ohba
Presiding: M. Ohba, V. Ovcharenko

8:00 – 1169. Stimuli-responsive magnetic molecular materials. **E. Coronado**, G. Abellán, N. Calvo Galve, M. Giménez-Marqués, G. Mínguez Espallargas
8:30 – 1170. Functionalisation of dithiadiazolyl radicals: Toward multifunctional materials. Y. Beldjoudi, **J.M. Rawson**
8:50 – 1171. Valence tautomerism in polynuclear and polymeric complexes. **C. Boskovic***, K. Alley, O. Drath, K. Murray, G. Poneti, L. Sorace
9:10 – 1172. Guest-responsive magnets based on tetracyanometallate building units. **M. Ohba***
9:30 – 1173. Spin transitions in coordination polymer heterostructures. **D.R. Talham***
9:50 Break
10:05 – 1174. Tuning the spin crossover switching temperature by up to 100 K: The importance of pressure, solvent or 'tail'. **S. Brooker***, H. Feltham, R. Miller, R. Hogue, A. Elliot, K. Gordon, G.B. Jameson, S. Clark, S. Narayanaswamy, J. Tallon
10:25 – 1175. Guest dependent spin transition behavior of Fe(II) and Co(II) coordination polymers. **R. Ohtani**, M. Ohba, S. Kitagawa, S. Hayami
10:45 – 1176. New member of inorganic zeolite family, lanthanide-based sodalite-type zeolite of $[Ln_3(OH)_6CO_3HCOO]3H_2O$ (Ln = Gd, Dy, Tb). Y. Yang, **L. Long**
11:05 – 1177. Supramolecular assembly for the design of molecular magnets. **H. Miyasaka***
11:25 – 1178. Breathing crystals. **V. Ovcharenko***

Hilton Hawaiian Village
Rainbow Tower, Rainbow 1

Electron Transfer and Electrochemistry of Inorganic and Organometallic Materials (#126)

Organized by: H. Nishihara, P. Harvey, W. Wong
Presiding: I. Manners, W. Wong

8:00 – 1179. Manipulating the functional properties of organometallic molecules with hydrocarbyl ligands containing main group moieties. **W. Wong***
8:30 – 1180. Influence of substituents in non-polycyclic silole-based derivatives on their AIE properties and applications. **B. Tang***, Y. Cai
9:00 – 1181. Functional metallophosphors for high performance white organic light-emitting diodes. **C. Ho**
9:30 – 1182. Luminescent platinum complexes with long-lived excited states: Photophysical properties, photo-catalysis, and materials application. **C. Che***
10:00 – 1183. Electrochemical and spectroelectrochemical methods to address magnetic and optical switching in electroactive molecular materials. **B. Sarkar**
10:20 – 1184. Photoelectrochemical performance of corrosion layer formed on weathering steel surface. **P. QIU***, L. LUO, C. Chen
10:40 – 1185. Functional metallopolymers based on metallocenes of iron, cobalt, and nickel. **I. Manners***
11:10 – 1186. Electronic interactions in boron-containing organometallic oligomers and polymers. **F. Jaekle***
11:40 – 1187. Crystal structures and carrier transport properties of mixed-valence coordination polymers with dithiocarbamate derivatives. **T. Okubo***, K. Tanishima, Y. Kono, K. Himoto, K. Nakatani, M. Maekawa, T. Kuroda-Sowa

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Activation and Transformation of Small Molecules Mediated by Early Transition Metal Complexes (#170)

Organized by: K. Theopold, K. Mashima, Z. Xie
Presiding: Z. Xie

8:00 – 1188. Chelating σ-aryl and related post-metallocenes: Unusual reaction pathways and intramolecular interactions. **M. Chan**
8:30 – 1189. Electrocatalytic activation of CO_2 by a series of rhenium complexes. **K. Mullick***, A. Angeles-Boza
8:50 – 1190. Generation and reactivity of low-valent Group 5 imido complexes. **J. Arnold***
9:20 – 1191. Zr(IV) cations: Small molecule activation and catalytic imine hydrogenation. **O. Metters**, S.R. Flynn, D. Wass*, I. Manners*
9:40 – 1192. Catalytic radical addition and hydrodehalogenation reactions by niobium and tantalum complexes bearing 1,4-diaza-1,3-butadiene ligand. **H. Nishiyama**, T. Saito, H. Tsurugi, K. Mashima
10:00 – 1193. Ti^{II}/Ti^{IV} redox catalysis: [2+2+1] synthesis of pyrroles from alkynes and diazenes. **I.A. Tonks***
10:20 – 1194. Rare-earth metal alkylidene and imide complexes. **R. Anwander***, D. Schädle, L.N. Jende, A. Krenzer, C. Maichle-Mössmer, C. Schädle, K.W. Törnroos
10:50 – 1195. Dimerization of acene derivatives. **Z. SONG**, S. Zhang, K. Nakajima, T. Takahashi*
11:10 – 1196. Low-valent titanium catalyzed deprotection of alloc-and poc-amides. **S.M. Vasanthakumari**, H. Takagi, C. Matsuno, S. Okamoto*
11:30 – 1197. Salt-free reduction of early transition metal complexes by 1,4-bis(trimethylsilyl)-1,4-diaza-2,5-cyclohexadienes for activating small molecules. **K. Mashima***, T. Saito, H. Nishiyama, K. Kawakita, H. Tanahashi, H. Tsurugi

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

Transition Metal Complexes of N-Heterocyclic and Mesoionic Carbenes: Structure, Materials and Catalytic Applications. (#195)

Organized by: C. Crudden, S. Chang, M. Albrecht, D. Allen, U. Complete

8:00 – 1198. Macrocyclic N-heterocyclic tetracarbene complexes that perform innovative catalytic aziridinations. P.P. Chandrachud, C.L. Keller, **D.M. Jenkins**
8:20 – 1199. Paradoxical effects of strong NHC donation in catalysis. **D. Fogg**
8:50 – 1200. Simple synthesis of metal complexes of *N*-heterocyclic carbenes and their catalytic applications. **W. Chen**
9:10 – 1201. Polyaromatic N-heterocyclic carbenes and π-stacking: Catalytic consequences. **E. Peris***
9:40 – 1202. Copolymerization of olefins and polar monomers by Pd/IzQO catalysts. **R. Nakano**, K. Nozaki
10:00 – 1203. New heterocyclic carbene ligand that contains transition metal π-donor substituents. **S. Takemoto***
10:20 – 1204. Reactive metal–element and metal–metal bonds in group 11 metal complexes. **J.P. Sadighi***, C.M. Wyss, B.K. Tate, T.J. Robilotto, N.T. Daugherty, J. Bacsa
10:50 – 1205. NHC-copper-catalyzed carboxylation reactions using carbon dioxide as a building block. **Z. Hou***

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 3

Photofunctional Chemistry Based on Metal Complexes and/or Supramolecules (#239)

Organized by: K. Ishii, Z. Chen, P. Ford, G. Hanan

8:00 – 1206. Photobiological and theranostic aspects of ruthenium compounds as modulators of nitric oxide and singlet oxygen by light irradiation: The synergistic effect. **R.S. da Silva***, L. Ramos, J. Uzuelli
8:25 – 1207. Modular ruthenium complexes containing both DNA groove binding and intercalative units. **M.G. Walker**, J. Thomas
8:40 – 1208. Photoactivated precious metal anticancer and antibacterial complexes. **P.J. Sadler***
9:05 – 1209. Design and synthesis of C_3-symmetric and luminescent tris-cyclometalated iridium(III) complexes having biologically active peptides. **Y. Hisamatsu***, A. Shibuya, N. Suzuki, H. Tanaka, A. Masum, S. Aoki
9:20 – 1210. Transition metal complexes for photochemotherapy. **C. Turro**, K. Dunbar
9:45 – 1211. Controlled release of carbon monoxide from photoactive metal-organic framework. **A. Carne-Sanchez**, J. Zhang, C. Kim, S. Diring, S. Furukawa*, S. Kitagawa*
10:00 Coffee break
10:10 – 1212. NO and CO releasing materials. **A. Schiller***
10:30 – 1213. Strategies for the photochemical uncaging of bioactive small molecules. **P.C. Ford***
10:55 – 1214. Photophysics and reverse saturable absorption of Pt(II) bipyridyl bisacetylide complexes with extended π-conjugation. **W. Sun***, R. Liu, Y. Li, T. Lu
11:10 – 1215. Highly luminescent imidoylamidinato platinum(II) complexes formed by the coupling of 1*H*-pyrazole-1-carboxamidine with nitriles used as reaction solvents. **K. Umakoshi***, R. Nouchi, T. Tanaka, Y. Nakao, Y. Arikawa
11:25 – 1216. Recent advances in developing highly efficient phosphorescent platinum complexes. **S. Huo***
11:40 – 1217. Theoretical studies of thermal deactivation processes of phosphorescent states in Pt(II) complexes. **K. Nozaki***, J. Maeba, M. Iwamura

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 2

Inorganic Complexes for Solar Energy Harvesting (#256)

Organized by: M. Wolf, K. Sakai, F. MacDonnell
Presiding: M.O. Wolf

8:00 – 1218. Ruthenium polypyridyl complexes that photo-oxidize halide ions in fluid solution and at TiO2 interfaces. G. Li, E. Beauvilliers, W. Swords, **g. meyer***
8:35 – 1219. Group 8 transition-metal azolate complexes for dye-sensitized solar cells. **Y. Chi**
9:10 – 1220. Trapped in imidazole: How to accumulate multiple photoelectrons on a black absorbing ruthenium complex. **B. Dietzek**
9:30 – 1221. Interfacial dynamics in the dye-sensitized solar cell. **C.P. Berlinguette***
10:05 Break
10:20 – 1222. Novel redox mediators for dye-sensitized solar cells. **U. Bach**
10:55 – 1223. Photohydrides for tightly integrating visible light absorption with hydride transfer. **A. Miller***, C. Pitman, S. Barrett, K. Brereton
11:15 – 1224. Driving proton-coupled electron transfer reactions with solar photons. **J.L. Dempsey***, T.T. Eisenhart, D.A. Kurtz, J.C. Lennox
11:35 – 1225. Photo-driven charge storage coupled with catalytic water reduction to hydrogen. **K. Sakai**

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 1

Metal Mediated Polymerization (#292)

Organized by: P. Hayes, R. Waterman, T. Mizuta, Y. Tang, P. Sangtrirutnugul
Presiding: F. Kerton, M. Shaver

8:00 – 1226. Selective bond formation between hetero atoms catalyzed by a transition metal complex. **H. Nakazawa***
8:30 – 1227. Synthesis of functional and topological polyesters mediated by metal coordination catalysts. W. Zhao, Y. Wang, **D. Cui***
9:00 – 1228. New iron complexes for atom transfer radical polymerization and organometallic mediated radical polymerization. **M. Shaver***
9:30 Intermission
9:40 – 1229. Metal-based reactions for phosphorus-containing polymeric materials. **R. Waterman**
10:10 – 1230. Catalytic precision polymerization: From polar monomers to functional materials. **A. Kronast**, B. Rieger
10:30 – 1231. Rhodium mediated carbene insertion polymerization: Mechanism and stereoregulation. **B. de Bruin***
11:00 – 1232. Metal-mediated catalytic ring-opening of macrolactones to polyethylene-like polyesters. **R. Duchateau**, L. Jasinska, M. Bouyahyi, M. Pepels

Hilton Hawaiian Village
Kalia Tower, Kahili 1 & 2

Novel Heme Proteins and Model Systems (#305)

Organized by: J. Dawson, T. Hayashi, M. Stillman
Presiding: T. Hayashi

8:00 break
8:40 – 1233. On the O-O bond cleavage processes of endoperoxide and alkyl hydroperoxide mediated by iron porphyrin coordinated by thiolate. **T. Higuchi***
9:00 – 1234. Mechanism of effective nitric oxide decomposition in microbial denitrification. **T. Tosha***, E. Terasaka, K. Matsumoto, H. Sugimoto, Y. Shiro
9:20 – 1235. Heme oxygenase catalytic mechanism. **M. Ikeda-Saito**, T. Matsui, M. Unno
9:40 – 1236. Ligand switching and redox reactions in engineered heme proteins. **E. Pletneva***
10:00 – 1237. Osmotic pressure effects reveal a specific dehydration-induced hydrophobic electron transfer structure comprising cytochrome *c* and cytochrome *c* oxidase. **K. Ishimori***

*** Principle Author**

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10:20 – 1238. Factors controlling access to alternate conformers of mitochondrial cytochrome *c*. **B.E. Bowler***, L.J. McClelland, E.M. Nold, S. Bandi, S.R. Sprang, T. Mou
10:40 – 1239. Metalloprotein design using genetic code expansion. **X. Liu***, J. Wang*
11:00 – 1240. Engineering solid-state heme proteins. **T.D. Rapson***, T. Sutherland, J.S. Church, A.C. Warden, J. Liu, H.E. Trueman, H. Dacres, S.C. Trowell
11:20 – 1241. Visible light induced carbon dioxide conversion with the system consisting of water soluble metalloporphyrin and dehydrogenase. **Y. Amao***
11:40 – 1242. Construction of heme protein oligomers by domain swapping. **S. Hirota***

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Metal Coordination Sphere Design for Challenging Bond Transformations (#318)

Organized by: K. Caulton, A. Hill, S. Johnson, M. Yamashita
Presiding: A.F. Hill, W.E. Piers, A.S. Veige

8:00 – 1243. Modular ligand designs for small molecule activation. **M. Fryzuk**, S. Westhues, T.G. Ostapowicz, V.T. Annibale, T.C. Wambach, C. Lenczyk
8:20 – 1244. Catalysis of dehydrogenative borylation of terminal alkynes. **O.V. Ozerov**, C. Lee, J. Zhou, J. DeMott, W. Shih, N. Bhuvanesh
8:40 – 1245. Ligand design in organometallic chemistry taken to the extreme: When the metal is no longer needed. **F. Fontaine***, M. Courtemanche, M. Legare, E. Rochette
9:00 – 1246. New types of olefin metathesis ruthenium catalysts featuring fluorinated N-heterocyclic carbenes and chelating indenylidene ligands. **C. Bruneau***, S.N. Osipov, S. Masoud, C. Fischmeister, P.H. Dixneuf
9:15 – 1247. Ligand design for nonclassical oxygen atom transfer reactions. **S.N. Brown***
9:30 – 1248. Selective reduction of carbon dioxide to bis(silylacetal) mediated by a PBP-supported nickel complex. P. Ríos, J. López-Serrano, **M.A. Rodríguez***
9:45 – 1249. Managing productive reactivity and competitive deactivation with cooperative ligands. **J.M. Blacquiere***
10:00 – 1250. Synthesis, structures and reactivity of metallacarbatranes. W. Sattler, S. Ruccolo, **G. Parkin***
10:20 – 1251. Ambiphilic ligand design for the development of cooperative reactivity. **D. Emslie***, B. Cowie
10:40 – 1252. Reactivity of a new class of monoanionic nitrogen donor. **S.A. Johnson***, V. Semeniuchenko, S. Zhu
11:00 – 1253. Polynuclear complexes consisting of ambidentate ligands. **F. Breher***
11:15 – 1254. Rh-complexes in homogeneous catalysis - activation and deactivation phenomena. **D. Heller***, H. Drexler, A. Meissner, E. Alberico, A. Koenig
11:30 – 1255. Tuning the chemistry of boron - macrocyclic polypyrrole ligands. S. Maslek, A. Tay, N. Novikova, M.C. Simpson, **P.J. Brothers***
11:45 Flash 3

Hawaii Convention Center
Halls I, II, III

Telomeres and other G-quadruplex Structures as Targets for Metallodrugs (#459)

Organized by: J. Aldrich-Wright, N. Sugimoto, J. Chaires, S. Ralph

Poster Session
10:00 – 12:00

1256. Probing metal complex/quadruplex DNA interactions using mass spectrometry and cd spectroscopy. **S.F. Ralph***, N. Assadawi, K. Davis
1257. Chiral dinuclear ruthenium (II) complexes as two-photon, time-resolved emission microscopy probes for duplex and quadruplex DNA. **C.L. Glover***, J. Thomas, N. Green
1258. Drug-induced stabilization of the hTERT G-quadruplex results in reversal of mutant promoter activation. **H. Kang**, H. Mao, L.H. Hurley*
1259. Monitoring of extracellular potassium ion based on G-rich oligonucleotides. N. Sakamoto, S. Sato, **S. Takenaka**
1260. Binding interactions of ruthenium-based prodrugs with tRNA. B. Dwyer, R. Josephson, E. Johnson, S. Kirk, **K.M. Holman***
1261. Probing G-quadruplex structures: TWIMS investigations of a bimolecular G-quadruplex and duplex DNA/RNA hybrid. **M.L. Birrento***, S. Samosorn, T.M. Bryan, J.L. Beck
1262. NMR study of chiral dinuclear Ruthenium complexes and there interaction with DNA motifs. **s.d. fairbanks**, M. Williamson, J. Thomas
1263. Ellipticine analogs as PDFGR G-quadruplex interactive agents for the treatment of cancer and acute lung injury (ALI). R. Brown, H. Quijada, S. Camp, E. Chiang, **V. Gokhale**, T. Wang, J. Garcia, L.H. Hurley*
1264. Telomerase inhibitor assay by using electrochemical method based on chronocoulometric technique. **S. Sato**, S. Takenaka

Hawaii Convention Center
Halls I, II, III

Inorganic General Posters
10:00 – 12:00

Catalysis
1265. Reduction of pyridine derivatives using E-B reagents (E=P,B). **S.J. Geier**, C.M. Vogels, A. Decken, S. Doherty, S. Westcott*
1266. Effect of the A-site on ammonia synthesis with perovskite oxyhydride-supported Ru catalysts. **Y. Tang**, **Y. Kobayashi**, **N. Masuda**, **S. Hosokawa**, **C. Tassel**, **T. Yamamoto**, **H. Kageyama**
1267. Iron-amine-phenolate complexes as catalysts for bond-forming reactions. **E.D. Butler**, C.M. Kozak
1268. Ferrocenyl phosphonium cations as synthetically facile Lewis acids in organocatalysis. **I. Mallov***, D. Stephan
1269. Catalytic reduction of phosphine oxides to phosphines by electrophilic phosphonium cations (EPCs). **M. Mehta***, I. Garcia, M. Perez, D. Stephan
1270. Counterion effect in gold catalyzed dearomatization of indoles with allenamides. L. Rocchigiani, M. Jia, M. Bandini, **A. Macchioni**
1271. Hybrid NHC ligands: Versatile platforms for multinuclear complexes with improved catalytic activities. **D. Mendoza-Espinosa***, G. Negron-Silva
1272. New siloxane coupling reaction with Lewis acid catalyst. **K. Hayashi***, N. Terashita, R. Nakajima, N. Takeda, M. Unno
1273. Iron-catalyzed reductive magnesiation of oxetanes and metalative cyclization of alkynyl oxetanes. **Y. Tanabe**, Y. Sugiyama, S. Heigozono, K. Tamura, S. Okamoto*
1274. Cationic metallogermylene and a cationic germylyne complex: Syntheses and reactivity toward H_2. **K. Inomata**, T. Watanabe, H. Tobita*

Materials with unique electronic or optical properties
1275. Synthesis of bis(dipyrrinato)zinc(II) complexes fluorescing brightly in longer wavelength region. **T. Iwashima**, M. Tsuchiya, S. Kusaka, R. Sakamoto*, H. Nishihara*
1276. Graphene-encapsulated NiO-$NiFe_2O_4$ nanocomposites as anode materials for Li-ion batteries. **D. Du**
1277. Synthesis, electrochemistry and single-molecule conductance of bi-metallic 2,3,5,6-tetra(pyridine-2-yl)pyrazine based complexes. **R. Davidson***
1278. Second-harmonic generation (SHG) and photoluminescence (PL) properties of Dion-Jacobson type polar layered perovskites solid-solutions, $CsBi_{1-x}Eu_xNb_2O_7$ (x = 0, 0.1, and 0.2). **H. Kim***
1279. Graphene oxide and reduced graphene oxide hybrids with spin crossover iron(III) complexes. **Y. Murashima***, H. Takehira, K. Wakata, R. Ohtani, m. nakamura, S. Hayami
1280. High proton conductivity of graphene oxide hybrids. **K. Wakata***, Y. Murashima, H. Takehira, R. Ohtani, m. nakamura, S. Hayami
1281. Ligand exchange between amines and metal-carboxylates on metal-chalcogenide nanocrystals. **Y. Zhou**, F. Wang, y. wang, W.E. Buhro
1282. Greenish-blue phosphorescent iridium(III) complexes with hexylcarbazole-substituted carbene derivatives for organic light–emitting diodes (OLEDs). **Y. Kim***, Y. Song, W. Cho, S. Jin
1283. Syntheses of cyclometalated square-planar platinum(II) complexes with boronic acid ligands and their reactivities toward D-fructose. **K. Fukuda**, T. Sugaya, K. Ishihara*

Magnetic Materials
1284. Structure and magnetic property of cobalt(II) compounds with adenine and thymine substituents. **M. Nakaya**, H. Ohmagari, R. Ohtani, m. nakamura, S. Hayami
1285. Magnetic behaviors of Iron(II) and Iron(III) complexes incorporating the same Schiff base ligand. **N. Saigo***, K. Hirata, R. Ohtani, m. nakamura, S. Hayami
1286. Excimer formations of Co(II) spin-crossover complexes with π conjugated ligands. **R. Nakahara***, S. Egawa, M. Nakaya, R. Ohtani, m. nakamura, S. Hayami
1287. Magnetic interaction of mononuclear metal complexes with helical structure. **H. Ohmagari***, M. Nakaya, R. Ohtani, m. nakamura, S. Hayami
1288. Spin frustration of mixed spin system, $Co_XFe_{1-X}TiS_2$. **K. Hayashi***
1289. Magnetic behaviors and oxidation reactions of cobalt(II) complexes with strand-type hexadentate ligands containing thioether and amidate donor groups. **T. Tada***, Y. Yamane, Y. Sunatsuki, T. Suzuki, M. Kojima
1290. Magnetic behavior and liquid crystal properties of iron(II) complexes with long alkylated bzimpy ligands. **Y. Sekimoto***, R. Ohtani, m. nakamura, S. Hayami
1291. Magneto-electric control of multiferroic domains in $A_2MSi_2O_7$ (A= (Sr,Eu), M=(Co,Mn)) crystals. **K. Nishina***, R. Kajihara, R. Oda, M. Akaki, H. Kuroe, K. Itatani, H. Kuwahara

Cluster Chemistry
1292. Controllable regioselective activation of μ2-O in Anderson cluster towards single-side triol-functionalized χ isomers synthesis and proton-controlled isomerization transformation. **J. Zhang**, Y. Wei
1293. Multinuclear iron(II) complexes bridged by bis-bidentate type Schiff base ligands containing two imidazole groups. **T. Tanaka**, T. Suzuki, Y. Sunatsuki
1294. Synthesis of new Fe_{42} cyanide-bridged nanocages: Toward control of electronic structures. **S. Nishino***, S. Kang, S. Kanegawa, O. Sato

Inorganic Materials
1295. Preparation of zinc oxide thin film by atmospheric pressure chemical vapor deposition. **H. Hayakawa***, Y. Akiyama
1296. Cation-controlled interlocked coordination polymers and solvent-triggered supramolecular isomers exhibiting reversible SCSC transformation. **H. Ju***, M. Ikeda, Y. Habata, S. Lee
1297. Crystal engineering of endo/exocyclic coordination polymers with rationally designed ditopic macrocycles and guest-exchanges in crystalline state. **E. Lee***, K. Park, M. Ikeda, S. Kuwahara, Y. Habata, S. Lee
1298. Palladium(II) mononuclear and palladium(II)/ruthenium(II) heterodinuclear complexes bearing a quinoline-2-carbaldehyde (pyridine-2-carbonyl)hydrazone. **Y. Nakatani***, A. Mori, T. Suzuki, Y. Sunatsuki, K. Nakajima
1299. Hydrogen bond induced photoluminescence behavior of iridium(III) complexes. **T. Sugaya***, F. Takahashi, S. Takata, K. Isoda, M. Tadokoro, K. Ishihara
1300. Photofunctional 1D coordination polymer based on bis(dipyrrinato)zinc(II) complex. **R. Toyoda**, R. Matsuoka, M. Tsuchiya, R. Sakamoto*, H. Nishihara*
1301. Rapid approach to fission product separations using a coupled GC-ICP-TOF-MS system. **S.A. Stratz***, J. Auxier, A. Jones, H. Hall

Co-ordination Chemistry
1302. Coordination variability of Cu^I in multidonor heterocyclic thioamides: Synthesis, crystal structures, luminescent properties, and ESI-mass studies of complexes. **A. Kaur**, T. Iobana
1303. Synthesis and kaleidoscopic reactivities of bis(tritolylgermyl)bis(dimethylphenylphosphine)platinum(II). **Y. Ogata**, K. Mochida*
1304. Metal chelating properties of 6-imino-2-(1,2,3-triazol-4-yl)pyridines. M. Dillenburg, **J. Fletcher**
1305. Synthesis, Lewis adducts, and electrochemical as well as optical properties of two pnictogen-containing trigonal-planar complexes $[E\{Cr(CO)_5\}_3]^-$ (E = Sb, Bi). **C. Yu**, K. Hsing, Z. Sun, M. Shieh*
1306. Synthesis and properties of Cp*W(NO)(H)(η^3-allyl): A new family of tungsten nitrosyl complexes. **M.V. Shree**, P. Legzdins*, R.A. Baillie, R.J. Wakeham, A.S. Holmes, G.P. Lefèvre
1307. Synthesis, structures, and properties of mono–, di–, and tetranuclear manganese complexes with unsymmetrical ligands derived from *N*–(aminoalkyl)salicylamide. **R. Ogawa***, R. Mitsuhashi, T. Suzuki, Y. Sunatsuki, R. Ishikawa, S. Kawata
1308. Influence of the equatorial halide ligands on the axial ligand substitution reactions of pivalamidato-bridged Pt(III) binuclear complexes with halide ions and olefins. **Y. Kamezaki**, T. Terada, J. Toda, T. Sugaya, S. Iwatsuki, K. Ishihara*, K. Matsumoto
1309. Influence of terminal ligands on the electronic density of $[Ru_3O(CH_3COO)_6(CO)(L)_2]$ complexes (L = N-heterocyclic ligands). **M.B. Moreira***, S. Nikolaou
1310. Exploration of new anionic selenium based pincer ligands. **B.J. Charette***, J.S. Ritch
1311. Multiphase inspection of the conformational variations in formamidines. **M.B. Pastor**, M. Tsai, Q. Zhao*
1312. Insertion of first row transition metal carbonyls into the dimetallynes of germanium and tin. **M.L. McCrea-Hendrick**, P.P. Power
1313. Effective siloxane cleavage reaction. **J. Ueno***, R. Shimada, N. Takeda, M. Unno
1314. Nucleophilic ligands based on boron. **D. Vidovic**

*** Principle Author**

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1315. Synthesis and characterization of imogolite nanotube functionalized with methyl groups from the precursor solution. **K. Yamamoto***, M. Sugishita
1316. Arene-ruthenium trigonal cage with borane core for sensing cyanide ion. **J. Ryu**, Y. Park, M. Lee*, J. Lee*

Solid state chemistry
1317. Calorimetric sudy of the oxide-framework conversion reaction of hydrated alkali-metal molybdenum bronze at room temperature. **T. Suzuki***, A. Tanaka, T. Nishida, K. Eda
1318. Structural feature of $SrGeO_3$ high-pressure perovskite phase studied by single-crystal X-ray diffraction. **A. Nakatsuka***, H. Arima, O. Ohtaka, K. Fujiwara, A. Yoshiasa
1319. Cation distribution of Na GTS-type titanosilicates ion-exchanged by Er^{3+}. **K. Fujiwara***, K. Shinohara, A. Nakatsuka
1320. Exocyclic coordination networks of O_2S_2-macrocycles: Self-assembly and solvent-induced SCSC transformation. **S. Kim***, L.F. Lindoy, S. Lee
1321. ^{31}P and ^{51}V NMR studies of the di- and triphosphate-(peroxo)vanadate(V) systems. **S. Sorihashi***, M. Hashimoto
1322. Enthalpy and heat capacity measurements of high-pressure Fe(II)-silicates and thermodynamic calculation of phase diagrams of Fe_2SiO_4 and $FeSiO_3$. **T. Kitajima**, H. Kojitani, M. Akaogi*
1323. Variable frameworks and centricities found in a series of quaternary scandium selenites. **S. Song***
1324. Glass transition and crystallization properties study of Ni-Nb-Zr glassy alloys. **A. Uchida**
1325. Preparation of lithium-doped zinc oxide thin film by LPCVD method. **K. Misawa***, Y. Akiyama
1326. Relationship between composition and thermal/electrical properties of sintered zirconium carbide. **S. Yagishita**, K. Ozaki, H. Nakayama, Y. Nakajima, T. Nabeta
1327. Development of a synthetic pathway for molybdenum-phosphorus complexes. **L. Claussen**, R.K. Thomson
1328. Dissolution of aluminum mineral polymorphs to study Al^{3+} oxo-hydroxo clusters in solution. **B.L. Fulton**, D.W. Johnson*, J. Hutchison

Bio-Inorganic
1329. Luminescent metal ion complexes for live cell imaging. **T.A. Gillam***, D. Brooks, M. Massi, S. Plush
1330. Antidiabetic effect of Zn complexes with organochalcogen-containing ligands. **T. Nishiguchi**, Y. Yoshikawa, H. Yasui*
1331. Anticancer activity and reduction kinetics of platinum(IV) metallointercalators. **K. Deo**, F. Macias, B.J. Pages, P. Wormell, F. Li, J. Aldrich-Wright*

Remediation
1332. Separation of sodium and zinc impurities from diesel fuel based on ionic liquids. **P.J. Corbett**, J.P. Hallett
1333. Preparation of silica gel and its application for removal of heavy metal ions from aqueous solutions. **H. Minamisawa***, H. Asamoto, M. Minamisawa, T. Nakagama

Boronic acid chemistry
1334. Syntheses and properties of iridium(III) complexes bearing diol ligands and their reactivity to boric acid. **Y. Tabei**, Y. Fujioka, T. Sugaya, K. Ishihara*
1335. Syntheses and properties of platinum(IV) complexes having diol moiety and their reactivity to boric acid. **Y. Samukawa**, Y. Gu, T. Sugaya, K. Ishihara*
1336. Kinetic study on the reaction of diphenylborinic acid with *D*-fructose. **Y. Sobue**, T. Sugaya, S. Iwatsuki, K. Ishihara*
1337. Synthesis and characterization of lithium and mixed alkali metal borates. **B. Yonke**, D. Wilson, D. Neiner, D.M. Schubert

Friday Afternoon

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 3

Experimental and Theoretical Actinide Chemistry: From Fundamental Systems to Practical Applications (#42)

Organized by: J. Gibson, G. Schreckenbach, T. Yaita, J. Li, P. Yang
Presiding: A.E. Clark, D.K. Shuh

13:00 – 1338. Structural diversity and spectroscopic properties of uranium phosphonates. T. Zheng, L. Chen, **J. Diwu***, Z. Chai, S. Wang*, T.E. Albrecht-Schmitt
13:20 – 1339. Actinide chemistry in the gas phase: A fruitful interplay between experiment and theory. **J. Gibson***
13:40 – 1340. Surprising role of uranyl peroxide in yellowcake drum pressurization. **P.C. Burns**
14:10 – 1341. Uranyl(V) cation-cation compounds with new topologies and single molecule magnet behaviour. **M. Mazzanti***
14:40 – 1342. Theoretical studies on coordination structures and electronic spectra of actinyl complexes. **J. Su***, J. Li*
15:10 Break
15:25 – 1343. Chemical predictive modeling in actinide chemistry. **P. YANG**
15:45 – 1344. Linking atomic structures of metal-ion complexes with their thermodynamic stability constants. **L. Soderholm***
16:15 – 1345. Water adsorption on AnO_2 (An = U, Np, Pu) surfaces. J. Wellington, A. Kerridge, **N. Kaltsoyannis***
16:45 – 1346. Basic studies on properties of uranyl(VI) species in ionic liquids as reaction media in nuclear fuel cycle. **Y. Ikeda***

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

From Pnictides to Perovskites: Impact of Local Structure in Solid State Chemistry (#62)

Organized by: H. Kageyama, B. Kennedy, J. Wiley
Presiding: C. Brown, L. Chen, H. Kageyama, H. Karunadasa

13:00 Opening remarks
13:05 – 1347. Various structural polytypes and thermoelectric properties of layered tellurides $Mo_{1-x}Nb_xTe_2$. K. Ikeura, M. Bahramy, H. Sakai, **S. Ishiwata***
13:25 – 1348. Materials design using PTFE as an active deintercalation reagent. **T.C. Ozawa***, T. Sasaki
13:45 – 1349. Driving solid state reactions by controlling local environments. **M. Bieringer***
14:20 – 1350. Low-temperature synthesis of corrundum-like Ti_2O_3 nanoparticles showing the insulator-metal transition. **Y. Tsujimoto***
14:40 – 1351. Deep ultraviolet NLO materials: Synthesis, structure, and characterization. **S. Halasyamani**, T. Thanh, H. Yu, W. Zhang
15:00 Break
15:05 – 1352. Oxide-ion conduction in brownmillerite and perovskite Sr_2ScGaO_5. **N. Ichikawa***, S. Corallini, M. Ceretti, W. Paulus, Y. Shimakawa
15:25 – 1353. Impact of local structure on transparent conductors. **K.R. Poeppelmeier***, K. Rickert
16:00 – 1354. Structural, electrical, and magnetic phase transitions in *AX*-type mixed valence cobalt oxynitrides epitaxial thin films. **Y. Hirose***, J. Takahashi, D. Oka, S. Nakao, C. Yang, T. Fukumura, T. Hasegawa
16:20 – 1355. Deposition of thermoelectric alkaline earth hexaboride thin films with MBE and CVD. **T. Tynell**, T. Aizawa, I. Ohkubo, T. Mori*

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 2

Recent Discoveries in the Chemistry of Bismuth and Related Elements: the Green Alternative (#93)

Organized by: K. Whitmire, H. Sun, P. Andrews
Presiding: H. Sun

13:00 – 1356. Exploration of the coordination chemistry of bismuth carboxylates. **K. Whitmire***, I. Kumar, T. Boyd, E. Wagner
13:30 – 1357. One pot synthesis of triphenylbismuth(V) carboxylates. **I. Kumar***, K. Whitmire
13:55 – 1358. Pentavalent organobismuth compounds: Synthesis, structures, and applications to organic synthesis. **Y. Matano***
14:25 – 1359. Electrophilic antimony(V) derivatives. **F.P. Gabbai**
14:55 Break
15:10 – 1360. Synthesis of highly functionalized triarylbismuthanes by functional group manipulation and use in C-, N-, and O-arylation reactions. **A. Gagnon**
15:35 – 1361. Modern twist to a classic synthetic route: Ph_3Bi-based redox transmetallation protolysis (RTP) for the preparation of alkaline earth metalorganic species. **K. Ruhlandt-Senge**, Y. Takahashi, A.g. Torvisco, A.Y. O'Brien, M.M. Gillett-Kunnath, G. Deacon, P. Andrews
16:00 – 1362. Dibismuthine reagents for efficient one-pot cross-coupling reactions. **S. Shimada***, X. Wang
16:30 – 1363. Chromium carbonyl complexes with tetrahedral and trigonal-planar coordinated bismuth. **M. Shieh***, K. Hsing, C. Yu

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 1

Coordination and Supramolecular Chemistry for Aqueous Metal Ion Separations (#97)

Organized by: R. Ellis, D. Robinson, R. Motokawa

13:00 – 1364. Green chemistry principles applied to selective metal separations in metal processing and recovery using molecular recognition technology. **R.M. Izatt***
13:25 – 1365. Using the inner and outer coordination sphere to tune the strength of phenolic pyrazole extractants. J.W. Roebuck, M.R. Healy, E. Doidge, V. Cocalia, A. Fischmann, J. Love, C.A. Morrison, T. Sassi, **P. Tasker***
13:50 – 1366. Utility of short peptides in the separation of trivalent actinides from trivalent lanthanides. **T.S. Grimes***, P.R. Zalupski
14:15 – 1367. Extraction and structural properties of rhodium chloride complexes with amide-containing tertiary amine compounds. **H. Narita***, K. Morisaku, M. Tanaka, R. Motokawa, H. Shiwaku, T. Yaita
14:40 – 1368. Design of well-defined ligands for selective extraction of gold from low-grade gold ore using a simultaneous leaching and solvent extraction system: A viable alternative to the cyanide process. **S.R. Foley***
15:05 Break
15:20 – 1369. New opportunities for ion exchangers in hydrometallurgy. **J. Vaughan***
15:45 – 1370. Recent advances in palladium recovery: Application of coordination chemistry on an industrial scale. **R.J. Gordon***, R.A. Grant
16:10 – 1371. Investigating the interactions influencing chloridoplatinate extraction by amidoether and amidoamine reagents. **J. Love***, P. Tasker, C.A. Morrison, R.J. Gordon, R. Grant, E. Doidge, K. MacRuary, I. Carson, m. Wilson
16:35 – 1372. Development of new amides for lanthanide extraction and separation. **M. Tyumentsev**, M. Gergoric, M. Foreman, T. Retegan, B. Steenari, C. Ekberg

Hilton Hawaiian Village
Mid-Pacific Center, Coral 1

Frontiers of Molecular Magnetism (#109)

Organized by: H. Oshio, J. Miller, R. Oakley, S. Brooker, S. Gao, M. Ohba
Presiding: S. Brooker, E. Coronado

13:00 – 1373. Spin-crossover framework materials. **C. Kepert***
13:30 – 1374. Hofmann-like spin crossover coordination polymer compounds with 4-Xpyridine ligands. **T. Kitazawa***
13:50 – 1375. Spin crossover phenomena in polyanionic molecular Fe(II) complexes with polysulfonated-1,2,4-triazole. **J. Galan-Mascaros***, C. Saenz de Pipaon, P. Maldonado-Illescas, V. Gomez
14:10 – 1376. Creating a novel four-coordinated metal complex having spin crossover phenomenon by means of distortion of molecule. **T. Ishii***, M. Nakano, M. Iwakura, K. Ogasawara, G. Sakane, M. Yamashita
14:30 – 1377. From octahedral to trigonal prismatic: New geometry and new magnetism for manganese(III). **G.G. Morgan***
14:50 Break
15:05 – 1378. Structure-property studies in photoresponsive cyanometalates. **S.M. Holmes**
15:25 – 1379. Hetero-spin chain exhibiting synergy between spin-crossover and magnetic coupling tuned by light, pressure, and hydration. **T. Liu**
15:45 – 1380. Rational design of photomagnetic chains with spin crossover complexes. **C. Mathoniere***, R. Ababei, A. David, R. Clerac, C. Pichon
16:05 – 1381. Novel optical functionalities in cyano-bridged metal assemblies. **S. Ohkoshi***
16:25 – 1382. Optical and magnetic molecular switches from solid state to solutions. E. KOUMOUSI, I. JEON, D. MITCOV, D. SIRETANU, P. DECHAMBENOIT, C. MATHONIERE, **R. Clerac***
16:55 Closing Remarks

Hilton Hawaiian Village
Rainbow Tower, Rainbow 1

Electron Transfer and Electrochemistry of Inorganic and Organometallic Materials (#126)

Organized by: H. Nishihara, P. Harvey, W. Wong
Presiding: A.S. Abd-El-Aziz, P.D. Harvey

13:00 – 1383. Ultrafast electron transfers (fs) within host-guest assemblies of mono-, Di-, and tetracarboxylate(*meso*-tetraphenyl)zinc(II)porphyrin and $Pd^3(dppm)_3(CO)^{2+}$ as a model for TiO_2 in DSSC's. **P.D. Harvey***
13:30 – 1384. Insight into molecular electronics: Marcus theory to explain the diode properties in dye-sensitized solar cell. **N. Satoh***

*** Principle Author**

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13:50 – 1385. Construction of photo-responsive devices via the molecular conjugation at a surface. **K. Kanaizuka***
14:20 – 1386. Zinc dipyrrins: Symmetry-breaking charge transfer and application to organic photovoltaics. **P.I. Djurovich***, S.E. Bradforth, M. Thompson
14:40 – 1387. Charge transfer between colloidal amorphous TiO_2 nanoparticles and ZnO nanocrystals. **R. MITSUHASHI***, J. Lora, J. Mayer
15:00 – 1388. Transition metal aqueous solutions and aggregation complex formation: A photoelectron study. **R. Seidel***, M. Pohl, I. Unger, R. Golnak, K. Atak, K. Schulz, R. Kraehnert, A. Kabelitz, F. Emmerling, S. Thürmer, E. Aziz, B. Winter
15:20 – 1389. Design and electrochemical behaviour of cationic organoiron dendrimers. **A.S. Abd-El-Aziz***, C. Agatemor, A.A. Abdelghani, B. Thabet, N. Etkin, R. Bissessur
15:50 – 1390. Rodox bistability of a porphyrin in a suplamolecular assembly of a porphyrin and a phthalocyanine joined with fourfold rotaxane. **Y. Yamada**, Y. Ishihara, K. Tanaka*
16:10 – 1391. Cyclometalated Ni(II) complexes [(Phbpy)NiX] (Phbpy$^-$ = 6-(Phenyl-2-ide)-2,2'-bipyridine; X = various coligands). **A. Klein**
16:30 – 1392. Functionalized Ag_2S molecular architectures: Facile assembly of atomically precise, ferrocene-decorated nanoclusters. **J.F. Corrigan***, Y. Liu, B. Khalili Najafabadi, M. Azizpoor Fard

Hilton Hawaiian Village
Tapa Tower, Iolani Suite 1 & 2

Current Trends and Interconnectivities Among Fundamental and Applied Inorganic Fluorine Chemistry (#156)

Organized by: K. Matsumoto, R. Hagiwara, G. Schrobilgen, H. Mercier, R. Syvret
Presiding: G.J. Schrobilgen

13:00 Opening Remarks
13:05 – 1393. Computational studies of main group and metal fluorides: What can fluoride affinities tell us?. **D.A. Dixon***, K.O. Christe
13:35 – 1394. Mixed noble-gas compounds: coordination of KrF_2 to Xe(VI) centers. **M. Lozinsek**, H.P. Mercier, G.J. Schrobilgen*
14:05 – 1395. Reactivity of selected pnictogen trifluorides. **G. Tavčar***, B. Alic, E. Goreshnik
14:35 – 1396. Surprises in the search for copper(I) fluoride. **F. Kraus***, A.J. Karttunen, P. Woidy
14:55 Break
15:10 – 1397. Synthesis and characterization of organylimidotungsten(VI) fluorides. **M. Gerken***, D. Turnbull
15:40 – 1398. Synthesis of fluoroalkylamines and -ammonium salts by HF addition across C'N bonds. R. Haiges, A. Baxter, **K.O. Christe***
16:10 – 1399. Combustion properties of 2,3,3,3-tetrafluoropropene (HFO-1234yf). **A.J. Kornath**, C. Hohenstein, M. Feller, F. Zischka
16:30 – 1400. Structure and properties of carbonyl fluoride. **M. Feller***, A.J. Kornath

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Activation and Transformation of Small Molecules Mediated by Early Transition Metal Complexes (#170)

Organized by: K. Theopold, K. Mashima, Z. Xie
Presiding: M. Tamm

13:00 – 1401. Dititanoxycarbene: Coordination and reactivity of the carbon dioxide dianion. **J. Okuda***
13:30 – 1402. Syntheses, characterization, and reactivity of vanadium(V) complexes with a bis(hydroxyethyl)pyridine backbone. **Y. Kajita***, D. Arakawa, H. Masuda
13:50 – 1403. Activation of O_2 for one- and two-electron reactivity using tantalum(V) complexes. **A. Heyduk***, A. Hollas
14:20 – 1404. Cationic alkylhafnium complexes supported by nitrogen-based multidentate ligands as catalysts for hydroalkylation of internal alkynes via C(sp^3)-H activation of 2-methylpyridines. **M.J. Lopez**, A. Kondo, K. Yamamoto, H. Tsurugi*, K. Mashima*
14:40 – 1405. Isoselective polymerization of propylene by group 4 complexes of sequential tetradentate ligands. **M. Kol***, K. Press, V. Venditto, I. Goldberg
15:10 – 1406. C-H activation processes involving s-alkyl titanocene complexes. **M.C. Baird**, A. Dunlop-Brière, P.H. Budzelaar
15:30 – 1407. Unexpected stability of dinuclear alkyl hydrides of chromium. Y. Hung, L. Wang, G.P. Yap, **K.H. Theopold***

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 3

Photofunctional Chemistry Based on Metal Complexes and/or Supramolecules (#239)

Organized by: K. Ishii, Z. Chen, P. Ford, G. Hanan

13:00 – 1408. Photofunctional approach to artificial photosynthesis. **s. campagna**, F. Puntoriero, F. Nastasi, G. La Ganga, S. Serroni, M. Galletta
13:25 – 1409. Unique photo-functions of $Ru(bpy)_3^{2+}$ on clay surface. **T. Yui**
13:40 – 1410. Self-assembly of coordination polymers based on POMs: Design, synthesis, and photocatalytic property. **H. Zhang**
13:55 – 1411. Supramolecular ruthenium complexes bridged with peptides for photochemical CO_2 reduction catalysts. **H. Ishida***
14:20 – 1412. Light-harvesting host: Photodimerization of anthracene derivatives in the cavity of Ru square by visible light irradiation. **M. Yamaguchi***, R. Moriyama, A. Hirayama, M. Obara, K. Sato
14:35 – 1413. Enhancement of polymer bulkheterojunction solar cells using triplet-singlet energy transfer. **T. Kwon***
14:50 Coffee Break
15:00 – 1414. Homogenous approaches to solar hydrogen photocatalysis. **F.N. Castellano***
15:25 – 1415. Chemical and electrochemical control of emission colour in electrochemiluminescent systems. **C.F. Hogan***, P. Francis
15:40 – 1416. Dynamics of nuclearity conversion reactions of photo-emissive multinuclear pyridinethiolato Cu(I) complexes in solution. **Y. Ozawa***, M. Kubo, A. Yagasaki*, K. Toriumi
15:55 – 1417. Controlling photophysical properties of π-conjugated oligomers with metal complex and Lewis-pair interactions. **M.O. Wolf**, Y. Cao
16:10 – 1418. Phosphorescent d^8-d^{10}/d^{10}-d^{10} heterometallic alkynyl complexes for Organic Light-Emitting Diodes. **F. Dai***, L. Zhang, L. Xu, Z. Chen*
16:25 – 1419. ESIPT-based photoluminescent coordination complexes: Potentials in chemical sensing and electroluminescent devices. **M. Pan**
16:40 – 1420. Synthesis of a luminescent, redox active, mixed metal Os_4Cd_4 coordination cage. **A. Wragg***, M. Ward
16:55 Concluding remarks

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 2

Inorganic Complexes for Solar Energy Harvesting (#256)

Organized by: M. Wolf, K. Sakai, F. MacDonnell
Presiding: K. Sakai

13:00 – 1421. Electrochemical reduction of CO_2: Hydricities and reduction potentials control switching between CO_2 reduction to formate, CO_2 reduction to CO, and formate oxidation. C. Machan, A. Lilio, M. Reineke, **C.P. Kubiak**
13:35 – 1422. Quantitative measurements of hydride donor ability and application towards new electrocatalysts for reduction reactions. **J.Y. Yang***
14:10 – 1423. Deep photoreduction of carbon dioxide and formate to methanol by ruthenium polypydridyl chromophores with pendant pyridyl reduction sites. **F.M. MacDonnell**, M.J. West, N.S. de Tacconi
14:30 – 1424. Some excited-state properties that relate to the design of efficient transition metal solar photosensitizers. R.A. Thomas, C. Tsai, S. Mazumder, Y. Chen, H.B. Schlegel, **J.F. Endicott***
14:50 Break
15:05 – 1425. Photochemical and electrochemical reduction of a low concentration of CO_2. **O. Ishitani**
15:40 – 1426. Working the other way around: Photocatalytic water oxidation triggered by reductive quenching of the photosensitizer. **s. campagna***, F. Puntoriero, F. Nastasi
16:15 – 1427. Mechanisms of molecular solar fuels catalysts. **L. Hammarström***

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 1

Metal Mediated Polymerization (#292)

Organized by: P. Hayes, R. Waterman, T. Mizuta, Y. Tang, P. Sangtrirutnugul
Presiding: L.L. Schafer, R. Waterman

13:00 – 1428. Importance of being (diastereomerically) earnest - mechanistic insight into ring-opening polymerization catalysts. **M. Kol***, K. Press, V. Venditto, M. Lamberti, I. Goldberg
13:30 – 1429. Amine-phenolate complexes of earth abundant metals in polymerization catalysis. **F. Kerton**, D. Alhashmialameer, H. Plommer, A. Elkurtehi, S. Chowdhury, K. Hattenhauer
14:00 – 1430. Versatile iron-based catalysts for the control of tacticity, architecture, and composition in biodegradable polymers. **J.A. Byers***, A.B. Biernesser, C.M. Manna, K. Delle Chiaie, A. Kaur, J. Kehl, H. Borland, J. Curley
14:20 – 1431. Cationic zinc lactide polymerization catalysts supported by extremely sterically demanding NON pincer ligands. **P.G. Hayes***
14:50 Intermission
15:00 – 1432. Synthesis of cyclic polyesters: The catalyst design. P. Wongmahasirikun, P. Prom-on, **K. Phomphrai***
15:30 – 1433. Coupling and copolymerization of epoxides and CO_2 using transition metal catalysts. **C.M. Kozak***, K. Pressing-Devaine, H. Chen, K. Ni, K. Ambrose
16:00 – 1434. Catalysis of cylic ester polymerization using manganese, iron or copper complexes. **F. Schaper**, P. Daneshmand Kashani, T. Whitehorne, A. Keuchguerian
16:30 – 1435. Unorthodox main group precatalysts for ring-opening polymerizations: Design and mechanisms. **Y. Sarazin***, J. Carpentier, M. Bochmann

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Metal Coordination Sphere Design for Challenging Bond Transformations (#318)

Organized by: K. Caulton, A. Hill, S. Johnson, M. Yamashita
Presiding: L.L. Schafer, M. Yamashita

13:00 – 1436. Non-innocent PNP-pincer type phosphaalkene ligands: A powerful tool for metal-ligand cooperative activation of inert molecules. **F. Ozawa**
13:20 – 1437. Low-valent low-coordinate iron and cobalt complexes with NHC ligation: Synthesis, structure, and reactivity. **L. Deng***
13:40 – 1438. CH activation and aerobic functionalization at the same metal center and in the same system. **A. Vedernikov***
13:55 – 1439. Molybdenum-atalyzed reduction of molecular dinitrogen into ammonia under ambient conditions. **Y. Nishibayashi***
14:15 – 1440. Density functional study of rhodium(I) σ–complexes in the solid-state. **T. Kraemer**, M. Chadwick, S. Pike, A.S. Weller*, S.A. Macgregor*
14:30 – 1441. Non-innocent ligand complexes support water as an oxidant for alcohols: Computational studies of the catalytic mechanisms. **M. Hall**, H. Li
14:45 – 1442. Cooperative catalysis using homobimetallic and heterobimetallic complexes. **B.A. Messerle***, M. Gatus, S. Choy, M.B. Peterson, A.G. Nair, D.B. Walker
15:05 – 1443. Selective dehydrogenative coupling of alcohols and hydrogenation of esters. **D.G. Gusev***
15:25 – 1444. Harnessing metal-metal bonds for cleaving small molecules. **C. Lu**
15:45 – 1445. Transition metal coordination to acyclic conjugated tri-pi hydrocarbons: enediynes, dienynes, and trienes. **J.M. OConnor***, S.K. Cope, D.M. Hitt, K.K. Baldridge, S.J. Friese, A.L. Rheingold, C. Moore
16:00 – 1446. Tantalum phosphinidene complexes: Synthesis and reactivity. **E. Hey-Hawkins***, A. Grundmann, P. Lönnecke
16:15 – 1447. Optically active inorganophosphorus chelates for asymmetric catalysis. K.F. Smith*, D. Norman, C.L. McMullin, **P.G. Pringle**
16:30 Flash 4

Friday Evening

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 3

Experimental and Theoretical Actinide Chemistry: From Fundamental Systems to Practical Applications (#42)

Organized by: J. Gibson, G. Schreckenbach, T. Yaita, J. Li, P. Yang
Presiding: J. Li

19:00 – 1448. Studying some of the unusual oxygen behavior in the fluorite based metal oxides — mechanisms and kinetics of the oxygen exchange reaction on $^{238}PuO_2$, $^{241}AmO_2$, and CeO_2. **C.E. Whiting***, M. Du, L.K. Felker, R.M. Wham, C.D. Barklay, D.P. Kramer
19:20 – 1449. Ionothermal synthesis of UO_2^{2+} and NpO_2^+ coordination compounds using task-specific ionic liquids. **P.A. Smith***, P.C. Burns
19:40 – 1450. Hydrolysis and condensation process of tetravalent uranium in aqueous solution. **C. Falaise**, M. Nyman
20:00 – 1451. Theoretical investigation of λ-type pre-melting transition in thoria. **B. Szpunar***, J. Szpunar

*** Principle Author**

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20:20 – 1452. Phenanthrolineamide functionalized mesoporous KIT-6 for selective U(VI) uptake: An experimental and theoretical investigation. L. Zhu, C. Xiao, **L. Yuan**, W. Shi*, Z. Chai
20:40 – 1453. Computational study on the chemical separation of Am(III) from Eu(III) by means of scalar relativistic density functional theory. **M. Kaneko**, S. Miyashita, S. Nakashima

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

Metal-Organic Frameworks: Synthesis, Properties and Applications (#50)

Organized by: G. Shimizu, J. Long, M. Suh, Q. Xu, X. Chen

19:00 – 1454. Porous stable metal organic frameworks for applications in energy and environment. **c. SERRE***, G. Maurin, M. Daturi
19:30 – 1455. Developing solid-state reactivity for the discovery and clean, high-yielding synthesis of metal-organic frameworks. **T. Friscic***
19:50 – 1456. Coordiantion assembly of porous solid materials incorporating functional sites or groups. **C. Su**
20:10 – 1457. Microporous metal-organic frameworks for separation of C2H2/C2H4. **B. Chen***
20:30 – 1458. Cationic metal-organic frameworks for reversible anion trapping. **S. Oliver***
20:45 – 1459. Encapsulation of red sulfur chromophores in zeolitic imidazolate framework (ZIF-8) by SALE. **K. Balkus***, S. Basnayake, K. Tan, Y. Chabal

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

From Pnictides to Perovskites: Impact of Local Structure in Solid State Chemistry (#62)

Organized by: H. Kageyama, B. Kennedy, J. Wiley
Presiding: M. Azuma, R. Seshadri

19:00 – 1460. Exploration of novel chalcogenides and their nonlinear optical properties. **L. Chen**
19:35 – 1461. Prospectives for enhancing thermoelectric materials by utilizing principles based on structural features in borides. **T. Mori**
20:10 – 1462. Magnetic and thermoelectric properties new antimonide with $CaAl_2Si_2$-type structure. **T. Murakami**, T. Yamamoto, H. Kageyama
20:25 – 1463. Structural chemistry and physical properties of fluorine-substituted perovskite nickelate $NdNiO_{3-x}F_x$ thin films. **T. Onozuka**, A. Chikamatsu, T. Katayama, T. Fukumura, T. Hasegawa*

Hawaii Convention Center
Halls I, II, III

Chemistry and Application of Boron Clusters (#152)

Organized by: S. Kang, N. Hosmane, D. Schubert, H. Nakamura, Z. Xie
Presiding: S. Kang

Poster Session
19:00 – 21:00

1464. Introduction of aromatic rings into C1-carborane anion and their properties. **M. Otsuka**, J. Kanazawa, R. Takita, M. Uchiyama
1465. *o*-Carborane dyads for low-energy photosensitization. Y. Cho, S. Kim, A. Lee, **H. Son***, W. Han, S. Kang
1466. Synthesis and photophysical properties of iridium(III) cyclometalates with restricted rotation of *o*-carborane. **Y. Lee***, J. Park, H. Lee, M. Lee
1467. Design and synthesis of new boron carriers based on pepducin chemistry and evaluation of their subcellular distribution. **A. Isono**, H. Terashima, S. Masunaga, T. Hirayama, K. Okuda, H.K. Nagasawa
1468. Photochemistry of hybrid organic-inorganic triarylborane-o-carboranes. S. Kim, J. Lee, H. Son, **W. Han***, S. Kang
1469. Use of serum albumin as an efficient boron delivery carrier for neutron capture therapy. **S. Kikuchi**, D. Kanoh, S. Sato, H. Nakamura*
1470. Electronic alteration on oligothiophenes by o-carborane. S. Kim, Y. Cho, J. Lee, H. Son, W. Han, **S. Kang***

Hawaii Convention Center
Halls I, II, III

Current Trends and Interconnectivities Among Fundamental and Applied Inorganic Fluorine Chemistry (#156)

Organized by: K. Matsumoto, R. Hagiwara, G. Schrobilgen, H. Mercier, R. Syvret
Presiding: H.P. Mercier

Poster Session
19:00 – 21:00

1471. $[XeF_5]^+$ and $[Xe_2F_{11}]^+$ salts of the $[Cr^{IV}F_5]^{2-}$, $[Cr^{V}OF_5]^{2-}$, $[Cr_2{}^{V}O_2F_8]^{2-}$, $[Mo^{VI}OF_5]^-$, and $[Mo_2{}^{VI}O_2F_9]^-$ anions. **J.T. Goettel**, D.G. Stuart, H.P. Mercier, G.J. Schrobilgen*
1472. Squaric acid in super acids. **M.T. Schickinger***, A.J. Kornath
1473. Synthesis and reactivity of metal fluorocarbene complexes. **G.M. Lee***, R. Baker*
1474. Protonation of malononitrile. **Y. Morgenstern***, M.T. Schickinger, A.J. Kornath
1475. Protonation of methylphosphonic acid. **I.E. Erhardt***, Y. Morgenstern, A.J. Kornath
1476. Crystal structures of chlorosulfonamide and its protonated species as hexafluoridogermanate salt. **D. Leitz**, Y. Morgenstern, A.J. Kornath
1477. Effects of the surface fluorination on the electrochemical properties and thermal stability of $LiFePO_4$ cathode material. **K. Degura***, J. Kim, S. Yonezawa, M. Takashima
1478. Surface fluorination and cobalt coating of $LiNi_{0.5}Mn_{1.5}O_4$ spinel cathode for Li-ion battery. **K. Ura**
1479. Preparation and electrochemical characterization of $Li_4Ti_5O_{12}$ using surface-fluorinated TiO_2. **M. Kohno***, J. Kim, S. Yonezawa, M. Takashima
1480. Effects of surface fluorination on the synthesis process of $LiNiO_2$ as a cathode active material for lithium ion batteries. **S. Yamada***, J. Kim, S. Yonezawa, M. Takashima
1481. Chemical state analysis of various fluorides by using AES. **F. Nishimura**, J. Kim, S. Yonezawa, M. Takashima
1482. Preparation and characterization of $CaSiO_3$ particles with fluorinated SiO_2. **K. Maekawa***, J. Kim, S. Yonezawa, M. Takashima

Hawaii Convention Center
Halls I, II, III

Activation and Transformation of Small Molecules Mediated by Early Transition Metal Complexes (#170)

Organized by: K. Theopold, K. Mashima, Z. Xie

Poster Session
19:00 – 21:00

1483. Construction of spiro skeleton with titanocene complex. **M. Bando**, Y. Mizukami, Z. SONG, K. Nakajima, T. Takahashi*
1484. Synthesis and catalytic activity of dimolybdenum-dinitrogen complex bearing PCP-type pincer ligands. **A. Eizawa**, K. Arashiba, S. Kuriyama, K. Nakajima, Y. Nishibayashi*
1485. Synthesis and reactivity of zirconocene complexes with bidentate phosphine ligands. **M. Hosoya**, Y. Ariga, Y. Masuyama, N. Suzuki*
1486. Salt-free reduction of niobium imido complex by organosilicon reductants and their reactivity toward N=N bond. **K. Kawakita**, T. Saito, H. Nishiyama, M. Nechayev, B.M. Kriegel, H. Tsurugi, J. Arnold, K. Mashima*
1487. Synthesis of stable five-membered cycloallene complexes that contain a sulfur atom and Group 4 metal. **A. Kawamura**, T. Asada, Y. Masuyama, N. Suzuki*
1488. Synthesis five-membered zirconacycloallenes and their reactions to form allenyl alcohols. **R. Kurita**, M. Hosoya, Y. Masuyama, N. Suzuki
1489. Synthesis of substituted metallocene complexes. **H. Nakata**, Z. SONG, K. Nakajima, T. Takahashi*
1490. Titanium Lewis acid mediated asymmetric synthesis of hydroxylamines via alkylation of *O*-diphenylphosphoryl oxime substrates. **J.M. Tanski***, S.H. Majer, B. Zhang
1491. Imidophosphorane group VI complexes containing metal-element multiple bonds. **C. Varjas**, R.K. Thomson*

Hawaii Convention Center
Halls I, II, III

The Bio-Coordination Chemistry of Nitric Oxide and Its Derivatives: Mechanisms of NOx Generation, Signaling and Reduction in Biological Systems (#371)

Organized by: N. Lehnert, G. Richter-Addo, F. Doctorovich, K. Fujisawa

Poster Session
19:00 – 21:00

1492. Four-coordinate nickel nitrosyl complexes supported by a PEP ligand: Tetrahedral vs. square planar geometry. **J. Gwak**, Y. Kim, Y. Lee*
1493. Modeling the key intermediate in cytochrome P450 nitric oxide reductase: Electronic structure and reactivity. **A. McQuarters***, N. Lehnert
1494. First structurally determined $\{FeNO\}^8$ porphyrin complex. **J. Li***
1495. Nitric oxide production by *Trichomonas vaginalis*. K.D. Jordan, N. Yarlett, **R.K. Upmacis***
1496. Characterization of a high-spin nonheme $\{FeN(H)O\}^8$: Implications for the reacitvty of iron nitroxyl species in biology. **A.L. Speelman**, N. Lehnert
1497. Spectroscopic characterization of iron-nitrosyl intermediates in heme-nonheme diiron center of engineered denitrifying nitric oxide reductase mode. **H. Matsumura**, S. Chakraborty, Y. Lu, P. Moënne-Loccoz
1498. Reactivity study of a five-coordinate cobalt complex with nitric oxide. **C. Wang**, W. Lee*, W. Liaw*
1499. Syntheses, structures, and electrochemical studies of bioinspired iron nitrosyl complexes. **L. Li***
1500. Synthesis and spectroscopic characterization of ferric heme-thiolate complexes as models for cytochrome P450 nitric oxide reductase. **A.P. Hunt***, N. Lehnert

Saturday Morning

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 3

Experimental and Theoretical Actinide Chemistry: From Fundamental Systems to Practical Applications (#42)

Organized by: J. Gibson, G. Schreckenbach, T. Yaita, J. Li, P. Yang
Presiding: M.A. Denecke, S. Tsushima

8:00 – 1501. Behavior of AmVI in nitric acid solution: Preparation, complexation, and autoreduction. **B.J. Mincher***, T.S. Grimes, C.C. Dares, N.C. Schmitt
8:20 – 1502. From hydrogen to neptunium: Uranyl oxo-functionalisation by as much of the periodic table as possible. **P.L. Arnold***, M. Zegke, G. Jones, A. Pecharman, R. Lord, E. Hollis, M. Dutkiewicz, J. Love, R. Caciuffo, N. Magnani, C. Apostolidis, O. Walter, X. Zhang, G. Schreckenbach, I. Pidchenko, T. Vitova
8:50 – 1503. Californium: The second tipping point in the actinide series. **T.E. Albrecht-Schmitt***
9:20 – 1504. Modulation of interfacial properties in liquid:liquid solvent extraction via solution phase conditions: The role of organic diluent, ionic strength, and ampiphilic solutes. **A.E. Clark**
9:50 Break
10:05 – 1505. Probing the electronic structure and chemical bonding in mononuclear uranium oxides (UO_x^-, $x = 1-5$) using photoelectron spectroscopy. **L. Wang***
10:35 – 1506. Biomimetic ligand platforms for specific recognition and enhanced luminescence sensitization of actinides. **R.J. Abergel***, M. Sturzbecher-Hoehne, B. Allred, P. Rupert, P. YANG, A. D'Aléo, R. Strong
11:05 – 1507. Ab initio thermochemistry and spectroscopy for molecules containing f-block elements. **K.A. Peterson***
11:35 – 1508. Actinide ion recognition mechanism by organic ligands. **T. Yaita***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 1

Metal-Organic Frameworks: Synthesis, Properties and Applications (#50)

Organized by: G. Shimizu, J. Long, M. Suh, Q. Xu, X. Chen

8:00 Opening remarks
8:05 – 1509. New opportunities in the field of metal-organic frameworks. **O.M. Yaghi**
8:35 – 1510. Combined experimental, theoretical, and computational approach to redox-active metal-organic frameworks. **D.M. D'Alessandro***, C.F. Leong, P.M. Usov, B. Chan
8:55 – 1511. Applications of functional metal-organic frameworks. **Q. XU**
9:15 – 1512. Tetravalent MOFs as catalysts for oxidation and esterification reactions. **D. De Vos***
9:35 – 1513. Biomimetic mineralization of metal-organic frameworks and its potential in biotechnology. **K. Liang***, P. Falcaro
9:50 – 1514. Luminescent metal-organic frameworks and related applications. **J. Li***
10:10 – 1515. Porous metal-organic materials for gas storage and selectivity. **S. Yang***
10:30 – 1516. Flexibility and functionality in metal-organic frameworks. **S. Kaskel**
10:50 – 1517. Crystal engineering of hybrid ultramicroporous materials. **M. Zaworotko***
11:10 – 1518. Highly porous medical metal-organic framework constructed from bioactive curcumin. **G. Zhu**
11:30 – 1519. Lanthanide-organic frameworks for optical sensing and nanothermometry. **J. Rocha***

*** Principle Author**

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Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

From Pnictides to Perovskites: Impact of Local Structure in Solid State Chemistry (#62)

Organized by: H. Kageyama, B. Kennedy, J. Wiley
Presiding: Z. Hiroi, C.D. Ling, Y. Liu, K. Ok

8:00 – 1520. Understanding and prediction of multiferroics. **H. Xiang**
8:35 – 1521. *A*-site magnetism in the Mn-spin sublattice of *A*-site ordered perovskites $AMn_3B_4O_{12}$. **T. Saito***, S. Zhang, M. Toyoda, T. Oguchi, C. Ritter, J.P. Attfield, Y. Shimakawa
8:55 – 1522. Itinerant (3d) ferromagnetism in ACo_2As_2 (A = Eu, Ca) induced by localized (4f) valence fluctuations. X. Tan, G. Fabbris, D. Haskel, A. Yaroslavtsev, **M. Shatruk**
9:15 – 1523. Enhancement of superconducivity by La and Sb double doping of 112-type iron pnictide $CaFeAs_2$. **M. Nohara***, Y. Kitahama, K. Fujimura, T. Mizukami, K. Kudo
9:35 – 1524. Superconductivity and magnetism in solution-produced FeSe-based material. **K. Kovnir**
9:55 Break
10:05 – 1525. Superconductivity in titanium pnictide oxides. **T. Yajima***, K. Nakano, F. Takeiri, Y. Nozaki, W. Ishii, Z. Hiroi, T. Ono, Y. Hosokoshi, Y. Matsushita, J. Hester, T. Yamamoto, N. Tsuji, J. Kim, A. Fujiwara, Y. Kobayashi, H. Kageyama
10:25 – 1526. Collapse transition in early transition metal pnictide. **T. Yamamoto***, T. Kawakami, T. Yajima, T. Okada, H. Kageyama
10:45 – 1527. Local structure effects in functional materials. Examples of lighting phosphors, magnetic, and thermoelectric materials. **R. Seshadri**
11:20 – 1528. Structure of BiS_2 Layer in $Bi_4O_4S_3$. **A. Miura***, Y. Mizuguchi, T. Sugawara, T. Takei, N. Kumada, E. Magome, C. Moriyoshi, Y. Kuroiwa, K. Tadanaga
11:40 – 1529. Effect of oxygen content in iron-pnictide superconductors with thick blocking layers. **H. Ogino***, J. Shimoyama, K. Kishio

Hilton Hawaiian Village
Rainbow Tower, Rainbow 2

Accessing the Full Potential of Redox-Active Ligands: Reactivity and Applications (#87)

Organized by: T. Storr, C. Grapperhaus, H. Fujii
Presiding: H. Fujii, T. Storr

8:00 – 1530. Radical-type catalytic reactions involving substrate radicals. **B. de Bruin***
8:30 – 1531. Highly-tunable donor-acceptor LL'CT complexes of the 3d metals. **A. Heyduk***, L. Cameron, E. Seraya
9:00 – 1532. Metal complexes of redox-active ligands for bond-activation reactions and catalysis. **B. Sarkar***
9:30 – 1533. Electronic structure and imidyl radical reactivity in chromium phenylenediamido complexes. A. Mottier, W. Zhou, G. DiLabio*, **K.M. Smith***
9:50 Break
10:00 – 1534. Redox switches for catalysis using ferrocene-based ligands. **P.L. Diaconescu**
10:30 – 1535. C-H, C-C and C-N activation of redox-active pyridines in reduced iron complexes. R.A. Lewis, K.C. MacLeod, B.Q. Mercado, **P.L. Holland**
11:00 – 1536. Oxidation chemistry of nickel(II)-di(phenolate) complexes. **Y. Shimazaki***
11:30 – 1537. Redox-active pincer ligands for Fe, Co and Ni catalyzed C–C cross coupling via C–O or C–H bond activation. **J.D. Soper***

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 2

Recent Discoveries in the Chemistry of Bismuth and Related Elements: the Green Alternative (#93)

Organized by: K. Whitmire, H. Sun, P. Andrews
Presiding: K. Whitmire

8:00 – 1538. Bismuth chalcogenide chemistry from exploratory synthesis to compound prediction and a treasure trove of properties. **M.G. Kanatzidis***
8:30 – 1539. Magnetic properties of bismuth molecules and materials. S. Clarke, S. Coste, **D.E. Freedman**
9:00 – 1540. Bismuth-rich materials: A perspective for electronics close to the atomic limit. **M. Ruck**
9:30 Break
9:45 – 1541. Solvent-free solid-state synthesis of bismuth salicylate complexes by accelerated aging and mechanochemistry. **D. Tan***, F. Qi, T. Friscic
10:15 – 1542. Mesmerizing chemistry of bismuth: Many happy returns. **E.V. Dikarev***
10:45 – 1543. New explorations into transition metal pnictide clusters. **D.E. Schipper**, K. Whitmire

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Chemistry and Application of Boron Clusters (#152)

Organized by: S. Kang, N. Hosmane, D. Schubert, H. Nakamura, Z. Xie
Presiding: N.S. Hosmane

8:00 Introductory Remarks
8:00 – 1544. New carborane ligands and their σ- and π- metallocomplexes. **V.I. Bregadze***
8:30 – 1545. Synthesis and reactivity of novel carboryne precursor 1-OTf-1,2-$C_2B_{10}H_{11}$. **Z. Qiu***
8:50 – 1546. Chemistry of carboranylamidinates. N. Harmgarth, C.G. Hrib, V. Lorenz, L. Hilfert, P. Dröse, **F. Edelmann**
9:20 Break
9:30 – 1547. Coordination chemistry of carboranylamidinate ligands. **G. JIN***
10:00 – 1548. Carborane based optoelectronically active materials. A. Lee, J. Lee, J. Lee, **W. Han***
10:20 – 1549. Triple decker sandwich complexes incorporating six membered ring as middle deck. **S. Ghosh***
10:50 Break
11:00 – 1550. Intermolecular interactions involving boron hydrides clusters: Theory and experiment. **E. Shubina***
11:30 – 1551. Chemistry of bis(carboranes). **A.J. Welch**

Hilton Hawaiian Village
Tapa Tower, Iolani Suite 1 & 2

Current Trends and Interconnectivities Among Fundamental and Applied Inorganic Fluorine Chemistry (#156)

Organized by: K. Matsumoto, R. Hagiwara, G. Schrobilgen, H. Mercier, R. Syvret
Presiding: R. Hagiwara

8:00 – 1552. Recent attempts to improve the capabilities of commercial CFx to enhance the efficiency of Li/CFx batteries. **D.T. Meshri**, E. Shembel , S.D. Meshri, R.L. Adams , D. Pinnapareddy, V. Redko, I. Maksyuta, A. Markevich , N. Mathur
8:30 – 1553. Improving life and safety of lithium ion batteries via fluorine based organic and inorganic coating of electrode materials. **K. Amine***
9:00 – 1554. Fluoride-phosphates of transition metals and Li/Na as perspective cathode materials for Li-ion batteries. **E. Antipov***, N. Khasanova, S. Fedotov, O. Drozhzhin
9:30 – 1555. Surface fluorination of nickel containing cathode active materials for lithium ion battery. **S. Yonezawa**, J. Kim, M. Takashima, J. Imaizumi
9:50 – 1556. High substitution rate in TiO_2 anatase nanoparticles for high rate capability and modified lithium storage mechanism. **D. Dambournet***, W. Li, D. Corradini, M. Salanne, M. Body, C. Legein, K. Chapman
10:10 Break
10:20 – 1557. Versatility of C-F bonding in fluorinated carbons. **M. Dubois***, K. Guerin, Y. Ahmad, A. Hamwi, F. Masin, A. Vinogradov
10:50 – 1558. Covalent attachment of perfluoroalkyl groups to layered materials. **Y. Matsuo***
11:20 – 1559. Effects of ion mixing on the structures and properties of ionic plastic crystals. **K. Matsumoto***, R. Nonaka, R. Tanaka, R. Hagiwara
11:40 – 1560. Gradient surface modification of an electrode with fluoro-functionality by means of bipolar electrochemistry. **S. Inagi***, N. Shida, T. Fuchigami

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 2

Advances in Phosphorus Chemistry: Materials, Reactivity at Phosphorus, and Synthesis (#226)

Organized by: R. Waterman, F. Ozawa, D. Gates, P. Leung
Presiding: R.L. Webster

8:00 – 1561. Complexes with super-strained three-membered P-ligands: Synthesis and insights into substrate dependent reactivity. **R.K. Streubel***, J. . Villalba Franco
8:20 – 1562. Phoshino(boryl)carbenes and azavinylidenephosphoranes, two new type of push-pull carbenes. **A. Baceiredo***, E. MAERTEN, T. KATO
8:40 – 1563. Palladium-catalyzed hydrophosphorylation of alkynes: Scope, limitation, and mechanism. **L. Han***
9:00 – 1564. Inner- and outer-sphere roles of terminal ruthenium phosphido complexes in P-C bond formation. R.G. Belli, S.A. Rufh, J. Yang, D. Pantazis, R. McDonald, **L. Rosenberg***
9:20 – 1565. Organopalladium complex catalyzed asymmetric P-H addition reactions. **P. Leung***
9:40 – 1566. Activation of P_4 and preparation of novel types of phosphorus species. **G. Bertrand**
10:00 – 1567. Reduction behavior of Fe(I) complexes bearing a PNP-pincer type phosphaalkene ligand. **Y. Nakajima**, Y. Lin, N. Ichihara, F. Ozawa
10:20 – 1568. Transition-metal catalyzed reactions that form bonds to phosphorous. **R. Waterman**
10:40 – 1569. Catalytic hydrosilylation of CO_2 using an iridium(I) complex bearing unsymmetrical PNP-pincer type phosphaalkene ligands. Y. Chang, **K. Takeuchi**, F. Ozawa*
11:00 – 1570. Room temperature hydrophosphination using a simple iron salen pre-catalyst. K.J. Gallagher, C.A. Brown, M.F. Mahon, **R.L. Webster***
11:20 – 1571. Catalytic asymmetric synthesis of phosphorus compounds. **W. Duan***
11:40 – 1572. Phosphine-participated C-H transformations. **S. Yang**

Hilton Hawaiian Village
Kalia Tower, Lehua Suite

The Expanding Periodic Table: New Discoveries and Chemistry of the Heaviest Elements (#234)

Organized by: Y. Nagame, H. Nitsche, Z. Qin, P. Schwerdtfeger, C. Duellmann, A. Tuerler
Presiding: C.E. Duellmann, Y. Nagame

8:00 – 1573. Search for new elements at TASCA at GSI. **K. Jadambaa***
8:30 – 1574. Synthesis of superheavy elements at RIKEN. **K. MORIMOTO**
9:00 – 1575. SHE factory: Current status. **G. Chubarian***
9:30 – 1576. Synthesis and nuclear structure studies of heavy elements with the Berkeley Gas-filled Separator. **K.E. Gregorich***
10:00 – 1577. Toward A and Z identification of superheavy elements. **J. Gates***
10:30 – 1578. Production and decay studies of ^{261}Rf, ^{262}Db, ^{265}Sg, and ^{266,267}Bh for superheavy element chemistry using GARIS at RIKEN. **H. Haba***
11:00 – 1579. Random probability analysis of recent $^{48}Ca + {}^{239,240}Pu$ experiments for the production of flerovium. **M.A. Stoyer***, S. Strauss, Y. Oganessian, F. Abdullin, R. Boll, N. Brewer, S. Dmitriev, J. Ezold, L.K. Felker, R. Grzywacz, J. Hamilton, R. Henderson, M. Itkis, K. Miernik, A. Polyakov, J. Roberto, K. Rykaczewski, A. Sabelnikov, R. Sagaidak, D. Shaughnessy, I. Shirokovsky, M. Shumeyko, N. Stoyer, V. Subbotin, A. Sukhov, Y. Tsyganov, V. Utyonkov, A. Voinov, G. Vostokin
11:30 – 1580. Heavy element study using a new separator GARIS-II. **D. Kaji***, K. MORIMOTO

Hilton Hawaiian Village
Kalia Tower, Hibiscus 2

Advances in the Medicinal Applications of N-Heterocyclic Carbene Metal Complexes and Azolium Cations (#255)

Organized by: W. Youngs, M. Baker, C. Che, I. Lin, M. Panzner
Presiding: W. Youngs

8:00 Opening Remarks
8:10 – 1581. Development of novel silver-based antimicrobial formulations for the treatment of pulmonary infections. P.N. Shah*, J.A. Smolen, J.A. Tagaev, S. Zhang, F. Zhang, Y.H. Lim, G. Heo, B. Wright, M.J. Panzner, W. Youngs, K. Wooley, **C.L. Cannon**
8:45 – 1582. Assessment of the clearance and pharmacokinetics of silver antimicrobials using ^{111}Ag. T. Aweda, S. Zhang, B. Wright, J. Burkemper, G. Heo, N. Bandara, C.S. Cutler, C.L. Cannon, W. Youngs, K. Wooley, **S.E. Lapi**
9:20 – 1583. Therapeutic polymer nanoparticles designed for treatment of pulmonary and urinary tract diseases. **K. Wooley**
9:55 Break
10:10 – 1584. New routes to carbene-functionalized metal surfaces. **M.T. Zamora**, C.A. Smith, M. Narouz, C. Crudden
10:45 – 1585. Beyond catalysis, the new horizon of the biomedical applications of the late-transition metal N-heterocylic carbene complexes. **P. Ghosh***, D. Panda*
11:20 – 1586. Antimicrobial activity of silver N-heterocyclic carbene mediated self-assembling hydrogels based on the naturally occurring human peptide glutathione. **M.J. Panzner***, D. Hohman, E. Elmond, M. Gehring, T.C. Leeper, W. Youngs
11:55 Morning Closing Remarks

*** Principle Author**

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Hawaii Convention Center
Halls I, II, III

Inorganic Complexes for Solar Energy Harvesting (#256)

Organized by: M. Wolf, K. Sakai, F. MacDonnell

Poster Session
10:00 – 12:00

1587. Synthesis and characterization of heteroleptic copper(I) complexes for light harvesting applications. **J. Huynh**, B.D. Koivisto*
1588. Luminescent building blocks for supramolecules from a *bis*-diimine platinum(II) dithiolene with exchangeable diimine ligands. **B.W. Smucker***, J.B. Smith, P.J. Derry
1589. Fabrication and properties of zinc oxide based perovskite solar cells. **M. Fujibayashi**, h. morikawa, E. Inami, H. Ogata
1590. Liquid light guides for photochemistry and photocatalytic experiments. **K. Nomura***, K. Hosoda, Y. Toyoda, D. Yokota, Y. Morito, A. Fujishima
1591. Effects of silver nanoparticles addition to perovskite-based solar cells. **h. morikawa**, M. Fujibayashi, E. Inami, H. Ogata
1592. High haze TCO glass to enhance the light harvest for dye-sensitized solar cell. **T. Endo***, R. Otsuka, R. Murakami, M. Okuya
1593. Reduction of TiO_2 / TCO interface resistance for dye-sensitized solar cell with TNO transparent conductive film. **T. Endo***, M. Okuya, R. Iwaki, S. Takemura, S. Nakao, S. Okazaki, E. Sakai, N. Yamada, T. Hitosugi, T. Hasegawa
1594. Molecular orientation control in phthalocyanine-based thin films using magnetic field. **Y. Fujita**, Y. Kikutani, A. Maeda*, K. Uemura, Y. Hirai
1595. Photohydrogen-evolving molecular device sacrificing initially collected one electron. **K. Yamamoto**, K. Kitamoto, K. Sakai*
1596. Water soluble copper phthalocyanine as photochemical water oxidation catalyst. **R. Terao**, T. Nakazono, A.R. Parent, K. Sakai*
1597. Iridium complexes with Coumarin ligands: Effective sensitizers for visible-light-driven hydrogen generation. **S. Takizawa***, S. Murata
1598. Syntheses and hydrogen-evolving activities of nickel(II) pyridinethiolate complexes stabilized oligopeptide moieties. **K. Miyazaki**, K. Kitamoto, K. Yamauchi, K. Sakai*
1599. Dye-sensitized solar cells consisting of hierarchical thin-layered nanocrystalline TiO_2, Pt nanoparticles from organic syntheses, and organic dyes of donor-π-acceptor type. **K. Mitsuke***, N. Tanaka, A. Saito, D. Izutsu, K. Takahashi, M. Wakayama, M. Hashimoto
1600. Encapsulation of Pt(II)-based molecular catalysts into a supramolecular cage and their catalytic activity for hydrogen evolution from water. **S. Tanaka**, T. Nakazono, K. Yamauchi, K. Sakai*
1601. Ruthenium complex as a single-component redox shuttle for electrochemical photovoltaics. **J. Kim**, N. Jeong*
1602. Molecular catalysis of hydrogen evolution based on a one-step two-electron reduction scheme. **S. Nakashima**, K. Yamauchi*, K. Sakai*
1603. Bis-Ru(II) complexes bearing a sulfur bridge of varying oxidation states for application in solar cells and light-emitting devices. **C.M. Brown***, M.O. Wolf
1604. Studies on electrochemical water reduction catalyzed by bis(dithiolato)nickelate(II) complexes. **K. Koshiba**, K. Yamauchi*, M. Huynh, S. Hammes-Schiffer, K. Sakai*
1605. Polypyridyl ruthenium(II) complexes in ion exchange resins toward solid-state light harvesting system. **A. Ito***, K. Kato, N. Kishida, Y. Teki
1606. Photoinduced water oxidation properties of cobalt porphyrin catalysts. **T. Nakazono**, A.R. Parent, K. Sakai*
1607. Novel methods for catalyst functionalization of semiconductors and applications in photoelectrocatalysis. **S.C. Eady***, B. Brown, S. Peczonczyk, S. Maldonado, N. Lehnert
1608. Pigment-acceptor-catalyst triads for photochemical hydrogen production from water. **K. Kitamoto**, K. Sakai*
1609. Dye-sensitized solar cells using cyclometalated ruthenium complexes and cobalt redox electrolyte. **T. Funaki***, N. Onozawa-Komatsuzaki, K. Sayama
1610. Structure-activity relationship of photochemical H_2 evolution from water catalyzed by cobalt-NHC complexes. **K. Kawano**, K. Yamauchi*, K. Sakai*

Hawaii Convention Center
Halls I, II, III

Metal Mediated Polymerization (#292)

Organized by: P. Hayes, R. Waterman, T. Mizuta, Y. Tang, P. Sangtrirutnugul

Poster Session
10:00 – 12:00

1611. Cobalt amine-bis(phenolate) complexes for the activation of carbon dioxide. **K. Ambrose**, C.M. Kozak*
1612. Synthesis of polyolefin brushes by polymerization of α-olefins containing long branches. **S. Pengoubol**, K. NOMURA*
1613. New earth-abundant metal salen complexes for the copolymerization of carbon dioxide with epoxides. **H. Plommer**, F. Kerton*
1614. Cr(III) amine-bis(phenolate) complexes as catalysts for the production of copolymers from CO_2, epoxides, and lactide. **K. NI***
1615. Preparation of pentacoordinate titanium *n*-butoxide derivatives, and their analysis by density functional theory calculations and nuclear magnetic resonance analysis. **K. Koike**
1616. Transition metal facilitated synthesis of nucleosidic polymers. **C.M. Mikulski***

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 1

S-block Metal Chemistry (#304)

Organized by: K. Ruhlandt-Senge, P. Andrews, C. Cui
Presiding: P. Andrews, K. Henderson

8:00 – 1617. Molecular magnesium(I) compounds: Bespoke reagents for the synthesis of low-coordinate metal-metal bonded complexes. **C. Jones***
8:30 – 1618. Recent developments in the chemistry of compounds with Group 2–transition metal bonds. **P. Mountford***, M.P. Blake
9:00 – 1619. Alkaline-earth metal boronates: From structural studies to high resolution solid state NMR characterizations and computational modeling. **D. Laurencin***, S. Sene, M. Reinholdt, C. Gervais, D. Berthomieu, A. Mesbah, G. Renaudin, M.E. Smith, c. bonhomme
9:20 – 1620. Ligation/solvation competition in heavy alkaline earth metal tetraarylborates. **K. Ruhlandt-Senge**, C. Lavin, D. Allis, A. Goos, M. Gillett-Kunnath
9:40 – 1621. Addressing the limitations of s-block reactivity and catalysis. **M.S. Hill***
10:00 Break
10:10 – 1622. Aggregation and reactivity in organolithium reagents. **H.J. Reich**
10:40 – 1623. Group two mediated frustrated Lewis pairs: Meta-FLPs. **M.D. Anker***, M.s. Hill
11:00 – 1624. Chiral magnesium and calcium reagents in asymmetric deprotonation processes. **K. Henderson***
11:20 – 1625. Preparation and reactivity of soluble alkaline earth metal hydride complexes. **L. Fohlmeister**, A. Stasch*
11:40 – 1626. Trimagnesium complex of hexaazatrinaphthylene trianion: A novel triradical with an open-shell doublet character. **J.O. Moilanen**, B.M. Day, T. Pugh, R.A. Layfield*

Hawaii Convention Center
Halls I, II, III

Metal Coordination Sphere Design for Challenging Bond Transformations (#318)

Organized by: K. Caulton, A. Hill, S. Johnson, M. Yamashita

Poster Session
10:00 – 12:00

1627. Search for active first-row transition metal alkylidene complexes. **A. Nielson***, J. Harrison, A. Sajjad, P. Schwerdtfeger
1628. Rigid 2,1,3-benzosiladiazole based PSiP pincer ligands. **C. Ma**, A.F. Hill*, L.S. Dixon, M. Sharma, A. Sinha, J.S. Ward
1629. Pincer ligands with pyrazole arms: Redox-noninnocence expands chemical reactivity. **K. Caulton***
1630. Synthesis and reactivity of NHC-based rhodium macrocycles. **R.E. Andrew**, D.W. Ferdani, C.A. Ohlin, A.B. Chaplin*
1631. Synthesis, structure, and property of Ir and Rh complexes bearing an ^{i}Pr-substituted PBP ligand. **K. Tanoue**, M. Yamashita
1632. Iridium catalyst featuring a hemilabile SiNN-pincer ligand for Si–H deuteration of hydrosilanes with benzene-d_6. **T. Komuro**, T. Osawa, R. Suzuki, H. Tobita*
1633. Synthesis of first-row transition metal complexes with bis(aminomethyl)pyridine ligands and reactions of the iron complex involving β-hydrogen elimination. **T. HIGASHI**, T. Hatanaka, Y. Funahashi
1634. Enhanced catalysis – homo- and heterobimetalliccomplexes of Rh and Ir for C-X bond formation reactions. **M.B. Peterson***, S. Choy, M. Gatus, B.A. Messerle
1635. Homoleptic Au(III) trications: A synthetic pathway to a novel class of Au(III) compounds. **R. Corbo**, J.L. Dutton*
1636. Synthesis and reactivity studies of square pyramidal tantalum complexes. **G. Lavoie***, R. Morris
1637. Construction of multicofacial multinuclear complexes within a one-nanometer-size macrocyclic porphyrin nanoring. **Y. Ohkoda***, A. Satake*
1638. Hemilabile pincer ligands for enhanced catalysis. **A. Gopalan Nair**
1639. Synthesis of early-late heterodinuclear complexes bearing ONO-P multidentate ligands. **S. Yoneyama**, K. Satou, T. Hasegawa, N. Suzuki*, Y. Masuyama
1640. Photochemical reaction of diruthenium tetrahydride-bridged complexes with carbon dioxide: Insertion of CO_2 into a Ru-H bond vs. C=O double bond cleavage. **R. Shimogawa**, T. Takao*, H. Suzuki
1641. Perimidenylidene based *N*-heterocyclic carbene pincer ligands. **C. Ma**, A.F. Hill*, C.M. McQueen, J.S. Ward, B.A. Messerle, M.J. Page
1642. Mechanistic investigation of H/D exchange of unactivated C-H bonds by a pentanuclear nickel cluster. **M.M. Shoshani**, S.A. Johnson*
1643. Synthesis of O, N, O - N, N ligands and their heterodinuclear complexes. **T. Shimamura**, K. Haraga, Y. Masuyama, N. Suzuki*
1644. Non-innocent behavior of 3-coordinate phosphorus ligands: Late transition metal phosphido vs. phosphenium bonding and reactivity. **Y. Han**, A.F. Hill*, Y. Xiong, T. Schwich
1645. Developing first-row transition metal catalysts that incorporate coordinatively versatile redox-active ligands. **C.E. MacBeth***, O. Villanueva
1646. Multidentate phosphine-enamide ligands for small molecule activation and catalysis. **V. Annibale**, T.G. Ostapowicz, S. Westhues, C. Lenczyk, T.C. Wambach, M. Fryzuk*
1647. New N-heterocyclic carbene ligands as supports for low valent metals: Synthesis and reactivity of first row NHC metal complexes. Z. Call, A. Gaona-Rojas, **C. Bradley***
1648. Synthesis and study of novel iron sulfide complexes as models for nitrogenase. **N.A. Arnet**, T.R. Dugan, W.W. Brennessel, B.Q. Mercado, E. Bill, P.L. Holland*
1649. Trigonal bipyramidal complexes with a stable copper(III) moiety and thier oxygen-derivatives. **H. Chang**, W. Lee*
1650. Post functionalization: An effective method to construct heavier group 14 element donor-functionalized NHC complexes. **L. Deng***
1651. Ligand cooperation in the hydrogenation of N_2O using PCP iridium pincer complexes. **L.E. Doyle**, W.E. Piers*, J. Borau-Garcia
1652. Phosphide-nickel(II) and phosphinite-nickel(0) interconversion via reversible P–O bond formation and cleavage. **S. Kim**, Y. Kim, S. Oh, Y. Lee*
1653. Transformation of (PEP)Ni-thiolate assisted by metal-ligand cooperation. **S. Oh**, Y. Lee*
1654. Copper-mediated cross-coupling reaction: mechanistic insights and its application. **M. Oi***, M. Otsuka, J. Kanazawa, R. Takita, M. Uchiyama
1655. Synthesis and reactivity of electron rich amino-substituted diaryl PCP pincer complexes. **J.D. Smith**, S. Sugawara, Y. Yamamoto, W.E. Piers*, D. Spasyuk
1656. Acceptorless dehydrogenation of amines by cooperative $[CpRu(P^{R}_{2}N^{R'}_{2})(NCMe)]^{+}$ complexes. **J.M. Stubbs***, J.M. Blacquiere

Hilton Hawaiian Village
Mid-Pacific Center, Coral 4

The Bio-Coordination Chemistry of Nitric Oxide and Its Derivatives: Mechanisms of NOx Generation, Signaling and Reduction in Biological Systems (#371)

Organized by: N. Lehnert, G. Richter-Addo, F. Doctorovich, K. Fujisawa
Presiding: N. Lehnert

8:00 – 1657. Using biosynthetic models of nitric oxide reductase and nitrosocyanin to understand structures and mechanisms responsible for NO reduction and reversible S-nitrosylation. **Y. Lu***, S. Chakraborty, S. Tian, J. Reed
8:30 – 1658. Molecular mechanism of NO reduction by bacterial nitric oxide reductases. **Y. Shiro**, T. Tosha, T. Kimura, M. Kubo
9:00 – 1659. Using isotopic fractionation to provide insight into the mechanism of microbial N_2O production. **E.L. Hegg***, H. Yang, H. Gandhi, A. McQuarters, N. Lehnert, N.E. Ostrom
9:20 – 1660. Exploring the nitric oxide dioxygenase activity of heme-thiolate enzymes. **D. Stuehr***
9:50 Break
10:00 – 1661. Bending and stretching in six-coordinate iron nitrosyls. **W.R. Scheidt***, Q. Peng, J. Pavlik, J. Sage
10:20 – 1662. Reduction of NO to HNO by antioxidants (alcohols, thiols, amines, and others). **F. Doctorovich**

*** Principle Author**

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10:40 – 1663. HNO/NO conversion mechanisms of Cu-based HNO probes with implications for Cu,Zn-SOD and metal-based HNO probe design. M. Michael, G. Pizzella, L. Yang, Y. Shi, T. Evangelou, D. Burke, **Y. Zhang***
11:00 – 1664. Modeling nitric oxide signaling chemistry at copper and zinc sites. **T.H. Warren***
11:30 – 1665. Chemistry of iron-sulfur clusters in nitric oxide signaling. **E. Kim***

Hilton Hawaiian Village
Kalia Tower, Kahili 1 & 2

Activation of Small Molecules by Electropositive Metals Related to Chemical Energy Conversion (#380)

Organized by: D. Mindiola, H. Kawaguchi, L. Schafer, K. Meyer, A. Veige, M. Reynolds
Presiding: K. Meyer, D. Mindiola

8:00 opening remarks
8:05 – 1666. Elucidating the Inorganic Enamine Effect: Fast Wittig-like reactions and CO_2 deoxygenation across a metal-carbon triple bond. **A.S. Veige***, S.d. Gonsales, M.E. Pascualini, I. Ghiviriga, K.A. Abboud
8:25 – 1667. Bimetallic cleavage of aromatic C-H bonds by rare earth metal complexes. **P.L. Diaconescu**
8:45 – 1668. Activation of strong bonds with low-valent Group 5 complexes. **J. Arnold**
9:05 – 1669. Scandium terminal imido complexes: Synthesis, structure, and reactivity. E. Lu, J. Chu, X. Han, **Y. Chen**
9:25 – 1670. Early metal catalyzed hydroelementation of oxygenates. **A.D. Sadow***
9:45 – 1671. Early transition metal catalyzed C-H alkylation: Hydroaminoalkylation for the selective synthesis of amines. **L.L. Schafer***
10:05 break
10:20 – 1672. Early transition metal-catalyzed activation of α-C(sp^3)–H bonds of primary or secondary amines. **S. Doye***
10:40 – 1673. Metal-metal bonded catalysts for dinitrogen silylation and olefin hydrogenation. **C. Lu***, R. Siedschlag, L. Clouston, R. Cammarota, L. Gagliardi, E. Bill
11:00 – 1674. Tranformation on titanium by reversible carbon-carbon bond cleavage. **T. Takahashi**
11:20 – 1675. Synthesis and reaction chemistry of (imido)vanadium(V)-alkyl, alkylidene complexes. **K. NOMURA**
11:40 – 1676. C-H and C-P activation and dehydrogenation reactions of alkanes with phosphino-alkylidenes and -alkylidyne complexes of titanium. **D. Mindiola***

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 3

New Directions for Sensing Metals in Biology (#424)

Organized by: E. New, E. Que, T. Hirayama
Presiding: E. Que

8:00 – 1677. Genetically encoded sensors for monitoring the spatial distribution of zinc in living cells. **A.E. Palmer**
8:30 – 1678. Development of genetically encoded zinc(II) and iron(II) biosensors to probe cellular metal homeostasis. **C.A. Fierke***, R.B. Thompson, B. Kim, C.A. Pitcairn, A.K. Stoddard, E.G. Matveeva
9:00 – 1679. Imaging properties of the (zinc)-proteome with zinc fluorophores. **D.H. Petering***, K. Fatima, M. Karim, E. Lund, M. Namdarghanbari, A. Nowakowski
9:20 – 1680. Methods for the fluorescent detection of heavy metals . C. Shen, D.G. Smith, **E. New**
9:40 – 1681. Strategies to develop whole-cell biosensors for heavy metals. **J. Zhao***, W. Wei
10:00 Morning tea
10:40 – 1682. Visualising ion flux with small molecule probes, nanoparticles and smartphones. **P. Rutledge***
11:10 – 1683. Illuminating reductase actvity in hypoxia with chemiluminescent probes. **A.R. Lippert**
11:40 – 1684. Responsive probes based on luminescent iridium complexes. **F. Kielar**

Saturday Afternoon

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 3

Experimental and Theoretical Actinide Chemistry: From Fundamental Systems to Practical Applications (#42)

Organized by: J. Gibson, G. Schreckenbach, T. Yaita, J. Li, P. Yang
Presiding: R.J. Abergel, N. Kaltsoyannis

13:00 – 1685. Synthesis and crystal structures of uranium, neptunium, and plutonium complexes of 2,2′-biphenylenedithiophosphinate and its "untethered" analog diphenyldithiophosphinate. J. Macor, J.L. McDonald, J.N. Cross, S.R. Daly, A.J. Gaunt*, **G.S. Girolami***, M.T. Janicke, S.A. Kozimor*, M.P. Neu, S.D. Reilly, A.C. Olson, B.L. Scott
13:20 – 1686. Nanoscopic analysis of oxygen vacancy in nuclear oxide fuel. **K. Konashi***, T. Yato, M. Kato, M. Watanabe, T. Yaita, H. Shiwaku
13:50 – 1687. Accessing properties of large actinide systems with frozen-density embedding. **V. Vallet**, M. Olejniczak, F. Réal, A. Severo Pereira Gomes
14:20 – 1688. Achieving actinide and lanthanide group separation with hard−soft donor combined ligands. **W. Shi***, C. Xiao, Z. Chai
14:50 Break
15:05 – 1689. Experimental and theoretical investigations of metal–oxygen multiple bonding in actinyl ions. **S.G. Minasian**, E.R. Batista, C.H. Booth, J.M. Keith, W. Lukens, S.A. Kozimor, R.L. Martin, D.K. Shuh, X. Wen
15:25 – 1690. Spectroscopic and theoretical studies of gas phase actinide species. **M.C. Heaven**, J.H. Bartlett, R.A. VanGundy, K. Mascaritolo
15:55 – 1691. X-ray spectroscopic studies of actinide-ligand interactions. **M.A. Denecke***
16:25 – 1692. Computational studies of the hydrolysis reactions of actinide ions and of novel bonding interactions for actinides. **D.A. Dixon**
16:55 – 1693. Correlated electronic states in actinide-based intermetallic compounds. **Y. Haga***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 1

Metal-Organic Frameworks: Synthesis, Properties and Applications (#50)

Organized by: G. Shimizu, J. Long, M. Suh, Q. Xu, X. Chen

13:30 – 1694. Chemistry and application of soft porous coordination polymers. **S. Kitagawa***
14:00 – 1695. Phosphine coordination materials with defined open metal sites. **S.M. Humphrey***, J. He, A.M. Bohnsack, N. Waggoner, A. Nguyen, V.M. Lynch, J.E. Reynolds, S. Dunning
14:20 – 1696. Effect of ligand substitution on breathing mode of MOFs with MIL-53 type crystal structure. T. Ahnfeldt, M. Enssle, M. del Prado Carrion Ramirez, H. Fjellvåg, **P.D. Dietzel***
14:40 – 1697. Understanding metal-organic framework chemical stability properties via simulation and experiment. **K.S. Walton***, N.C. Burtch
15:00 – 1698. Gas separations in metal-organic frameworks. T.M. McDonald, E.D. Bloch, J.A. Mason, Z.R. Herm, B.M. Wiers, M.T. Kapelewski, M.I. Gonzalez, J.E. Bachman, D. Gygi, W.L. Queen, **J.R. Long***
15:30 – 1699. Chromatographic enantioseparation using double-pillared homochiral MOF in HPLC. **K. Tanaka***
15:45 – 1700. Nanospace within metal-organic frameworks: Plenty of opportunities for heterogeneous catalysis. **S. Ma***
16:05 – 1701. Single crystalline hollow metal-organic frameworks: A metal-organic polyhedron single crystal as a sacrificial template. **M. Lah***
16:25 – 1702. How to make conducting metal-organic frameworks. **T. Komatsu***, J.M. Taylor, T. Sugiura, H. Kitagawa
16:40 – 1703. Tuning the photoredox properties of porphyrinic metal-organic frameworks for photocatalytic organic synthesis. **J. Zhang**
16:55 – 1704. Isolation and studies of reactive heme species in metal-organic frameworks. J. Anderson, A. Gallagher, **D. Harris**

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

From Pnictides to Perovskites: Impact of Local Structure in Solid State Chemistry (#62)

Organized by: H. Kageyama, B. Kennedy, J. Wiley
Presiding: J.B. Wiley, H. Xiang, Z. Ye

13:00 – 1705. Strong carrier localization in $LaVO_{3-y}N_y$ perovskite-type oxynitride epitaxial thin films grown by nitrogen-plasma-assisted pulsed laser deposition. **M. Sano**, Y. Hirose, S. Nakao, T. Fukumura, T. Hasegawa*
13:15 – 1706. Topotactic fluorination of perovskite-type strontium ruthenate thin films using polyvinylidene fluoride. **K. Kawahara***, A. Chikamatsu, T. Katayama, T. Onozuka, T. Fukumura, T. Hasegawa
13:30 – 1707. Bonding and electronic structures of electropositive metal germanides prepared by high-pressure synthesis containing germanium with unusual coordination numbers. **H. Fukuoka***, K. Baba, M. Yoshikawa, F. Ohtsu, D. Saito
13:50 – 1708. Novel low-dimensional magnets prepared by hydro(solvo)thermal method. **H. Lu**, H. Kageyama
14:10 – 1709. White-light emission from layered hybrid perovskites. E. Dohner, A. Jaffe, **H. Karunadasa**
14:45 – 1710. Accidental organic substitution in methylammonium lead perovskites. **J. McLeod***, L. Liu, S. Duhm, B. Sun, P. Shen, R. Wang, W. Xu
15:05 – 1711. Understanding the stability of materials for nuclear waste sequestration applications. E. Aluri, R. Rafiuddin, **A.P. Grosvenor***
15:25 – 1712. Role of noncovalent interactions in templated vanadates. **A. Norquist**
15:45 – 1713. Factors influencing framework structures and macroscopic centricities in mixed metal oxide materials containing local asymmetric units. **K. Ok***, D. Lee, Y. Kim, S. Bae, S. Bang, Y. Kim, H. Kim, S. Song, H. Jo
16:20 – 1714. Atom-by-atom synthesis of catalytic inorganic clusters within mesoporous metal-organic framework materials. **J. Hupp***

Hilton Hawaiian Village
Rainbow Tower, Rainbow 2

Accessing the Full Potential of Redox-Active Ligands: Reactivity and Applications (#87)

Organized by: T. Storr, C. Grapperhaus, H. Fujii
Presiding: H. Fujii, T. Storr

13:00 – 1715. Redox-active metal-thiolates: Ligand-centered electrocatalytic proton reduction/hydrogen oxidation. **C.A. Grapperhaus**, A.Z. Haddad, R. Jain, M. Mashuta
13:30 – 1716. Direct ligand-centered dehydrogenations by metal bis-iminosemiquinonates. **S.N. Brown***
14:00 – 1717. Aluminum-ligand cooperation in proton and electron transfer reactions. **L.A. Berben***, E.J. Thompson, T.J. Sherbow
14:30 – 1718. Molecular electrocatalysts bearing redox-active ligands for proton and carbon dioxide reduction: Synergy between experiment and theory. **J. Panetier***
14:50 Break
15:00 – 1719. Redox chemistry of coordinated anilines. **F. Thomas***, O. Jarjayes, N. Leconte, C. Philouze, A. Kochem
15:30 – 1720. Investigating the electronic structures and reactivity of f-block elements bearing redox-active ligands. **S.C. Bart***
16:00 – 1721. Diiminepyridine titanium complexes. N. Rahimi, **P.H. Budzelaar***
16:30 – 1722. Molecular mechanism of heme axial ligand for controlling the reactivity of oxoiron(IV) porphyrin π-cation radical complex. **H. Fujii**

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Chemistry and Application of Boron Clusters (#152)

Organized by: S. Kang, N. Hosmane, D. Schubert, H. Nakamura, Z. Xie
Presiding: H. Nakamura

13:00 – 1723. Transition metal catalyzed functionalization of carboranes via B-H activation. **Z. Xie**
13:30 – 1724. Simpler route to polychlorinated monocarba-*closo*-dodecaborate and ammonio-*closo*-dodecaborate anions for use as weakly coordinating anions. **R.J. Wehmschulte***, M. Saleh, D. Powell
13:50 – 1725. Charged carboranyl phosphine and carbene ligands in catalysis. **V. Lavallo***
14:20 Break
14:30 – 1726. $LiCB_{11}Me_{12}$ as a catalyst. P. Dron, Y. Hervault, T. Magnera, J. Kaleta, V. Volkis, K. Whitener, C. Little, **J. Michl***
15:00 – 1727. Inorganic boron clusters for solar energy harvest. Y. Cho, S. Kim, **H. Son***
15:20 – 1728. Inert B−H activation by metal−metal cooperativity. **H. Yan***
15:50 Break
16:00 – 1729. Cage molecule self-assembly. **P.S. Weiss***
16:30 – 1730. Boron oxide cluster chemistry of industrial borates. **D.M. Schubert***

Hilton Hawaiian Village
Tapa Tower, Iolani Suite 1 & 2

Current Trends and Interconnectivities Among Fundamental and Applied Inorganic Fluorine Chemistry (#156)

Organized by: K. Matsumoto, R. Hagiwara, G. Schrobilgen, H. Mercier, R. Syvret
Presiding: R. Syvret

*** Principle Author**

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13:00 – 1731. Stereochemical activity of the xenon electron lone pairs of $F_6XeNCCH_3$ and $F_6Xe(NCCH_3)_2$ – and the first of oxide and neutral oxide fluoride of Xe(II), $[Xe-OXeOXe]^{2+}$, and $O(XeF)_2$. **G.J. Schrobilgen***, J. Haner, M.V. Ivanova, K. Matsumoto, H.P. Mercier
13:30 – 1732. Bromine-oxygen-(fluorine) compounds. **K. Seppelt***
14:00 – 1733. Novel high oxidized metal compounds. **S. Riedel***
14:30 – 1734. Xenon(VI) and xenon(VIII) oxide and oxide fluoride chemistry. **J.T. Goettel**, H.P. Mercier, G.J. Schrobilgen*
14:50 Break
15:05 – 1735. Inorganic and organic fluorine chemistry unit to advance pentafluorosulfanyl-(SF_5)-substituent chemistry. A.V. Matsnev, S.P. Belina, S. Qing, K.A. Berger, A.R. Scavuzzo, P. Dudzinski, A. Dreier, G. Haufe, **J.S. Thrasher***
15:35 – 1736. Activation of SF_5 aromatics and SF_6 at palladium and rhodium complexes. **T. Braun***, C. Berg, L. Zamostna
16:05 – 1737. Structure of the discrete $Al_2F_9^{3-}$ and AlF_5^{2-} anions. **G. Veryasov***, F. Xu, K. Matsumoto, R. Hagiwara
16:25 – 1738. Novel fluorous amphiphilic heteroleptic Ru-based complex for dye-sensitized solar cell: Excellent photostability, and hydrophobicity. **N. Lu***

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 2

Advances in Phosphorus Chemistry: Materials, Reactivity at Phosphorus, and Synthesis (#226)

Organized by: R. Waterman, F. Ozawa, D. Gates, P. Leung
Presiding: J.D. Masuda

13:00 – 1739. Catalysis in service of main group chemistry: Metal-mediated and metal-free routes to molecules and materials based on elements from group 13-15. **I. Manners***
13:20 – 1740. Electrochromic conjugated organophosphorus materials. **T. Baumgartner**
13:40 – 1741. Novel transformations of polyphosphorus compounds. **M. Scheer***, A. Seitz, M. Eckhardt, S. Heinl, C. Heindl
14:00 – 1742. Phosphonated-based materials: From the synthesis of innovative (co-)polymers to their applications. **S. MONGE**
14:20 – 1743. Advances in luminescent materials containing multiply bonded phosphorus. **J. Protasiewicz**
14:40 – 1744. Hexacoordinated phosphorus(V) anions: Synthesis, characterization, and application for cationic polymerization studies. **K. Hazin***, P. Siu, D.P. Gates
15:00 – 1745. Phosphole-based organic materials: Synthesis and applications to organic solar cells. **Y. Matano***
15:20 – 1746. Phosphorus recovery from iron-enhanced primary wastewater sludge. **R. Li***, X. Li, H. Li, J. Xu, L. LIN, Y. LI
15:40 – 1747. Sterically crowded triarylphosphines and their material oriented derivatives. **S. Sasaki***, N. Morita, M. Yoshifuji
16:00 – 1748. Investigating the aromaticity in boron-phosphorus heterocycles. J. Barnard, **C.D. Martin**
16:20 – 1749. Toward new main group radicals and cations featuring phosphorus, carbon, and aluminum centers. **J.D. Masuda***
16:40 – 1750. Versatile reagent $Ph_3As(OTf)_2$: One-pot synthesis of $[P_7(AsPh_3)_3][OTf]_3$ from PCl_3. **M. Donath***, J.J. Weigand

Hilton Hawaiian Village
Kalia Tower, Lehua Suite

The Expanding Periodic Table: New Discoveries and Chemistry of the Heaviest Elements (#234)

Organized by: Y. Nagame, H. Nitsche, Z. Qin, P. Schwerdtfeger, C. Duellmann, A. Tuerler
Presiding: Y. Nagame, z. qin

13:00 – 1751. First synthesis and investigation of $Sg(CO)_6$. **J. Even***
13:30 – 1752. Formation and gas phase chemistry the transition metal carbonyl complex. **z. qin***
14:00 – 1753. Theoretical studies of the electronic structures of seaborgium carbonyls $Sg(CO)_n$ (n = 1 – 6). W. Xu, **J. Li***
14:30 – 1754. Recent progress in theoretical predictions of chemical properties of the heaviest elements. **V. Pershina***
15:00 – 1755. Chemistry of element 114, flerovium. **A. Yakushev***
15:30 – 1756. Gas phase chemical investigation of element 113 and beyond. **R. Eichler***
16:00 – 1757. Present status and future plans of chemical experiments with superheavy elements at PSI/UNIBE. **A. Türler***
16:30 – 1758. Development of a rapid solvent extraction apparatus for aqueous chemistry of the heaviest elements. **Y. Komori***, H. Haba, K. Ooe, A. Toyoshima

Hilton Hawaiian Village
Kalia Tower, Hibiscus 2

Advances in the Medicinal Applications of N-Heterocyclic Carbene Metal Complexes and Azolium Cations (#255)

Organized by: W. Youngs, M. Baker, C. Che, I. Lin, M. Panzner

13:00 Opening Remarks
13:10 – 1759. New classes of Au-NHC complexes as potential anticancer agents. **M. Baker***, J. Hickey, A. Mageed, B.W. Skelton, W. Zhao
13:45 – 1760. Gold complexes of N-heterocyclic carbene ligands: Luminescent probes and anticancer properties. **C. Che**
14:20 – 1761. Heterometallic titanium-gold and ruthenium-gold carbene complexes with potential as cancer chemotherapeutics. **M. Contel***, J. Fernandez-Gallardo, V. Mui, B. Elie, R. Collison
14:55 Break
15:10 – 1762. Development of imidazolium salts for cancer therapy. **W. Youngs***, P.O. Wagers, K.L. Shelton, M.A. DeBord, M. Southerland, M.J. Panzner, A. Taraboletti, C.A. Tessier, L.P. Shriver
15:45 – 1763. Kinetic studies of n-heterocyclic carbene ruthenium complex as self-regenerative antioxidant. **Y. Htet***, A.G. Tennyson
16:20 Closing Remarks

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 1

S-block Metal Chemistry (#304)

Organized by: K. Ruhlandt-Senge, P. Andrews, C. Cui
Presiding: K. Ruhlandt-Senge

13:00 – 1764. Amazing world of functionalized organolithium compounds: New synthetic tactics and strategies, mechanistic and structural insights. **V. Capriati***
13:30 – 1765. Flash chemistry using short-lived organolithium species. **J. Yoshida***
14:00 – 1766. Allylphosphine reactivity: Deprotonation vs. P-C bond cleavage synthetic and DFT calculation studies. **V.L. Blair***, C. Thompson
14:20 – 1767. Remarkable homoleptic thioether and phosphine coordination to s-block cations. M. Champion, M. Carravetta, J. Dyke, W. Levason, D. Pugh, **G. Reid***, W. Zhang
14:50 Break
15:00 – 1768. S-block syntheses sans solvent: mechanochemical insights into organometallic reactions. N. Rightmire, **T.P. Hanusa***
15:30 – 1769. Novel reactivities of carbenoids towards E–H bonds. **S. Molitor***, V.H. Gessner
15:50 – 1770. Steric hindrance matters. **P.G. Williard***, C. Su, J. Guang, R. Hopson, Q.P. Liu, W. Li, G. Kagan, C. Liu
16:20 – 1771. Synthetic applications of lithium amides and lithium enolates. **S.D. Bull**

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 2

Metal Coordination Sphere Design for Challenging Bond Transformations (#318)

Organized by: K. Caulton, A. Hill, S. Johnson, M. Yamashita
Presiding: L. Deng, B.A. Messerle

13:00 – 1772. Iron catalysts with carboxylamido ligands for regio-selective hydroxylation. **Y. Hitomi**
13:20 – 1773. Potent reactivity in solubilised oxo-titanium polymers. **A. Nielson***, J. Waters
13:40 – 1774. Chelate-assisted B–H, Si–H and C–H activation for the installation of unconventional pincer ligands. **A.F. Hill***
14:00 – 1775. Main group elements in very low oxidation states stabilized by diiminopyridine ligand. T. Chu, **G. Nikonov***
14:15 – 1776. Disilaferracycle complexes containing weakly coordinated η^2-(H-Si) ligands. **Y. Sunada***, H. Tsutsumi, H. Soejima, H. Nagashima
14:30 – 1777. Coordination chemistry of low-valent nickel pincer complexes. **Y. Lee***
14:45 – 1778. Planar chiral platinum metal complexes of phosphonium-1-indenylides. **M.C. Baird***, K. Purdavaie , K.G. Fowler
15:05 – 1779. Why cyclooctane metathesis does not give polyethylene with single site W based catalysts?. **J. Basset***, M. Samantaray, E. Callens, N. Riache, R. Dey, A. Hamieh, N. Kharbatia
15:25 – 1780. Magnesium amidinates and related compounds for catalytic bond formation. **M.P. Coles**, R.J. Schwamm, B.M. Day, N. Mansfield, W. Knowelden, C.M. Fitchett, P. Hitchcock
15:45 – 1781. Facile C-H metalation of nitriles under mild conditions and subsequent catalytic C-C bond formations. **M.G. Gardiner***
16:00 – 1782. Bidentate nitrogen chelated Rh(I) complexes for CH activation and functionalization. **M. Webster-Gardiner***, B. Vaughan, R. Fu, P. Piszel, R. Nielsen, W. Goddard III, T. Cundari, T.B. Gunnoe
16:15 – 1783. Regioselective carbon–fluorine bond activation of perfluoroalkene on palladium(0). **M. Ohashi***, M. Shibata, H. Saito, S. Ogoshi*
16:30 – 1784. In situ - formation of neutral rhodium(I) complexes and systematic investigations - application of the results. **H. Drexler**, A. Meissner, S. Wei, B. Breit, D. Heller*
16:45 – 1785. Ligand reactivity of (PNN)Rh complexes. **B. de Bruin***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 4

The Bio-Coordination Chemistry of Nitric Oxide and Its Derivatives: Mechanisms of NOx Generation, Signaling and Reduction in Biological Systems (#371)

Organized by: N. Lehnert, G. Richter-Addo, F. Doctorovich, K. Fujisawa
Presiding: G.B. Richter-Addo

13:00 – 1786. NO and N_2O binding, activation and reduction by Fe and Cu active sites. **E.I. Solomon***
13:30 – 1787. Reactivity of a three-coordinate nickel nitrosyl cation. A.M. Wright, **T. Hayton**
14:00 – 1788. Advanced thromboresistant/bactericidal nitric oxide releasing materials/devices for biomedical applications. **M.E. Meyerhoff***, Y. Wo, E.J. Brisbois, H. Ren, N. Lehnert, A.P. Hunt
14:20 – 1789. Subcellular localization and cytotoxicity efficiency of nitrosyl ruthenium derivatives as nitric oxide delivery agents. **R.S. da Silva***, t. Joi, L. Negri, J. Fernandes, L. Maximo, J. Moraes
14:50 Break
15:00 – 1790. N- and S- speciation of products in reactions of GSNO and H_2S. **P.J. Farmer***, M.R. Kumar, T. Clover, A. Olaitan, T. Solouki
15:20 – 1791. Transition-metal nitrosyl complexes ligated by hindered hydrotris(pyrazolyl)borate ligands. **K. Fujisawa**
15:40 – 1792. Iron-nitrosyl models for Class III dioxygenases. **F.A. Chavez***, J. Li, A. Banerjee, P. Pawlak, W.W. Brennessel
16:00 – 1793. Insights into nitric oxide scavenging by flavodiiron proteins. N. Giri, A. Weitz, J. Caranto, R.E. Frederick, M. Hendrich, **D. Kurtz***

Hilton Hawaiian Village
Kalia Tower, Kahili 1 & 2

Activation of Small Molecules by Electropositive Metals Related to Chemical Energy Conversion (#380)

Organized by: D. Mindiola, H. Kawaguchi, L. Schafer, K. Meyer, A. Veige, M. Reynolds
Presiding: L.L. Schafer, A.S. Veige

13:00 opening remarks
13:05 – 1794. Activation of SO_2 with di- and trivalent lanthanide complexes. **P.W. Roesky***
13:25 – 1795. Activation of small molecule oxidants at low-valent uranium centers. **S.C. Bart***
13:45 – 1796. Splitting and functionalization of N_2 mediated by pincer complexes: Early vs. late transition metals. **S. Schneider**
14:05 – 1797. Activation of platinum complexes by ligand-based reactions with Lewis acids. **T. Tilley**, R. Bergman, A.L. Liberman-Martin
14:25 – 1798. Heterobimetallic and trimetallic complexes based on the redox-active cofactor $M(SNS)_2$ (M = Cr, Mo, W). **A. Heyduk**, K. Rosenkoetter, M. Wojnar
14:45 session break
15:00 – 1799. Mechanism of the 4-electron oxidative addition of O_2. E. Akturk, G.P. Yap, **K.H. Theopold**
15:20 – 1800. Complex intermediacy of hydrazine in molybdenum-based dinitrogen reduction. B. Billow, S. DiFranco, **A. Odom***
15:40 – 1801. Small molecule activation by tantalum amido-phosphine complexes. **M. Fryzuk**, K.D. Parker
16:00 – 1802. Dinitrogen activation by multinuclear titanium polyhydride complexes. **T. Shima**, S. Hu, G. Luo, X. Kang, Y. Luo, Z. Hou*
16:20 – 1803. Activation of CO_2 at reactive coordination complexes of uranium. **K. Meyer***

*** Principle Author**

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Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 3

New Directions for Sensing Metals in Biology (#424)

Organized by: E. New, E. Que, T. Hirayama
Presiding: T. Hirayama

13:00 – 1804. Imaging copper by MRI – promises and compromises. **V. Pierre**
13:30 – 1805. Highly sensitive MR molecular probes toward in vivo metal ion sensing. **H. Nonaka***
14:00 – 1806. 19F MRI contrast agents for imaging metals and biological redox chemistry. **E. Que***
14:20 Afternoon tea
14:50 – 1807. Photodecarboxylation as an alternative to nitrobenzyl groups in the construction of photocaged complexes. **S.C. Burdette***, P. Basa, S. Antala , R. Dempski
15:20 – 1808. Development of photoacoustic strategies for metal ion sensing in vivo. **J. Chan***
15:40 – 1809. Targeting metalloenzymes without affecting metal ion distribution: A safer and more effective strategy for treating neurological disease?. **M. Bourassa***, S. Karrupagounder, R. Ratan
16:00 – 1810. Metal ion sensing using phosphorothioate modified DNAzymes. **J. Liu**
16:20 – 1811. Molecular probes for the study of metal homeostasis: Fluorescent indicators and beyond. Q. Lin, B. Pinto-Pacheco, J. Pitteloud, S.C. Schwartz, **D. Buccella***

Saturday Evening

Hawaii Convention Center
Halls I, II, III

Experimental and Theoretical Actinide Chemistry: From Fundamental Systems to Practical Applications (#42)

Organized by: J. Gibson, G. Schreckenbach, T. Yaita, J. Li, P. Yang

Poster Session
19:00 – 21:00

1812. Electrochemical properties of ruthenium complexes bearing multipod pyrene anchors on nanocarbon materials toward application of energy storage devices. **M. Kohmoto**, H. Ozawa, M. Haga
1813. Developments of the collection apparatus for recoil products and spectrometer of low-energy internal-conversion electrons to study the deexcitation process of ^{235m}U. **Y. Shigekawa**, Y. Kasamatsu, A. Shinohara
1814. Structural trends and property correlations in *f*-element chromates. **A.A. Arico***, T.E. Albrecht-Schmitt
1815. Theoretical insights into the metal-metal multiple bonding in actinide dimetallocenes. **C. Wang**, J. Lan, Q. Wu, Z. Chai, W. Shi*
1816. Effect of substituents in 1,2,4-triazin-3-yl 1,10-phenanthroline on the extraction and complexation of Am^{3+} and lanthanide series elements. **A. Kamezawa***, S. Suzuki, T. Kobayashi, K. Sueki
1817. SMM starting material U(III) preparation from aqueous salts. **T. Yamamuro***
1818. $Th(VO_3)_2(SeO_3)$ and $Ln(VO_3)_2(IO_3)$ (Ln = Ce, Pr, Nd, Sm, and Eu): Unusual cases of aliovalent substitution. **T.M. Eaton**, J. Lin, J.T. Stritzinger, T.E. Albrecht-Schmitt

Hawaii Convention Center
Halls I, II, III

Metal-Organic Frameworks: Synthesis, Properties and Applications (#50)

Organized by: G. Shimizu, J. Long, M. Suh, Q. Xu, X. Chen

Poster Session
19:00 – 21:00

1819. Effect of heat-treatment on catalytic activity of moisture-absorption MOF-5. **M. OKADA***, Y. Kitagawa, T. Sato, T. Hiaki
1820. Metal-organic frameworks for device fabrication. **P. Falcaro**
1821. Syntheses and physical properties of AgRh solid solution alloy nanoparticles coated with HKUST-1. **G. Li***, H. Kobayashi*, K. Kusada*, H. Kitagawa*
1822. Synthesis of metal organic framework containing ferrocenium ion derivatives and their orientation control by magnetic field. **S. Tomoguchi***, S. Takaishi, H. Iguchi, K. Kagesawa, M. Yamashita
1823. Hydrothermally stable metal-organic frameworks for Xe/Kr separation. M. Kim, **S. Lee***, T. Yoon, S. Kim, Y. Bae*
1824. Enhanced physical properties of porphyrin based metal-organic frameworks by effective silica armoring. **Y. Kim***, Y. Kim, E. Choi*
1825. Efficient separation of SF_6/N_2 mixtures using isostructural of metal-organic frameworkswith proper pore sizes. **M. Kim***, S. Lee, S. Kim, A. Kim, Y. Bae*
1826. Stability evaluation of microporous zeolitic imidazolate frameworks in dynamic atmospheres. **C. Mottillo**, T. Friscic
1827. Electric conductive Hofmann-type porous coordination polymers incorporated Creutz-Taube-type complex module. **A. Mishima**, W. Kosaka, H. Miyasaka, T. Koshiyama, M. Ohba*
1828. Development of a new crystalline sponge with structural flexibility and molecular recognition. **K. Matsumura**, T. Arai, Y. Inokuma, M. Fujita*
1829. Synthesis, crystal structure, and physical properties of a novel metal–organic framework based on networked coordination nickel square motif. **R. Hashiguchi***, K. Otsubo, H. Kitagawa
1830. Fabrication of nanoscale thin film using porphyrin-based SURMOFs concept. **S. Laokroekkiat**, M. Hara, S. Nagano, Y. Nagao*
1831. Ionic liquid-modified microenvironment of nanocage of ZIF-8: Improvement of the molecular sieving properties. Y. Ban, Y. Li, **W. Yang**
1832. Metal-organic frameworks with ferrocenedicarboxylic acid as building block. **A. Reiber***
1833. Synthesis, structural characterization, and photoluminescent property of two Ho(III)-squarate ($C_4O_4^{2-}$) coordination polymers. **C. Wang**
1834. Effect of cation and anion of ionic liquid in ionothermal synthesis of Co-BTC meta-organic framework. **C. Han***, Y. Jung, E. Choi*, Y. Cha
1835. Coordination-driven self-assembly of water soluble rectangles incorporating Ru(II) *p*-cymene acceptors and pyridyl donors with hydrophilic chains. **N. Singh***, Y. Song, D. Kim, T. Kim, K. Chi*
1836. Thin film deposition of metal-organic frameworks(MOFs) on functionalized self-asesembled-monolayer(SAMs). **Y. Jung***, J. Kweon, C. Han, E. Choi*
1837. Electric responses on gas adsorption processes in a porous paddlewheel-type ruthenium dimer chain compounds. **W. Kosaka***, J. Zhang, Y. Sekine, K. Taniguchi, H. Miyasaka
1838. Studies on the formation process of coordination polymers for photoluminescent material. **K. Kakutaka**, K. Nishikawa, Y. Morimoto, Y. Tachi*
1839. Electric conductive property of Hofmann-type coordination polymers including Pt-I chain pillars. **S. Shimoda***, A. Mishima, W. Kosaka, H. Miyasaka, T. Koshiyama, M. Ohba
1840. Layered phenylbutyl-methyl zirconium phosphonates: A novel archetype of a layered material that combines both stepwise and gradual d-spacing changes as stoichiometric ratio of pendant groups varies. M.R. Manney, **W.R. Leenstra***
1841. Polyhedral oligomeric silsesquioxane functionalized metal-organic frameworks and their sorption properties. **Y. Hwang**, J. Chang
1842. Synthesis and structural change of naphthalenediimide-based coordination polymers. **M. Miyata**, H. Iguchi*, S. Takaishi, M. Yamashita*
1843. Creation of electrical conductive metal–organic frameworks. **T. Sugiura***, K. Otsubo, H. Kitagawa
1844. Construction and structural transformation of porous framework with coordinatively unsaturated sites by the self-assembly of discrete Rh(II) dimer units. **T. Itoh**, M. Kondo*, K. Wakabayashi, M. Kanaike, S. Masaoka*
1845. Construction of metal organic framework-motor protein conjugates. **M. Ito***, T. Ishiwata, K. Kokado*, A. Kakugo, K. Sada
1846. Rational design and synthesis of $NixCo_{3-x}O_4$ nanoparticles derived from multivariate MOF-74 for supercapacitors. **M. Xue***
1847. EPR spectroscopy of manganese-doped perovskite-type $[(CH_3)_2NH_2][Zn(HCOO)_3]$ metal-organic framework. **M. Simenas***, M. Maczka, A. Pöppl, J. Banys
1848. Theoretical investigation of interaction between gas molecules and Cu(II) open metal site in porous coordination polymer, and separation mechanism of CO over N_2. **Y. Hijikata***, S. Sakaki
1849. Preparation and catalytic properties of coordination polymer catalysts decorated with Pt nanoparticles. **S. Yoshimaru**, M. Sadakiyo, K. Kato, M. Yamauchi*
1850. Engineering homochiral MOFs by spatially separating 1D chiral metal-peptide ladders: Tuning the pore size for enantioselective adsorption. **K.C. Stylianou***
1851. New Hf-oxide based metal-organic frameworks with size selective gas adsorption properties. **R. Fujita***, Y. Kataoka, T. Kawamoto, M. Handa
1852. Metal-organic frameworks: From rectangular to stellated and interpenetrating polyhedra. **M. Lahav***
1853. Palladium detection and sorption by sulfur-laced MOFs: Implications for heterogeneous catalysis and nuclear wastes. **Z. Xu**
1854. Salen metalloligands: Design strategy, catalytic ability, and functionality en route to their incorporation into metal-organic frameworks. **M. Solomon**, T. Church, K.A. Jolliffe, D.M. D'Alessandro*
1855. Size-specific catalytic reactions based on immobilization of acids in metal–macrocycle framework. **H. Yonezawa**, S. Tashiro, R. Kubota, T. Umeki, M. Shionoya
1856. Investigation of electroactive and donor-acceptor metal-organic frameworks (MOFs) as tunable, functional materials. **C.F. Leong***, B. Chan, T.B. Faust, D.M. D'Alessandro
1857. MOFs as supramolecular building blocks: Tuning aromatic-aromatic interactions in laminar solids. **J.K. Klosterman***
1858. Asymmetric construction of a ferrocenyl phosphapalladacycle from achiral enones and a demonstration of its catalytic potential. K. Gan*, **S. Abdul**, C. Xu, Y. Li, S.A. Pullarkat
1859. Assembly of hybrids based on polyoxotungstates and Co-tris(imidazolyl) complexes with bifunctional electrocatalytic activities. **W. Zhou***, **J. Peng***, **Z. Zhang***
1860. Guest responsive luminescent coordination polymers having a PtS-type framework. **H. Miura***, A. Mishima, T. Koshiyama, M. Ohba
1861. Direct visualization of guest dynamic behaviors in ultramicroporous crystal for exceptional thermal expansion. **H. Zhou**, J. Zhang, X. Chen
1862. Theoretical and experimental studies of h2, n2, co and co2 adsorption of porphyrin based metal-organic framework. **Y. Kim***, Y. Kim, Y. Jung, C. Han, I. Kim, E. Choi*
1863. Metal-organic framework as platform to tune the magnetization dynamics of single-molecule magnet. **W. Shi***, P. Cheng
1864. Photofunctional zwitterionic metal-organic frameworks with tunable adsorption properties. **M. Wriedt**, D. Aulakh, W. An, H. Bilan
1865. Two-legged mixed-valence metal–organic ladder compounds with mechanically interlocked molecules. **K. Otsubo***, K. Sugimoto, H. Kitagawa
1866. Significant enhancement of hydrogen-storage capacity and speed in metal nanocrystals covered with a metal–organic framework. **H. Kobayashi***, G. Li, K. Kusada, H. Kitagawa
1867. Microwave-assisted continuous synthesis of MOF-74(Ni) under moderate pressures. **G. Albuquerque**, R. Fitzmorris, M. Ahmadi, G. Herman*
1868. Syntheses and physical properties of Ni and Pt nanoparticles covered with a metal–organic framework. **Y. Aoyama***, H. Kobayashi, M. Maesato, H. Kitagawa
1869. Versatile topological MOFs built from substituted biphenyldicarboxylic acid. J. Ma, T. Qin, X. Wang, **D. ZHU***
1870. Metal-organic frameworks-based materials for dlectrochemical sensing of carbon dioxide. **J. Kim**, N. Jeong*
1871. Synthesis of bifunctional NH_2-MIL-101(Cr)/SiO_2@Fe_3O_4 magnetic catalysts and their catalytic performance of Knoevenagel reaction. **S. Ji**, S. Jiang, F. Habimana
1872. Metal-organic graphene analogs based on hexathiolate linkers. **A. Tskhovrebov***, J.R. Long
1873. Metallopolycapsular networks based on a 1,3-alternate calix[4]arene derivative. **K. Park***, E. Lee, H. Ju, S. Moon
1874. Stereoelectronic diversity for transition metal catalysis in metal organic frameworks. **R.G. Van Zeeland**, X. Li, W. Huang*, L.M. Stanley*
1875. Metal organic frameworks based on bulkiness building blocks for selective hydrogen adsorption. **B. Wu***, S. Takaishi, M. Yamashita
1876. Construction and luminescent property of a novel 3D metal-organic framework [Cd(pip)]. Y. Zhang, H. Hu, X. Zhou, **X. Zhang***
1877. Heterometallic triazole MOFs for catalytic CO_2 transformation to cyclic carbonates. **D. Park***, R. Roshan, K. Bhin
1878. Proton-conducting metal-organic frameworks: Molecular design and performance improvement. . Song, **C. Hong**
1879. Design and properties of new phosphonate monoester based metal-organic framework. **B.S. Gelfand**, J. Lin, G. Shimizu*
1880. Development and structural transformation of porous framework constructed by multipoint arene-perfluoroarene ($Ar-Ar^F$) interaction. **M. Kondo***, T. Itoh, S. Masaoka*
1881. Synthesis and functional applications of aluminum metal-organic frameworks. **C. Lin**
1882. Synthesis and structural comparison of 2D coordination polymers based on copper(II) and (*S*)-4,4'- and (*S*)-5,5'-Bis(4-carboxyphenyl)-2,2'-bis(diphenylphosphinoyl)-1,1'-binaphthyl linkers. **W.W. Lestari***
1883. Synthesis, structure and biological activity of dihydropyrimidinonyl methanesulfonate complexes. S. Huang*, j. Zhou*, D. Lu*, R. Yang*, **Y. Xie***

*** Principle Author**

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1884. Post-synthetic copper metalation of a Zr-based PCP with bipyridine units for heterogeneous selective oxidation. **K. Miyahara**, T. Toyao, Y. Horiuchi*, M. Matsuoka*
1885. Series of cyanoacetato copper(II) coordination polymers with various *N,N'*-ditopic spacers: Structural diversity, supramolecular robustness, and magnetic properties. **J. Boonmak***, P. Suvanvapee, C. Pakawatchai, K. Murray, S. Youngme
1886. Construction of photoactive frameworks with open metal sites. **P. Chinapang**, T. Itoh, M. Kondo, S. Masaoka*

Hawaii Convention Center
Halls I, II, III

From Pnictides to Perovskites: Impact of Local Structure in Solid State Chemistry (#62)

Organized by: H. Kageyama, B. Kennedy, J. Wiley

Poster Session
19:00 – 21:00

1887. Preparation and magnetic properties of Y-type ferrite $Ba_2Zn_2Fe_{12}O_{22}$ substituted with Li and Al. **S. Ono**, M. Nakanishi, J. Kano, T. Fujii
1888. High-pressure synthesis and ferroelectricity of *A*-site ordered double perovskite oxide Ca*A'*Ti_2O_6 (*A'*: divalent cation). **Y. Akama**, D. Mori, Y. Inaguma*
1889. Synthesis and properties of intermediate-temperature-type proton conductors with perovskite-related structures. **M. Saito**, T. Motohashi, H. Yamamura
1890. Synthesis and magnetic properties of $LaFeO_3$ nanoparticles. **D. Takemura**, T. Fujii, J. Kano, M. Nakanishi
1891. Crystal structures and magnetic properties of pseudo-1D molybdenum oxides $Ln_5Mo_2O_{12}$ (*Ln* = Y, Dy–Lu). **M. Miura***, M. Wakeshima, Y. Hinatsu
1892. Low temperature synthesis by ion exchange method and electrical conductivity of $MgM_{1-x}M'_xO_3$ (*M* = Mn, Ti, *M'* = Nb, Ta, Ru, Zr). **R. Hoshida**, D. Mori, Y. Inaguma*
1893. Selective crystal growth and the impact of the local structure in $Mn_3Ta_2O_8$. **K. Rickert***, E.A. Pozzi, R. Khanal, G. Trimarchi, M. Onoue, J.E. Medvedeva, M.C. Hersam, R.P. Van Duyne, K.R. Poeppelmeier
1894. Crystal structure and dielectric property of perovskite-type oxynitrides $La_{1-x}Sr_xTiO_{2+x}N_{1-x}$. **D. Habu***, Y. Masubuchi*, T. Motohashi*, S. Kikkawa*
1895. Li-filled double-deck layered structure of the $RELi_xCu_{2-y}P_2$ (RE = La, Pr, Nd, Gd, Er; $0.82 \leq x \leq 1$; $1.19 \leq y \leq 1.54$) series: Experimental and theoretical studies. E. Jang, G. Nam, H. Woo, J. Lee, M. Han, S. Kim, **T. You***
1896. Sintering of $SrTaO_2N$ oxynitride perovskite by using $SrCN_2$ sintering aid. **A. Hosono***, Y. Masubuchi*, T. Motohashi*, S. Kikkawa*
1897. High-pressure synthesis, formation behavior, structure, and electronic conductivity of $PbZnO_3$ with $LiNbO_3$-type structure. **D. Mori**, K. Tanaka, Y. Inaguma*
1898. Hydrogen ion beam irradiation effects on ZnO thin films studied by in-situ variable-temperature electrical resistivity measurements. **R. Nakayama***, M. Maesato, T. Nagaoka, M. Arita, H. Kitagawa
1899. High-pressure synthesis and electrical properties of ternary electropositive metal germanides. **T. Nishikawa**, H. Fukuoka*, K. Inumaru
1900. Synthesis and magnetic properties of electron- and hole-doped europium chalcogenides. **N. Rosa**, W.L. Boncher, S.L. Stoll

Hawaii Convention Center
Halls I, II, III

Accessing the Full Potential of Redox-Active Ligands: Reactivity and Applications (#87)

Organized by: T. Storr, C. Grapperhaus, H. Fujii
Presiding: H. Fujii, C.A. Grapperhaus, T. Storr

Poster Session
19:00 – 21:00

1901. Unusual electronic structures in verdazyl coordination compounds. **D.J. Brook***, D. Chung, C. Fleming, B. Ploof, E. Johnson
1902. Investigation of valence tautomerism in cobalt-dioxolene complexes using X-ray absorption and emission spectroscopy. **H.W. Liang**, D. Nordlund, T. Weng, D. Sokaras, C. Pierpont, K. Gaffney*
1903. Synthesis, characterization, and catalysis of cobalt and molybdenum shvo-type catalyst. **W. Wu***, T. Seki*, D. Solis, R. Waymouth
1904. Physicochemical properties of the oxidized forms of Pt(II)-diimine complexes with catecholato and benzenedithiolato. **S. Yamada**, M. Wakizaka, T. Matsumoto, H. Chang*
1905. Crystal structure and property of dinuclear Co(III) complex with conjugated *bis*(catecholate) ligand. **Y. Suenaga***, K. Uwai
1906. Electronic structure and reactivity of mono and bimetallic complexes containing redox active ligands. **R.M. Clarke**, J.R. Thompson, D. Savard, T. Storr*
1907. Redox active ligands: Ligand-centered electrocatalytic proton reduction and hydrogen oxidation. **A.Z. Haddad***, R. Chauhan, C.A. Grapperhaus*
1908. Interconversions of non-innocent-type and Schiff base nickel complexes acting as efficient water reduction catalysts. **S. Inoue***, Y. Kataoka, M. Handa, T. Kawamoto
1909. Synthesis, characterization, and electrochemical properties of new tetra coordinated Ni (II) and Zn (II) complexes with new P_2S_2 type ligand framework. **R. Jain**, A.Z. Haddad, M. Mashuta, C.A. Grapperhaus*
1910. Redox chemistry of PCP-bridged chalcogen-centered ligands. **T. Chivers***, J. Konu, M. Risto, H.M. Tuononen

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Chemistry and Application of Boron Clusters (#152)

Organized by: S. Kang, N. Hosmane, D. Schubert, H. Nakamura, Z. Xie
Presiding: D.M. Schubert

19:00 – 1911. Cellulose nanomaterials modified with carborane as sensors. **K.R. Carter***, K. Martin, J.J. Peterson
19:30 – 1912. Cyclometalated iridium complexes with *o*-carboranes: Impact of *o*-carborane on the photophysical properties. Y. Lee, N.V. Nghia, M. Kim, **M. Lee***
20:00 – 1913. Design and applications of stimuli-responsive organoboron complexes with aggregation-induced emission properties. **K. Tanaka***, Y. Chujo*
20:30 – 1914. Carborane photochemistry. Y. Cho, S. Kim, **S. Kang**

Hawaii Convention Center
Halls I, II, III

Advances in Phosphorus Chemistry: Materials, Reactivity at Phosphorus, and Synthesis (#226)

Organized by: R. Waterman, F. Ozawa, D. Gates, P. Leung

Poster Session
19:00 – 21:00

1915. Pd-catalyzed asymmetric Michael addition of diphenylphosphine. **X. Ll**, R.J. Chew, P. Leung
1916. Creation of phosphorus-boron bonded compounds featuring a pentavalent phosphorus atom. **N. Kano***, N.J. O'Brien
1917. Metal carbonyl complexes of *N*-heterocyclic carbene-phosphinidene adducts. **D. Bockfeld**, A. Doddi, P. Jones, M. Tamm*
1918. Stabilizationa and reactivity of phosphazanesupon oxidation chalcogen elements. **f. garcia**, X. Shi
1919. Dehydrocoupling of phosphines using iron (II) β-diketiminato complexes. A. King, M.F. Mahon, **R.L. Webster**
1920. 1,3,2-Diazaphospholene-catalyzed transfer hydrogenation and hydroboration of unsaturated bonds. **C. Chong**, H. Hirao*, R. KINJO*
1921. Synthesis and coordination chemistry of a new tetradentate tris(phosphaalkene-)phosphine ligand. **P. Miura-Akagi**, C.K. Maile, S.M. Oshiro, M.F. Cain, A.L. Rheingold
1922. Optically active phosphine ligands derived from PH_3. **C.A. Faradji**, H.A. Sparkes, P.G. Pringle*
1923. Unsymmetrical PNP-pincer type phosphaalkene ligands with Rind groups: Synthesis and application to rhodium(I) and iridium(I) complexes. **H. Taguchi**, D. Sasaki, Y. Chang, K. Takeuchi, S. Tsujimoto, T. Matsuo, F. Ozawa*
1924. Streamlined preparation and coordination chemistry of bidentate phosphine-phosphaalkene ligands. **K.W. Magnuson**, S.M. Oshiro, M.F. Cain, A.L. Rheingold
1925. Photochemistry and reactivity of P_4N_4 cage compounds. **R. Sevilla Martin**, R.J. Less, D.S. Wright*
1926. P-C bond oxidation via Baeyer-Villiger mechanism. **G. Ilic***, D. Vidovic*
1927. Synthesis and coordination chemistry of functionalized phosphine-phosphaalkene ligands. **S.M. Oshiro**, M.F. Cain
1928. Imidazoles-intercalated α-zirconium phosphate as latent thermal catalysts. **O. Shimomura***, K. Tokizane, T. Nishisako, S. Yamaguchi, J. Ichihara, A. Ohtaka, R. Nomura
1929. From PCl_3 to cationic polyphosphorus compounds. **M. Donath***, J.J. Weigand
1930. Synthesis of chiral crown ethers containing chiral phosphorus atoms. **R. Kato***, Y. Morisaki, Y. Chujo
1931. Phosphonothioate neurotoxin hydrolysis by molybdate complexes. **L.Y. Kuo***
1932. Synthesis and ring-expansion of oxaphosphirane complexes, and their use in O,P,C cage formation. **C. Murcia-Garcia***, R.K. Streubel
1933. Optically active menthyl H-phosphinates and its stereospecific transformations to optically active P-stereogenic organophosphoryl compounds. **L. Han***
1934. Synthesis and mechanistic studies towards Gallium substituted pentaphosphides. **F. Hennersdorf***, J.J. Weigand
1935. Chemistry of sodium phosphaethynolate, Na[OCP]: A rapidly evolving synthon in phosphorus chemistry. **R.J. Gilliard***, J. Protasiewicz, H. Grützmacher
1936. Synthesis of 7,8-dihydro[5]helicenyl phosphines and their application to asymmetric Suzuki-Miyaura coupling. **K. Usui***, K. Yamamoto, T. Shimizu, H. Suemune*
1937. Advancing the chemistry of phosphinines. **J. Wong**, F. Mathey*
1938. Palladacycle catalyzed asymmetric P-H addition of diarylphosphines to *N*-enoyl phthalimides. **R. Chew**, P. Leung*
1939. New catalytic coupling reaction of >P(O)H compounds for the preparation of organophosphorus compounds. **L. Han***
1940. Ruthenium catalyzed hydrophosphination of activated alkenes. **R. Belli**, L. Rosenberg*

Hawaii Convention Center
Halls I, II, III

The Expanding Periodic Table: New Discoveries and Chemistry of the Heaviest Elements (#234)

Organized by: Y. Nagame, H. Nitsche, Z. Qin, P. Schwerdtfeger, C. Duellmann, A. Tuerler

Poster Session
19:00 – 21:00

1941. Gas chromatographic behaviors of $ZrCl_4$ and $HfCl_4$ in macro- and tracer-scale. **S. Goto***, Y. OSHIMI, K. SHIRAI, K. Ooe, H. Kudo
1942. Liquid-liquid extraction behavior of zirconium and hafnium as homologs of element 104, rutherfordium using chelate extractants. **K. Ooe**, A. Tanaka, R. Yamada, H. Kikunaga, M. Murakami, Y. Komori, H. Haba, S. Goto, H. Kudo
1943. Extraction behavior of Mo and W from H_2SO_4 with Aliquat336 as homologues of seaborgium (Sg). **A. Mitsukai***, A. Toyoshima, M. Asai, K. Tsukada, T.K. Sato, Y. KAneya, S. Takeda, Y. Nagame, M. Schädel, Y. Komori, M. Murakami, H. Haba, K. Ooe, D. Sato, N. Goto, S. Tsuto

Hawaii Convention Center
Halls I, II, III

Advances in the Medicinal Applications of N-Heterocyclic Carbene Metal Complexes and Azolium Cations (#255)

Organized by: W. Youngs, M. Baker, C. Che, I. Lin, M. Panzner

Poster Session
19:00 – 21:00

1944. Exploring macrocyclic transition metal carbene complexes – toward biosensors for inflammation. **D.J. Woods***, M.K. Taylor
1945. Angiogenic effects of platinum (II) complexes with tridentate *N*-donor ligands and N-heterocyclic carbene ligands. **S. Fung**, C. Che

Hawaii Convention Center
Halls I, II, III

S-block Metal Chemistry (#304)

Organized by: K. Ruhlandt-Senge, P. Andrews, C. Cui

Poster Session
19:00 – 21:00

1946. Synthesis of an enantiomerically pure methandiide and its use as ligand in carbene complexes. **K. Feichtner**, V.H. Gessner*
1947. Investigations of bulky amide ligands for potential incorporation into bimetallic template bases. **M. Fuentes***, R.E. Mulvey, A. Zabala
1948. Yldiides as a link between bis-ylides and methandiides. **T. Scherpf**, R. Wirth, V.H. Gessner*
1949. N-Heterocyclic carbene-stabilised lithium gallates: Synthetic, structural, and reactivity insights. **M. Uzelac**, D.R. Armstrong, A.R. Kennedy, E. Hevia*

*** Principle Author**

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Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

The Bio-Coordination Chemistry of Nitric Oxide and Its Derivatives: Mechanisms of NOx Generation, Signaling and Reduction in Biological Systems (#371)

Organized by: N. Lehnert, G. Richter-Addo, F. Doctorovich, K. Fujisawa
Presiding: K. Fujisawa

19:00 – 1950. NO binding to H-NOX proteins: Proximal or distal and does it matter?. **M. Marletta***
19:30 – 1951. Nitroxyl complexes of non-heme iron centers: Properties and reactivity. **N. Lehnert***, A. Speelman
19:50 – 1952. Hunting nitrosyls and nitroxyls in the elementary steps of biological hydroxylamine oxidation. **K.M. Lancaster***, J.D. Caranto, A. Vilbert
20:10 – 1953. Metallodithiolates and n-heterocyclic carbenes as ligands that support dinitrosyl iron complexes in two redox levels. **M.Y. Darensbourg***, R. Pulukkody, C. Hsieh, P. Ghosh, S. Ding, M. Hall
20:30 – 1954. Nitrogen oxide chemistry with heme-copper and copper complexes: Bioinorganic aspects. **K.D. Karlin**

Hawaii Convention Center
Halls I, II, III

Activation of Small Molecules by Electropositive Metals Related to Chemical Energy Conversion (#380)

Organized by: D. Mindiola, H. Kawaguchi, L. Schafer, K. Meyer, A. Veige, M. Reynolds
Presiding: H. Kawaguchi

Poster Session
19:00 – 21:00

1955. Synthesis and reaction study of novel iron dinitrogen complex with iminophosphorane ligand. **T. Suzuki**, H. Masuda, M. Fryzuk, K. Fujimoto, T. Inomata, T. Ozawa
1956. (Imido)vanadium(V) complex catalysts for olefin insertion/metathesis polymerization. **H. Hayashibara**, K. NOMURA*, X. Hou, A. Ngamnithiporn

Hawaii Convention Center
Halls I, II, III

New Directions for Sensing Metals in Biology (#424)

Organized by: E. New, E. Que, T. Hirayama

Poster Session
19:00 – 21:00

1957. Highly selective turn-on chemosensor capable of monitoring Zn^{2+} concentrations in living cells and aqueous solution. **K. Bok**, G. You, J. Lee, S. Lee, H. Jang, M. Kim, J. Yun, C. Kim*
1958. Colorimetric sensor for the sequential detection of Cu^{2+} and CN^- in fully aqueous media: Practical performance of Cu^{2+}. **J. Kim**, S. Lee, Y. Kim, T. Jo, J. Jung, S. Hwang, C. Kim*
1959. Colorimetric chemosensor for the sequential detection of copper ion and amino acids (cysteine and histidine) in aqueous solution. **S. Lee**, G. You, Y. Choi, K. Ryu, S. Hwang, J. Kang, C. Kim*
1960. Development of a new class of high-contrast Fe(II) selective fluorescent probes based on spirocyclized scaffolds and its application. **M. Niwa**, T. Hirayama*, K. Okuda, H.K. Nagasawa*
1961. Red-emitting ratiometric fluorescent probe for Na^+ based on a benzophosphole *P*-oxide scaffold. **H. Ogasawara**, M. Taki*, H. Osaki, Y. Sato, K. Ogasawara, T. Higashiyama, S. Yamaguchi*
1962. Water-soluble carboxylic-functionalized chemosensor for detecting Al^{3+} in aqueous media and living cells: Experimental and theoretical studies. **K. Ryu**, Y. Kim, J. Lee, J. Kim, M. Kim, J. Kang, C. Kim*

Sunday Morning

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 3

Experimental and Theoretical Actinide Chemistry: From Fundamental Systems to Practical Applications (#42)

Organized by: J. Gibson, G. Schreckenbach, T. Yaita, J. Li, P. Yang
Presiding: G. Schreckenbach, T. Yaita

8:00 – 1963. f-Element complexes of nitrogen-rich ligands: Precursors to highly porous f-element nitride and oxide foams for nuclear fuel applications. **J.M. Veauthier***, J.L. Kiplinger, B.C. Tappan, N.J. Henson, N. Travia, K. Brown, K. Maerzke
8:20 – 1964. Exploring photochemistry of uranyl(VI). **S. Tsushima***
8:50 – 1965. Study of complexation of Pu(IV) and Th(IV) with glutarimidedioxime by potentiometry, spectrophotometry and X-ray analysis. **G. Tian***, S. Yang, L. Xiang, S. Teat, D.K. Shuh
9:20 – 1966. Insights in actinide chemistry through integration of computational modeling and experiments. **W.A. de Jong**, J. Gibson, Y. Gong, M. Van Stipdonk, S. Odoh
9:50 Break
10:05 – 1967. Exploring the structure and behavior of urnayl species in the gas phase using tandem mass spectrometry. **M. Van Stipdonk**, A. Plaviak, C. O'Malley, J. Gibson
10:35 – 1968. Recent investigations of solid state chemistry of lanthanides and actinides in Soochow University. **S. Wang***
11:05 – 1969. Fundamental studies of actinides on solid-phase mesoporous materials. **E.C. Uribe***, T. Parsons-Moss, J. Shusterman, H. Mason, H. Nitsche
11:25 – 1970. Study of extraction behavior mechanism of uranyl peroxo cage clusters in mesoporous silica SBA-15. **Y. Liu***, A. Czarnecki, J. Szymanowski, G. Sigmon, P.C. Burns

Hilton Hawaiian Village
Mid-Pacific Center, Coral 1

Metal-Organic Frameworks: Synthesis, Properties and Applications (#50)

Organized by: G. Shimizu, J. Long, M. Suh, Q. Xu, X. Chen

8:00 – 1971. Design strategies for the construction of functional metal-organic frameworks. **M. Eddaoudi**
8:20 – 1972. New synthetic approaches for MOF preparation. **H. Zhou***
8:50 – 1973. Top-down generation and screening of metal-organic frameworks for gas storage and separation applications. D.A. Gomez-Gualdron, Y.J. Colón, Y.G. Chung, **R.Q. Snurr***
9:10 – 1974. AuToGraFS: Automatic topological generator for framework structures. M.A. Addicoat*, D.E. Coupry, **T. Heine**
9:25 – 1975. Metal-organic frameworks impregnated with nanoparticles of metals and metal compounds. **M. Suh***, D. Lim, K. Cho
9:45 – 1976. Leach-free catalysis and electroactive materials from metal-thiolate-enabled porous frameworks. **Z. Xu***, K. Yee, M. Zeller
10:00 – 1977. Linker exchange reaction mechanisms in MOFs and its application toward the synthesis of hybrid catalyst systems. **J.A. Byers***, C. Tsung, Z. Li, J. Morabito, L. Chou
10:15 – 1978. Computer modeling of proton conduction in metal-organic frameworks. **F. Paesani**
10:35 – 1979. Development of visible-light-responsive photocatalysts based on designability of PCP/MOFs. **Y. Horiuchi***, K. Miyahara, T. Toyao, M. Matsuoka
10:50 – 1980. Porous materials for energy and environmental applications. **P. Thallapally**
11:10 – 1981. Water stable MOFs for carbon capture. **G. Shimizu**, J. Lin, R. Vaidhyanathan, F. Akhtar, T. Woo, R. Mah, H. Dureckova
11:30 Closing remarks

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

From Pnictides to Perovskites: Impact of Local Structure in Solid State Chemistry (#62)

Organized by: H. Kageyama, B. Kennedy, J. Wiley
Presiding: M. Bieringer, B.J. Kennedy, T. Mori, K.R. Poeppelmeier

8:00 – 1982. Impact of chemical pressure on room-temperature ferromagnetism in cubic perovskite $Sr_{1-x}Ba_xCoO_3$. **H. Sakai***
8:20 – 1983. High pressure synthesis, structure, and magnetic properties of novel perovskite oxyhydrides. **C. Tassel***, Y. Goto, Y. Kuno, Y. Kobayashi, H. Kageyama
8:40 – 1984. Oxygen storage capacities of $BaRuO_3$ polytypes. **Y. Shirako***, K. Kobayashi, K. Niwa, H. Kojitani, M. Akaogi, M. Ozawa, M. Hasegawa
9:00 – 1985. Structural and electrical properties of ferroelectric complex perovskite solid solutions based on $Bi(Zn_{2/3}Nb_{1/3})O_3$. **A. Paterson**, H. Wong, Z. Ye
9:20 – 1986. Systematic charge distribution change in $BiMO_3$ and $PbMO_3$ (M: 3d transition metal). **M. Azuma***
9:55 Break
10:00 – 1987. Synthesis and structural study of Pb containing oxyfluoride. **K. Oka**, K. Oh-ishi
10:20 – 1988. Local structures in typical perovskite materials. **Y. Liu**
10:55 – 1989. Thermally-induced layer compression in the topochemically-prepared $FeLa_2Ti_3O_{10}$. L. Gustin, Y. Hosaka, T. Aharen, C. Tassel, Y. Shimakawa, H. Kageyama, **J.B. Wiley***
11:15 – 1990. Ordered oxyfluorides with anti-perovskite structures Thomas Vogt University of South Carolina. **T. Vogt***
11:35 – 1991. Dimensionality of thermoelectric transport and electronic structures in layered complex nitrides. **I. Ohkubo***, T. Mori
11:55 Closing remarks

Hilton Hawaiian Village
Rainbow Tower, Rainbow 2

Accessing the Full Potential of Redox-Active Ligands: Reactivity and Applications (#87)

Organized by: T. Storr, C. Grapperhaus, H. Fujii
Presiding: C.A. Grapperhaus

8:00 – 1992. Synthesis, characterization, and reactivity of redox-active aluminum-nitroxide complexes. A.M. Poitras, T. Herb, J.A. Bogart, P.J. Carroll, E.J. Schelter, **C.R. Graves***
8:20 – 1993. Redox-active ligand induced single-electron reactivity on closed-shell noble metals. **J. van der Vlugt***
8:40 – 1994. Ligand-based redox chemistry in complexes of oligopyrrolic fragments. **E. Tomat***, R. Gautam
9:00 – 1995. The taco and the pancake: Structural and spectroscopic signatures of ligand noninnocence in metallocorroles. **A. Ghosh**
9:30 – 1996. Redox chemistry of palladium complexes containing redox-active ligands: Driving on the wrong side of the road?. **R. Hicks**, C.A. Sanz
10:00 – 1997. Oxidized metal phenoxide complexes - correlation of electronic structure and reactivity. **T. Storr***, R. Clarke, L. Chiang
10:30 Break
10:40 – 1998. Functional materials based upon ferrocene. J. Qu, W. Ji, H. Zhou, **S. Jing***
11:00 – 1999. Effect of Lewis acids on oxidation states of transition-metals. **M. Swart***, A. Castro, A. Romero-Rivera
11:20 – 2000. Radical gold dithiolene complexes: Structural and electronic consequences of a fully non-innocent ligand. K. Mebrouk, F. Camerel, T. Higashino, T. Mori, **M. Fourmigue***
11:40 – 2001. High-valent manganese and cobalt complexes with redox-active salen ligands related to asymmetric catalysis. **T. Kurahashi***, H. Fujii*

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Chemistry and Application of Boron Clusters (#152)

Organized by: S. Kang, N. Hosmane, D. Schubert, H. Nakamura, Z. Xie
Presiding: Z. Xie

8:00 – 2002. Discovery of carboranylphenoxyacetanilides as inhibitors of heat shock protein (HSP) 60 chaperone activity. **H. Nakamura***
8:30 – 2003. Aromatic-ring-fused benzocarboranes and their *nido*-species. **K. Nishino**, Y. Chujo*, Y. Morisaki
8:50 – 2004. Design and synthesis of m-carborane and MAGMAS inhibitor conjugated novel hybrid compounds as potential therapeutics for the treatment of renal cell carcinoma. **S. Das**, N.S. Hosmane, B.C. Das*, P.V. Veldhuizen
9:20 Break
9:30 – 2005. Carboranes in medicinal chemistry. **E. Hey-Hawkins***, W. Neumann, R. Kuhnert, R. Frank, B. Schwarze, S. Boehnke, V. Ahrens, A. Beck-Sickinger
10:00 – 2006. Highly efficient synthesis of small–diameter boron nitride nanotubes from h-BN. **B. Simard***, K. Kim, C. Kingston, M.J. Jakubinek, J. Guan, R. Iannitto, S. Walker, M. Plunkett
10:20 – 2007. Transition metal-promoted cyanation and carboxylation of C_2B_{10}, CB_{11}, and CB_9 carboranes. **M. Juhasz***
10:40 Break
10:50 – 2008. Finding of deboronation reaction of *ortho*-carborane derivatives catalyzed by metal ions and its application to ^{11}B NMR probes. **t. tanaka***, Y. Nishiura, R. Araki, T. Saido, R. Abe, S. Aoki
11:10 – 2009. Nanostructured boron compounds: Applications in cancer therapy. **N.S. Hosmane***
11:40 Closing Remarks

Hilton Hawaiian Village
Tapa Tower, Iolani Suite 1 & 2

Current Trends and Interconnectivities Among Fundamental and Applied Inorganic Fluorine Chemistry (#156)

Organized by: K. Matsumoto, R. Hagiwara, G. Schrobilgen, H. Mercier, R. Syvret
Presiding: K. Matsumoto

8:00 – 2010. Topochemical reactions of perovskite-based transiton-metal oxyfluorides. **H. Kageyama***

*** Principle Author**

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8:30 – 2011. Exploring the $Sm_{1-x}Ca_xF_{3-x}$ and $La_{1-x}Ba_xF_{3-x}$ solid solutions as solid state electrolytes: Relationships between structural features and F-ionic conductivity. **A. Demourgues***, B. Dieudonne, J. Chable, E. Durand, F. Mauvy, S. Fourcade, V. Maisonneuve, C. Legein, M. Body
9:00 – 2012. Enhanced dispersion stability and photocatalytic activity of TiO_2 particles fluorinated by fluorine gas. **J. Kim***, S. Yonezawa, H. Kinoshita, M. Takashima
9:20 – 2013. Ionic liquid fluorosulfonylamides as electrolytes for rechargeable sodium ion batteries. **R. Hagiwara***, T. Nohira, K. Matsumoto, C. Ding, C. Chen, A. Fukunaga, . Sakai, K. Nitta
9:40 Break
9:55 – 2014. Simple fluorinated precursors and methods for electrolyte components of lithium-ion batteries. **G. Roeschenthaler***, N. Kalinovich, M. Winter
10:25 – 2015. Fluorinated carbon nanoparticles for primary Li battery. **G. Henri***, a. tressaud, e. durand, S. Leclerc, A. PORRAS GUTIERREZ, K. Le Van
10:55 – 2016. $K[BF(CN)_3]$ – synthesis and chemistry of a mixed cyanofluoroborate. **M. Finze***, J. Landmann, J. Sprenger, N. Ignat'ev, E. Bernhardt, H. Willner
11:25 – 2017. Anion exchanging and interlayer distance control of layered double hydroxide synthesized by liquid phase deposition. **M. Mizuhata***, M. Inoue*, H. Maki*
11:45 Closing Remarks

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 2

Advances in Phosphorus Chemistry: Materials, Reactivity at Phosphorus, and Synthesis (#226)

Organized by: R. Waterman, F. Ozawa, D. Gates, P. Leung
Presiding: R. Waterman

8:00 – 2018. New avances in the chemistry of monovalent phosphorus. **F. Mathey***
8:20 – 2019. Electrophilic phosphonium cations in Lewis acid catalysis. **D. Stephan***
8:40 – 2020. Earthly chemistry of interstellar phosphorus-containing molecules . A. Velian, M. Nava, W. Transue, **C. Cummins**, C. Womack, J. Jiang, R. Field
9:00 – 2021. P-Chemistry – from activating P_4 to catalysis. **K. Lammertsma***
9:20 – 2022. Zwitterionic diphosphanides. **J.J. Weigand***
9:40 – 2023. Geometric deformation as a design principle in organophosphorus catalysis. **A.T. Radosevich**
10:00 – 2024. "Inorganic" arylphosphines. J.A. Bailey, H.A. Sparkes, C.A. Faradji, **P.G. Pringle***
10:20 – 2025. Understanding and expanding the synthesis of sterically-hindered trialkylphosphines. **D. Amoroso***, J. Dyck, M. Humeniuk, A. Melaragni, M. Moser, S. Zavorine
10:40 – 2026. All things P: New investigations into multidentate, non-innocent, and/or chiral phosphine- and phosphaalkene-based ligands. **M.F. Cain***
11:00 – 2027. Interactions of phosphazene superbases with simple Lewis acids and their frustrated Lewis pair capabilities. N.A. Johnson, B.S. Thome, P.O. Wagers, B.D. Wright, M.J. Panzner, W. Youngs, **C.A. Tessier***
11:20 – 2028. Activation and functionalization of elemental phosphorus. **M. Peruzzini***
11:40 – 2029. Carbone-phosphorus chemistry: The recent developments. **D. Vidovic**

Hilton Hawaiian Village
Kalia Tower, Lehua Suite

The Expanding Periodic Table: New Discoveries and Chemistry of the Heaviest Elements (#234)

Organized by: Y. Nagame, H. Nitsche, Z. Qin, P. Schwerdtfeger, C. Duellmann, A. Tuerler
Presiding: P. Schwerdtfeger, A. Türler

8:00 – 2030. Atomic properties of superheavy elements. **V. Dzuba***
8:30 – 2031. Studies of the heaviest elements with SHIPTRAP. **M. Block**
9:00 – 2032. First ionization energies of heaviest actinides, lawrencium and nobelium. **T.K. Sato***
9:30 – 2033. Relativistic coupled cluster calculations of atomic properties of the heaviest elements. **A. Borschevsky***, U. Kaldor, E. Eliav
10:00 – 2034. Electrochemistry of the heaviest elements at JAEA. **A. Toyoshima***
10:30 – 2035. Heavy element research at Texas A&M University. **C.M. Folden***
11:00 – 2036. Extraction behavior of a cationic fluoride complex of rutherfordium with a TTA chelate extractant from HF/HNO_3 acidic solutions. **A. Yokoyama***, Y. Kitayama, Y. Fukuda, H. Kikunaga, M. Murakami, Y. KOMORI, H. Haba, K. Tsukada, A. Toyoshima
11:30 – 2037. Solid-liquid and liquid-liquid extractions of Zr, Hf, Th and element 104, Rf, in an Aliquat 336/HCl system. **Y. Kasamatsu***, T. Yokokita, Y. Shigekawa, A. Kino, K. Nakamura, Y. Yasuda, K. Toyomura, N. Takahashi, H. Haba, Y. Komori, M. Murakami, Y. Kuboki, T. Yoshimura, A. Shinohara

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 1

S-block Metal Chemistry (#304)

Organized by: K. Ruhlandt-Senge, P. Andrews, C. Cui
Presiding: K. Henderson

8:00 – 2038. Supersized triple-decker organometallic sandwiches formed by highly charged π-bowls with mixed alkali metal cores. **M.A. Petrukhina***
8:30 – 2039. Double deprotonation at a single carbon center: Methandiides and yldiides as unique carbon ligands. **V.H. Gessner***
9:00 – 2040. Impact of metal choice in forming mono- and bimetallic chiral alkali metal amides: Anion rearrangements and ligand modification processes. **P. Andrews**
9:30 Break
9:40 – 2041. Pre-organized base approaches to arene and related metallation chemistry. **R.E. Mulvey***, C. O'Hara, A.J. Martinez-Martinez
10:10 – 2042. Alkali metal hydride complexes: Well-defined molecular species of saline hydrides. **A. Stasch***
10:40 – 2043. Developing group 1 dihydropyridine chemistry: From transient intermediates to isolable compounds. **S. Orr***, R.E. Mulvey, S.D. Robertson, J.J. Liggat, R. McLellan, A.R. Kennedy
11:10 – 2044. Recent developments in lanthanoid pseudo-Grignard reagent chemistry. **P.C. Junk***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 4

The Bio-Coordination Chemistry of Nitric Oxide and Its Derivatives: Mechanisms of NOx Generation, Signaling and Reduction in Biological Systems (#371)

Organized by: N. Lehnert, G. Richter-Addo, F. Doctorovich, K. Fujisawa
Presiding: F. Doctorovich

8:00 – 2045. Kinetics studies of the formation and reactions of dinitrosyl iron complexes with cysteine in aqueous solution. **P.C. Ford***, J. Pereira, R. Han
8:30 – 2046. Behavior of redox-active NO ligands on dinuclear ruthenium complexes. **Y. Arikawa**
9:00 – 2047. Elucidating the conformational dynamics and regulatory interactions in nitric oxide synthases. **C. Feng***, Y. Sheng, A. Astashkin
9:20 – 2048. Mechanistic studies of nitric oxide reduction by denitrifying NO reductases and heme-nonheme diiron containing myoglobin constructs. **P. Moënne-Loccoz***, H. Matsumura, Y. Lu, S. de Vries
9:50 Break
10:00 – 2049. Nickel nitrosyl complexes supported by a PEP ligand. **J. Gwak**, Y. Kim, Y. Lee*
10:20 – 2050. Cryptic noninnocence: FeNO triarylcorroles are not $\{FeNO\}^6$. H. Vasquez-Lima, H. Norheim, **A. Ghosh***
10:40 – 2051. Iron and cobalt nitrosyls involved in NO_x transformations. **T. Harrop**
11:00 – 2052. Inner-sphere proton-coupled electron transfer as a key mechanism for nitroxyl (HNO) generation modulated by metal centers or hydrogen sulfide (H_2S). **I. Ivanovic-Burmazovic**
11:30 – 2053. Interactions of N_xO_y species with synthetic metalloporphyrins and heme proteins. **G.B. Richter-Addo***

Hilton Hawaiian Village
Kalia Tower, Kahili 1 & 2

Activation of Small Molecules by Electropositive Metals Related to Chemical Energy Conversion (#380)

Organized by: D. Mindiola, H. Kawaguchi, L. Schafer, K. Meyer, A. Veige, M. Reynolds
Presiding: H. Kawaguchi, M.A. Reynolds

8:00 openning remarks
8:05 – 2054. Small molecule activation mediated by an iron half-sandwich complex, $[Cp'FeI]_2$. **M.D. Walter**, M. Reiners, M. Maekawa, M. Freytag, P. Jones, J. Hohenberger, J. Sutter, K. Meyer
8:25 – 2055. Rationally designed pincer platforms for rare earth metals. **P.G. Hayes***
8:45 – 2056. Reductive activation of CO_2 and related small molecules across a Ti=Ti double bond. **G. Cloke***
9:05 – 2057. C-H functionalization of simple hydrocarbons mediated by tungsten allyl nitrosyl complexes. **R.A. Baillie**, P. Legzdins*
9:25 – 2058. Highly active MnN-Li_2NH composite catalyst for ammonia decomposition. **J. Guo**
9:45 break
10:00 – 2059. Reactivity of titanium-hydrazido complexes from a computational perspective. **E. Clot***
10:20 – 2060. Activation and functionalization of metal-metal multiple bonds. **Y. Tsai**
10:40 – 2061. Activation of small molecules by chelating triamido uranium complexes. **S.T. Liddle**, B. Gardner, D. King, P. Cleaves, D. Patel, J. McMaster, E. McInnes, N. Chilton, F. Tuna, W. Lewis, A. Blake, L. Maron, C. Kefalidis
11:00 – 2062. Small molecule activation by complexes of low-valent f elements. **M. Mazzanti***
11:20 – 2063. Activation of dinitrogen by a vanadium complex bearing a chelating bis(phenoxide)-anilide ligand. **H. Kawaguchi***
11:40 concluding remarks

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 3

New Directions for Sensing Metals in Biology (#424)

Organized by: E. New, E. Que, T. Hirayama
Presiding: E. New

8:00 – 2064. Development of far-red to near-Infrared small-molecule fluorescence probes for monitoring dynamics of calcium ion. **K. Hanaoka***
8:30 – 2065. Design of dual emission fluorescent probes for metal ions based on arene-metal ion contact and their application to cell bioimaging. **A. Ojida**
9:00 – 2066. Design of a red-emitting ratiometric fluorescent probe for the detection of intracellular sodium ion. **M. Taki***
9:20 – 2067. Development of ratiometric strategies for sensing labile metal pools in biology. **C. Shen***, J. Kolanowski, E. New, A. White
9:40 Morning tea
10:20 – 2068. Inorganic chemistry in control of cell fate decisions: Probes for understanding how zinc fluxes regulate mammalian fertilization. **T.V. O'Halloran**
10:50 – 2069. In situ fluorescence imaging of biological trace metals. **C. Fahrni***
11:20 – 2070. New optical indicators for neuronal activity. **E. Miller**
11:40 – 2071. Development and applications of fluorescent probes for selective and turn-on detection of Fe(II) ion. **T. Hirayama***, M. Niwa, K. Okuda, H.K. Nagasawa

MACR

Area 3 – Macromolecular

Tuesday Morning

Hawaii Convention Center
325B

Synthetic Biopolymers (#37)

Organized by: T. Deming, Z. Li, T. Kaneko
Presiding: T. Deming, T. Kaneko, Z. Li

8:00 Introductory Remarks
8:05 – 1. Endowing protein biopolymers with intelligence. **J.K. Montclare**, **J.A. Frezzo**
8:40 – 2. Assisted protein refolding by artificial molecular chaperones. **L. Shi***
9:15 – 3. Photoswitchable rapid prototyping of heterotypic cell-cell contacts and cell motility assay. R. Andrews, K. Mun, G. Kumar, **C. Ho**, C. Co
9:35 – 4. Bioconjugates of fluorinated azobenzene. **W. Brittain***
9:55 break
10:10 – 5. Poly(oligonucleotide): Development and biomedical applications for nucleic acid-programmed polymers and nanoparticles. **N. Gianneschi**
10:45 – 6. Polyphosphoester: From controlled synthesis to biomedical applications. **J. Wang***
11:20 – 7. Facile synthesis and applications of site-specific protein-polymer conjugates. **H. Lu***
11:40 – 8. Synthesis and blood compatibility of sequence-specific polymers via regioselective ROMP. **S. Kobayashi**, k. fukuda, K. Herai, M. Kataoka, K. Osawa, M. Tanaka*

*** Principle Author**

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Hawaii Convention Center
323B

Polymer Gels as Advanced Soft Materials (#83)

Organized by: R. Yoshida, T. Miyata, F. Winnik, J. Aizenberg
Presiding: F. Winnik, R. Yoshida

8:00 Opening Remarks
8:05 – 9. Slide-ring materials: novel concept for flexible tough polymers. **K. Ito***
8:35 – 10. Photo-polymerized networks based on the copper-catalyzed azide-alkyne (CuAAC) reaction. **C.N. Bowman***, A. Baranek, H. Song, A. Alzahrani, M. McBride, T. Gong
9:05 – 11. Controlled cross-linking strategy for formation of hydrogels, microgels, and nanogels. J. Zhang, X. Wang, L. Wang, F. Yang, **D. Wu***
9:25 – 12. Onion-like polymer capsules with multiple concentric shells. **B.C. Zarket***, S. Antozewski, T. Coyne, J. Heckelman, **S.R. Raghavan***
9:45 Break
10:00 – 13. Structure and properties of defect-controlled polymer gel. **M. Shibayama***, K. Nishi, T. Sakai
10:30 – 14. Reprocessable silicone boronate gels. **M.A. Brook**, L. Zepeda-Velasquez, C. DeWolf, E. Mansuri, M.E. Whinton
11:00 – 15. Wide bicontinuous compositional windows from co-networks made with telechelic macromonomers. **G. Tew**
11:20 – 16. Understanding the fibrillation of self-assembled low molecular weight hydrogelators. **D. Hermida-Merino***, G. Portale
11:40 – 17. Theoretical and computational modeling of structure and dynamics of oligomeric electrolyte based multisolvent gelators. **A.E. Kobryn**, S. Gusarov, A. Kovalenko

Hawaii Convention Center
326B

Simulation of Polymers (#110)

Organized by: Y. Masubuchi, S. Shanbhag, V. Vao-soongnern, C. Baig
Presiding: S. Shanbhag, S. Sukumaran

8:00 – 18. Density functional theory for excluded volume effects in polymer brushes. **C. Chen**, P. Tang, **F. Qiu***, A. Shi
8:20 – 19. Density functional tight binding study of defected α and γ nylon6. S. Arabnejad*, **S. Manzhos**
8:40 – 20. Fast lattice Monte Carlo simulations of polymers. **Q. WANG***
9:00 – 21. Toward robust self-diffusivity estimates in complex fluids. **S. Shanbhag***
9:20 – 22. Rotational motion of polymer chains under simple shear flow. **J. Takimoto***, S. Sukumaran, K. Mori, A. Fukuhara
9:40 – 23. Stretch/orientation induced reduction of friction of polymers. **Y. Masubuchi***
10:00 – 24. Primitive path analysis of entanglements in polymer blends. **S. Sukumaran***, J. Takimoto
10:20 – 25. Multi-million-atom molecular dynamics simulations of conformational dynamics in polymer nanoparticle composites using explicit solvent treatment. **S. Sankaranarayanan**, S. Deshmukh
10:40 – 26. Large scale coarse-grained molecular simulations on fracture process of rubber. **M. Oikawa**, R. Sakamaki, Y. Bito, S. Ueno, M. Naito, H. Kishimoto, Y. Masubuchi*
11:00 – 27. Multiscale simulation for polymer nanocomposites. **T. Ozawa***, K. Ohata, M. Watanabe, G. Goldbeck, V. Regnier
11:20 – 28. Improving composite materials via molecular simulations of epoxy cross-linking at carbon fibre interfaces. B. Demir, **T.R. Walsh***
11:40 – 29. Coarse-grained simulation study of the filler filled materials using OCTA system. **H. Morita**, K. Hagita

Hawaii Convention Center
324

Controlled Macromolecular and Supramolecular Architectures for Sustainability (#112)

Organized by: M. Kamigaito, C. Hawker, G. Qiao, K. Wooley, E. Yashima
Presiding: C. Boyer, C.J. Hawker

8:00 – 30. Precision functional polymers by precision radical polymerization. **M. Sawamoto***
8:30 – 31. Application of photoinduced electron transfer (PET) for the synthesis and post-modifications of well-defined polymers. **C. Boyer***, J. Xu, S. Shanmugam
9:00 – 32. Precision synthesis of stimuli-responsive polymers via living/controlled cationic polymerization. **S. Aoshima***, S. Kanaoka, A. Kanazawa
9:30 – 33. Reversible mechanistic transformation of growing nature during vinyl polymerizations. **K. Satoh***, M. Kamigaito
10:00 – 34. Bioinspired supramolecular architectures. **S. Stupp***
10:30 – 35. Intramolecular catalyst transfer behavior depending on transition metal catalysts in the synthesis of conjugated polymers and copolymers. M. Nojima, Y. Ohta, **T. Yokozawa***
11:00 – 36. Methods to synthesize well-defined polyesters with control of sequence, regio- and stereochemistry. **A.M. DiCiccio**, J. Longo, G. Coates
11:15 – 37. Synthesis and fundamental properties of poly(*ortho*-phenylene)s. **K. Mikami***, Y. Mizukoshi, Y. Okada, M. Uchiyama*
11:30 – 38. Controlling polymer conformations: Efficient synthesis of shape-persistent ladder polymers via annulation ladder polymerization. **Y. Xia***
11:45 – 39. Rational strategy for the realization of chain-growth supramolecular polymerization. **D. Miyajima***, K. Jiheong, T. Aida*

Hawaii Convention Center
323C

Characterization of Polymers and Polymer Assemblies in Solution (#172)

Organized by: T. Sato, T. Yoshizaki, T. Chang, J. Mays, C. Wu
Presiding: T. Chang, J. Mays, T. Sato, T. Yoshizaki

8:00 Introductory Remarks
8:05 – 40. Local conformation and intermolecular interactions of rigid cyclic amylose carbamate derivatives. **K. Terao**
8:50 – 41. Residual contribution of three-segment interactions to the second virial coefficient for unperturbed ring polymers. **D. Ida***, T. Yoshizaki
9:35 – 42. Effects of shape on the solution properties of polymers.A computational approach. **B.A. Pazmino Betancourt**, J.F. Douglas
10:05 – 43. Long-chain branching analysis of comb-shaped polystyrenes. **S. Lee***, T. Chang
10:35 Break
10:50 – 44. Picture of dilute solution behavior of polymers through polyelectrolyte simulation. **T. Yoshizaki**, H. Yamakawa, D. Ida
11:20 – 45. Theoretical study of network formation and mechanical property of physical gel with well-defined junction structure. **H. Ozaki***, T. Koga

Hawaii Convention Center
325A

Functional Materials Based on Organic-inorganic Hybrid Polymers (#221)

Organized by: K. Naka, F. Jaekle, C. Ha, J. Ohshita
Presiding: C. Ha, F. Jaekle, K. Naka, J. Ohshita, Y. QIN

8:00 Opening Remarks
8:05 – 46. New hybrid materials based on element-blocks. **Y. Chujo***
8:35 – 47. Platinum-containing conjugated polymers with novel structures and properties. **Y. QIN**
8:55 – 48. Metallo-supramolecular polymers as stimuli-responsive materials. **S.J. Rowan***
9:15 – 49. Multifunctional supramolecular nanotubes and nanopartilces as sensory and delivery vehicle. **C. Kim***, J. Lee
9:35 – 50. Stimuli-responsive metallosupramolecular polymers. **C. Weder***
9:55 Break
10:05 – 51. Synthesis and application of polysilsesquioxanes as element-blocks. **T. Gunji**
10:25 – 52. Pyridylborates as a new ligand platform for metal-containing polymers and metallo-supramolecular materials. **F. Jaekle***
10:45 – 53. Supramolecular polymerization of fullerene via molecular recognition. **T. Haino***
11:00 – 54. Organic-inorganic hybrid polymers based on nickel(II) complexes of Goedken's macrocycle. **J.A. Paquette**, E.R. Sauve, J.B. Gilroy*
11:15 – 55. Development of polysilsesquioxane aerogels and xerogels with improved mechanical properties. **K. Kanamori**, T. Shimizu, K. Nakanishi
11:30 – 56. Synthesis of network polymers using cubic silsesquioxane and their discriminating properties for the particle size. **T. Kakuta***, K. Tanaka, Y. Chujo
11:45 – 57. Modification of PET and PEN film surfaces by organic-inorganic hybrid polymer thin films. **T. Tamai***, M. Watanabe, Y. Kobayashi, K. Mitamura, K. Matsukawa

Hawaii Convention Center
327

Polymers from Renewable Sources and Sustainable Polymer Synthesis (#281)

Organized by: M. Cunningham, M. Sawamoto, P. Chamapgne, J. Rawlins
Presiding: P. Champagne

8:00 Opening Remarks
8:05 – 58. Next generation aliphatic polyester block polymers: Design, synthesis, and performance. **M. Hillmyer**
8:35 – 59. Copolymers of lactide with aliphatic cyclic esters: From thermoplastic elastomers to functional poly(lactic acid)s. **M. Shaver***
9:05 – 60. Capturing CO_2 for cellulose dissolution and derivation. **H. Xie**, Y. Yang, L. Song, X. Yuan, C. Yuan, Q. Zhen
9:25 – 61. Aerogels from biopolymers and biomonomers. **D.A. Schiraldi**
9:45 – 62. Development of stereo-block polylactides: An approach to high-performance polylactide materials. **Y. Kimura***, K. Masutani
10:15 – 63. Carbon dioxide switchable cellulose nanocrystals. H. Wang, J. Bouchard, P. Champagne, P.G. Jessop, **M. Cunningham***
10:35 – 64. Organocatalytic polymerization of bioderived bifunctional acyclic and heterocyclic monomers. **E. Chen**
11:05 – 65. Efficient, chemical-catalytic approach to the production of renewable monomers succinic acid and 3-hydroxypropanoic acid from biomass. **M. Mascal***, L. Wu, s. dutta
11:25 – 66. Functional biobased elastomers from *Eucommia ulmoides*. **U. Hiroshi**

Hawaii Convention Center
323A

Sustainable Conversion of Lignin to Value-Added Products and Green Chemicals (#319)

Organized by: X. Zhang, Q. Guo, W. Qin, T. Hu, K. Ramasamy
Presiding: X. Zhang

8:00 Discussion by Keith Moo Young
8:25 – 67. Enabling bio-based economy: Hybrid approaches for lignin valorization. **S. Singh**
8:45 – 68. Biopolymeric ionic liquids (bio-PILS): A materials family originated from lignin and its applications in CO_2 capture. **C. Vriamont***, J.P. Hallett, G.J. Britovsek
9:05 – 69. Role of lignin in a biorefinery. **T. Yuan***, S. Yang*, R. Sun*
9:25 – 70. Developing biobased adhesives by chemical coupling lignin to biopolymers. **N. Hati***, W. Grigsby, J. Jin, N. Edmonds
9:45 BREAK
9:55 – 71. Deep eutectic solvents (DES) for lignin extraction. **X. Zhang***
10:15 – 72. Lignin-derived nanoporous carbon spheres@$CuFeS_2$ composite: Synthesis and thermoelectric properties. **D. Liang***
10:35 – 73. Commodity-scale phytochemicals from the lignocellulose of megacrops. **S.A. Miller***
10:55 – 74. Mechanistic look at lignin sulfonation. **R. Beatson***
11:15 – 75. Catalytic solvolysis features of lignin fractions with different molecular weight distribution. **J. Kim***, S. Park, S. Oh, J. Park, D. Shin, J. Choi
11:35 – 76. Catalytic conversion of biomass to fuels and value-added chemicals via platform molecules. **Q. GUO***

Hawaii Convention Center
326A

Polymers for Energy and Optoelectronic Devices (#361)

Organized by: K. Oyaizu, R. Advincula, D. Choi
Presiding: D.H. Choi, K. Oyaizu

8:00 Introductory Remarks
8:05 – 77. High-performing organic semiconducting polymers for electronics and optoelectronics. **D.H. Choi***, M. Cho, J. Shin, D. Lee, H. Um
8:25 – 78. High performance organic thin film transistors based on conjugated polymers containing benzobisthiadiazole and its related heterocycles. **Y. Wang**, T. Michinobu
8:40 – 79. Novel thienoacene-based semiconducting materials for organic solar cells and field effect transistors. **M. Wong***, Z. Li, K. Zhang, B. Wang
8:55 – 80. Development of 4,7-dialkylated phenanthrodithiophene-based semiconducting polymers and their application to high-performance solar cells. **H. Mori**, R. Takahashi, K. Hyodo, H. Nonobe, Y. Nishihara*
9:10 – 81. Synthesis and characterization of pyrenobisthiadiazole-based semiconducting polymers. **W. Kaneshika***, H. Nonobe, R. Takahashi, H. Mori, Y. Nishihara*
9:25 – 82. Optimization of side chains in phenanthrodithiophene-isoindigo copolymers: Relationships between thin-film structure and device performance. **S. Nishinaga**, H. Mori, Y. Nishihara*
9:40 Break
9:50 – 83. Semi-crystalline photovoltaic polymers with noncovalent Coulomb interactions for highly efficient polymer solar cells. **H. Woo***

*** Principle Author**

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10:20 – 84. Conjugated polymers for highly efficient solar cells: Fundamental understanding on PBnDT-FTAZ. **W. You***
10:35 – 85. High-performance semiconducting polymers incorporating naphthobischalcogenadiazoles for polymer solar cells. **I. Osaka**, K. Kawashima, K. Takimiya
10:50 – 86. Efficiency-limiting processes in low-bandgap donor:perylene diimide photovoltaic blends. **D.W. Gehrig**, A. Sharenko, A. Kyaw, S. Roland, D. Neher, T. Nguyen, F. Laquai*
11:05 – 87. Characterization of molecular aggregation structure in polymers with perylenediimide side-chain. **M. Kido**, S. Nojima, R. Ishige, Y. Kim, B. Ree, Y. Ko, N. Ohta, K. Kojio, M. Ree, T. Hirai, A. Takahara
11:20 – 88. Side chain engineering of naphthalenediimide-bithiophene (NDI-T2)-based N-type polymers for efficient all-polymer solar cells. **W. Lee***, C. Lee, B. Kim

Tuesday Afternoon

Hawaii Convention Center
325B

Synthetic Biopolymers (#37)

Organized by: T. Deming, Z. Li, T. Kaneko
Presiding: T. Deming, T. Kaneko, Z. Li

13:00 Introductory Remarks
13:05 – 89. Biobased functional polymers from plant oils. **U. Hiroshi**
13:40 – 90. Preparation of biobased polyimides from 4-aminocinnamate and their optoelectrical properties. **j. singh***, P. SUVANNASARA, S. TATEYAMA, T. Kaneko
14:00 – 91. Bio-inspired adhesive polymers for energy storage devices. **H. Lee***
14:35 Break
14:50 – 92. Anti-inflammatory and antibacterial coatings derived from biological polyphenols. T. Sileika, D. Barrett, **P. Messersmith***
15:25 – 93. Synthesis of polylactides bearing antibacterial moiety at chain end. **H. Ajiro**, S. Ito, M. Akashi*
15:45 – 94. Super-engineering plastics from exotic amino acids. **T. Kaneko***
16:20 – 95. Environmentally degradable biobased plastics from renewable itaconic acid and their composites with montmorillonite. **M. Ali***, N. Tandon, S. TATEYAMA, T. Kaneko
16:40 – 96. Developmentof high thermoresistance and transparent polyurea films bioderived from 4-aminocinnamic acid. **Y. Ibuki***, S. TATEYAMA, T. Kaneko

Hawaii Convention Center
323B

Polymer Gels as Advanced Soft Materials (#83)

Organized by: R. Yoshida, T. Miyata, F. Winnik, J. Aizenberg
Presiding: F. Winnik, R. Yoshida

13:00 – 97. Self-healing hydrogels from bilayer membrane. **J. Gong***
13:30 – 98. Vitrimers: Insoluble and reshapable chemically crosslinked networks. **F. Tournilhac***
14:00 – 99. Highly stretchable, mechanically tough, zwitterionic nanocomposite gels with controlled thermosensitivities and unique swelling and self-healing behaviors. **K. Haraguchi***
14:30 – 100. One-step preparation of thermo/photo-sensitive nanogels and their use as stabilizers of Pickering high internal phase emulsions. **F. Winnik**, x. zhang
14:50 Break
15:00 – 101. Hollow adaptive microgels. **W. Richtering***
15:30 – 102. Designing microgels for hemostasis. N. Welsch, A. Brown, T. Barker, **A. Lyon***
16:00 – 103. Polymer gels formed from critical gelation cluster. **T. Sakai**, K. Hayashi, U. Chung
16:20 – 104. Composite particle synthesis in the presence of hydrogel particles. **D. Suzuki***, C. Kobayashi, T. Watanabe
16:40 – 105. Uniform anisotropic colloids: Fabrication, assembly, and packing. **J. Kim***

Hawaii Convention Center
326B

Simulation of Polymers (#110)

Organized by: Y. Masubuchi, S. Shanbhag, V. Vao-soongnern, C. Baig
Presiding: N. Arai, Y. Masubuchi

13:00 – 106. Can heterogeneity in amorphous polymers be envisioned using atomistic simulation?. F. Godey, **A. Soldera***
13:20 – 107. Molecular dynamics study on star-shaped thermoresponsive polymers in aqueous solution. **S. Sato***, E. Terada, M. Jin, S. Mizutani
13:40 – 108. Atomistic molecular dynamics simulations of structure and thermodynamic properties of asymmetric polyelectrolyte block copolymer micelle in salt-free aqueous solution. **R. Chockalingam**, U. Natarajan*
14:00 – 109. Self-assembly of bottlebrush copolymers and their blends with homopolymers: A Monte Carlo simulation study. **D. Jo**, J. Huh*, K. Lee
14:20 – 110. Amphiphilic diblock copolymer mediated assembly of nanoparticles in solutions. **R. Wang***, S. Ma*
14:40 – 111. Modeling and simulation of surfactants and polymer systems – what can we learn from these?. F.C. Lim, L. Zhang, D.W. Cheong, **M.B. Sullivan***
15:00 – 112. Self-assembly of Janus origomers into onion-like vesicles. **N. Arai***, K. Yasuoka, X.C. Zeng
15:20 – 113. Large scale simulation of a thermoplastic elastomer with SCFT and coarse-grained MD. **T. Honda**
15:40 – 114. Coarse-grained simulations of interfaces between grafted polyelectrolytes. **T. Kinjo***, H. Yoshida, H. Washizu
16:00 – 115. Multiscale simulation of contraction and expansion polymer melt flow. **T. TANIGUCHI***, K. HARADA
16:20 – 116. Modeling the drying process of polymer solutions. **M. Doi***

Hawaii Convention Center
324

Controlled Macromolecular and Supramolecular Architectures for Sustainability (#112)

Organized by: M. Kamigaito, C. Hawker, G. Qiao, K. Wooley, E. Yashima
Presiding: H. Otsuka, K. Wooley

13:00 – 117. Organocatalytic strategies to novel macromolecular architectures. **R. Waymouth***
13:30 – 118. Carbon dioxide as a renewable C1 feedstock for polymer synthesis. **K. Nozaki***
14:00 – 119. Stereoselective, chemoselective, and living coordination polymerization of renewable acrylic monomers. **E. Chen**
14:30 – 120. Non-equilibrated supramolecular interactions. **T. Aida***
15:00 – 121. Investigating new sources for and applications of cellulose nanocrystals. **S.J. Rowan***
15:30 – 122. Molecular design of dynamic covalent polymers for sustainability. **H. Otsuka***
16:00 – 123. Organocatalyzed synthesis of high-molecular-weight aliphatic polycarbonates. **D. Kuckling***, A. Reitz, J. Sun, R. Wilhelm
16:15 – 124. Aliphatic polyester/polycarbonate triblock colopolymers via one-pot, neat, organocatalytic ring opening polymerization for generation of self-assembled polymeric nanoparticles. **A.J. Myles***, K. Moffat, J. Wosnick, V. Farrugia
16:30 – 125. Synthesis of well-defined 3-dimensional P3HT based star polymers by GRIM and ATRP. **K. Baek***
16:45 – 126. Switchable enantioseparation based on helicity induction and memory effect in a polyacetylene bearing 2,2'-biphenol-derived pendants in the solid state. **K. Maeda***, K. Shimomura, T. Ikai, S. Kanoh, E. Yashima*

Hawaii Convention Center
323C

Characterization of Polymers and Polymer Assemblies in Solution (#172)

Organized by: T. Sato, T. Yoshizaki, T. Chang, J. Mays, C. Wu

13:00 – 127. Interaction chromatography separation of polymers: Principle and applications. **T. Chang***
13:45 – 128. Getting the most from cumulants analysis of dynamic light scattering data. . .and getting it quickly. **P.S. Russo**, X. Zhang
14:30 – 129. Comprehensive 2D analysis of poloxamers. **M.I. Malik***, S. Lee, T. Chang
15:00 – 130. Characterization and fractionation of PS-*b*-PMMA diblock copolymer synthesized via click chemistry. **J. Park***, T. Chang, K. Lee, J. Kim
15:30 – 131. Solubilization of 3-azido-1-propyne oligomers prepared by copper(I)-catalyzed azide-alkyne cycloaddition polymerization and characterization of the soluble oligomers in dilute solution. **A. Hashidzume***, A. Mori, S. Nakano, T. Nakamura, T. Sato
16:00 – 132. Functional oligomeric fluids: Characterization challenges. **A.O. Patil***
16:30 – 133. Reason for the high solubility of chemically modified poly(vinyl alcohol)s in aqueous solution. **T. Shikata***

Hawaii Convention Center
325A

Functional Materials Based on Organic-inorganic Hybrid Polymers (#221)

Organized by: K. Naka, F. Jaekle, C. Ha, J. Ohshita
Presiding: C. Ha, F. Jaekle, K. Naka, J. Ohshita

13:00 – 134. Synthesis of element block polymers based on T8-caged silsesquioxanes. **K. Naka**
13:20 – 135. Polymerizations with elemental sulfur: Novel inorganic polymers for energy, sustainablity, and defense. **J. Pyun***
13:40 – 136. Self-healing properties of photocrosslinked hybrids thin films using thiol-containing polysilsesquioxane. **K. Matsukawa***, K. Nishio, I. Urano, K. Mitamura, N. Nishioka, T. Koga, N. Higashi, S. Watase
14:00 – 137. Metallocenium polymers: From chemoselective synthesis to biomedical application. **C. Tang**
14:20 – 138. Hybrid network polymer films of multifunctional cyclosiloxane building blocks. **M. Mitsuishi**, A. Demirci, Y. Liu, S. Yamamoto, J. Matsui, T. Miyashita
14:40 Break
14:50 – 139. Chitosan based hybrid nanomaterials. **C. Ha**
15:10 – 140. Hybrid polyurethane surface modification: Impact of nanosurface and mesosurface modification. **K.J. Wynne***, S. Chakrabarty, S. Nair, W. Zhang, V. Yadavalli
15:30 – 141. Preparation of graphene quantum dots and their chemical functionalization by Cu(I)-catalyzed Huisgen cycloaddition reaction. **R. Sekiya***, Y. Uemura, K. Suzuki, T. Haino
15:45 – 142. CO2-responsive magnetic mesoporous silica nanoparticles. J. Guo, **J. Yuan***
16:00 – 143. Synthesis and characterization of self-organized N-heteroacene-based materials. **K. Isoda***
16:15 – 144. Layer-by-layer assembly of a self-healing anticorrosion coating on magnesium alloy. **F. Fan**, J. Szpunar
16:30 – 145. Dynamic cross-linking of POSS-containing polymers mediated by fluoride ion. **K. Tsuchiya**, H. Arai, Y. Ishida, A. Kameyama
16:45 – 146. Polymer-grafted porous coordination nanocages. **N. Hosono***, R. Matsuda, S. Kitagawa

Hawaii Convention Center
327

Polymers from Renewable Sources and Sustainable Polymer Synthesis (#281)

Organized by: M. Cunningham, M. Sawamoto, P. Chamapgne, J. Rawlins
Presiding: M. Cunningham, J. Rawlins

13:00 Opening Remarks - 5 mins
13:05 – 147. Lipid based polymers: A biorefinery approach enabled by structure function fundamentals. **S. Narine***
13:35 – 148. Renewable monomers and polymers obtained via sustainable chemistry. **M. Meier**
14:05 – 149. Enzymatically synthesized functional polyesters from renewable resources. M. Bilal, T. Naolou, A. Njau , **J. Kressler**
14:25 – 150. Synthesis of functional polypentadecalactone copolymers by ring-opening polymerisation. **A.P. Dove**, J. Wilson
14:45 – 151. Polymerization of biosourced myrcene using neodymium based catalysts. **R. Díaz de León***
15:05 – 152. Synthesis of polypentenamer and poly(vinyl alcohol) using phase separable PIB second generation Hoveyda-Grubbs catalyst. **M. Al-Hashimi***, R. Tuba*, H.S. Bazzi*, R.H. Grubbs*
15:25 – 153. Design and synthesis of polyphosphoester-based multifunctional nanocarriers aimed for biomedical applications. **P. Ni***
15:55 – 154. Crystalline nanocellulose functionalization andpolymer grafting via surface initiated living radical polymerization. J. Arredondo, O. Garcia-Valdez, P. Champagne*, **M. Cunningham**
16:15 – 155. Comparing surface esterification methods of cellulose nanocrystals for improved hydrophobicity. **S. Peng***, R. Moon, J. Youngblood
16:35 – 156. Cellulose nanocrystal: A natural polymer to protect the functionality of active beads and edible coating. **m. lacroix***

Hawaii Convention Center
323A

Sustainable Conversion of Lignin to Value-Added Products and Green Chemicals (#319)

Organized by: X. Zhang, Q. Guo, W. Qin, T. Hu, K. Ramasamy
Presiding: T. Hu

13:00 – 157. Synergistic catalysis of Fe based bimetallic catalysts for hydrodeoxygenation of lignin derived compounds. Y. Hong, A.J. Hensley, H. Zhang, J. Sun, A. Karim, M. Gu, M. Engelhard, J. McEwen, **Y. Wang***
13:25 – 158. Reductive silylation of lignin: A route to oligomers and green composites. **M.A. Brook***, J. Zhang

*** Principle Author**

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13:45 – 159. Development of new functional materials using a metabolicintermediate of lignin, 2-pyrone-4,6-dicarboxylic acid. **H. Ogata**, Y. Otsuka, M. Nakamura
14:05 Break
14:15 – 160. Selective conversion of native lignin to aromatic dimer derivatives. **H. Nonaka**, R. Yamamoto, M. Funaoka
14:35 – 161. Catalytic oxidation of biorefinery lignin to value added platform chemicals. **R. Ma**, X. Zhang*, M. Guo
14:55 – 162. Depolymerization of lignin into simple aromatics via Ni/HZSM-5 in an aqueous environment. **R. Barton***, N. Escalona, H. Lamb, S. Park, S. Peretti
15:15 – 163. Study on the mechanism of the pyrolysis of lignin model dimers by in situ FTIR. **H. Cheng**, S. Wu*
15:35 – 164. Demethoxylation of lignin-model aromatics over carbon-supported ruthenium-manganese catalyst. **Y. Nakagawa**, M. Ishikawa, M. Tamura, K. Tomishige*
15:55 – 165. Lignin hydrogenolysis over Ni based catalysts: Understanding the catalytic activity. **N. Yan***

Hawaii Convention Center
326A

Polymers for Energy and Optoelectronic Devices (#361)

Organized by: K. Oyaizu, R. Advincula, D. Choi
Presiding: D.H. Choi, K. Oyaizu

13:00 – 166. Novel conjugated polymer as both cathode and anode interlayers for inverted organic photovoltaics. **W. Wang**, Q. Zhang, D. Liaw, Y. Tai*
13:15 – 167. Triplet state formation in polymer:fullerene photovoltaic blends. **F. Laquai***
13:30 – 168. Triplet state generation in photovoltaic blends of low-bandgap DPP-type copolymers and $PC_{71}BM$ probed by transient absorption spectroscopy. **J.R. Ochsmann**, D. Chandran, K. Lee, F. Laquai*, M. Turbiez
13:45 – 169. Interplay between polymer donor and fullerene acceptor in bulk-heterojunction solar cells. **P.M. Beaujuge***
14:00 – 170. Improved stability for light soaking in efficient crystalline-Si/3,4-polyethylenedioxythiophene (PEDOT) heterojunction solar cells. **H. Shirai***, Q. Liu*, R. Ishikawa, K. Ueno
14:15 – 171. Broadening the light absorption of P3HT derivatives using porphyrins: Noncovalent vs. covalent attachment. **M. Chevrier**, S. Richeter, A. Mehdi, O. Coulembier, R. Lazzaroni, P.G. Dubois, S. CLEMENT
14:30 Break
14:40 – 172. Photoprecursor approach towards efficient solution-processed organic solar cells. **M. Suzuki**, Y. Yamaguchi, K. Nakayama*, H. Yamada*
15:10 – 173. Polymer/dye composites for potential cost effective and high efficiency optoelectronic applications. **S. SUN***, D. Wang
15:25 – 174. PBDT[2F]T, the secrets of a wide band-gap polymer with 7% PCE. **J. Gorenflot**, D.W. Gehrig, A. Paulke, J. Wolf, D. Neher, P.M. Beaujuge, F. Laquai
15:40 – 175. Effect of side chain volume of conjugated polymers on polymer:PCBM morphology and organic solar cell properties. **H. Son***
15:55 – 176. Polymeric interfacial engineering of the electrode for high performance solar cells. Y. Song, L. Yan, **Y. Zhou***, B. Song*
16:10 – 177. Effective electron and hole extraction using novel polymeric materials in perovskite solar cells. **T. Park**, S. Song, G. Kim
16:25 – 178. Conjugated polyelectrolyte hole transport layer for inverted-type perovskite solar cells. H. Choi, C. Mai, H. Kim, J. Jeong, S. Song, G. Bazan, **J. Kim***, A.J. Heeger

Wednesday Morning

Hawaii Convention Center
Halls I, II, III

NMR Spectroscopy of Polymers and Biobased Materials (#12)

Organized by: H. Cheng, A. English, H. Kaji, S. Kawahara, A. Whittaker, J. White, L. Madsen, K. Saalwachter, Y. Yao, J. Battiste

Poster Session
10:00 – 12:00

179. Fast chain flips in mixed n-alkanes: Implications for polyethylene. **K.J. Fritzsching**, Y. Marciano, K. Schmidt-Rohr*
180. Investigating ion transport and dynamics in a crosslinked polymer-gel lithium conductor. **B.E. Kidd**, S. Forbey, F.W. Steuber, R.B. Moore, L.A. Madsen*
181. Differentiating molecular and morphological effects on transport in an ionic polymer membrane. **M. Goswami***, L.A. Madsen
182. Measuring tunable anisotropy and ion transport in conductive, rigid, and thermally stable ion gels. **Y. Wang**, Y. Chen, J. Gao, H. Yoon, L. Jin, M. Forsyth, T. Dingemans, L.A. Madsen
183. Characterization of polymer microstructure and reaction mechanism by hyperpolarized NMR. **C. Chen**, C. Hilty
184. Monomer sequence in the poly(methyl methacrylate-*co*-benzyl methacrylate)s prepared by various polymer reactions of poly(benzyl methacrylate). **Y. Nakanishi**, Y. Hsu, T. Okubo, M. Oshimura, T. Hirano, K. Ute
185. Analysis of stereoregularity in poly(lactic acid) by solution NMR. **K. Suganuma**, H.N. Cheng, M. Oshimura, T. Hirano, K. Ute, T. ASAKURA
186. Monomer sequence in the poly(methyl methacrylate-*co*-benzyl methacrylate)s prepared by stepwise esterification of isotactic poly(methacrylic acid). **D. Yokota**, Y. Nakanishi, M. Nagahama, T. Hirano, K. Ute
187. Magnetically oriented structures and gas transport properties of liquid crystalline polyesters with various higher-order structures by means of NMR methods. **R. Ishigami***
188. NMR of the gas in polyimides with different glassy states prepared by physical treatments. **M. Fujita***
189. Segmental motions in the noncrystalline domains of polyethylene. **W. Hu***, N. Patil
190. Chain dynamics in polymer crystalline region as investigated by solid state NMR. **W. Chen**, T. Miyoshi
191. Spin-spin relaxation time as a novel parameter for the quantitative evaluation of the degradation of rubber seals. **K. Numata***, H. Kurokawa, S. Sekine, Y. Nakazawa, A. Asano
192. Dynamics of water and protons in swollen polymer electrolyte membranes: Insight into proton transfer mechanism in fuel cells. **H. Kim**, O. Han
193. Inverse Laplace transform and principal component analysis of T_2 decays of polyisoprene rubbers filled with carbon black. **M. Tsunomura**, A. Asano*, T. Ohkubo, K. Okushita
194. Characterization of local pre-stretching in sequentially cross-linked polymer networks by NMR. **W. Chassé**, P. Millereau, V. Litvinov, C. Creton, A. Kentgens
195. ^{1}H-NMR investigations of semicrystalline polymers: Effects of preparation and molecular weight. **R. Kurz***
196. Determination of molecular dimension and trajectory of polymer chains embedded in single crystals. **Y. Hong**, T. Miyoshi
197. Topological and crystallization studies of well-defined PEG-networks. M. Samiullah, D. Reichert*, T. Zinkevich, **J. Kressler**
198. Characterization of kerogen and source rock maturation using solid-state NMR spectroscopy. **A. Clough***, J. Sigle, J.L. White
199. Effects of temperature and pressure on the structure of ethylene- vinyl acetate copolymer (EVA). **R. Kuwahara**, N. Ogawa, R. Tomita, M. Nishino, Y. Kawakami, Y. Kawano, Y. Suzuki, M. Konno, . Nakajima, T. Takeda, K. Ishigami, H. Uehara, T. Yamanobe*
200. Characterization of a polymer complex of poly (allyl amine) and poly(acrylic acid) by solid NMR. **Y. Morozumi**, S. Maeda*
201. Characterization of polymer complex of poly(allylamine hydrochloride) and carboxymethyl cellulose sodium salt by solid NMR. **T. Kawaguchi**, S. Maeda*
202. Structural analysis of metal depositing polyamides for the novel wearable device. **T. Hashimoto**, Y. Tahara, M. Sano, T.M. Chang, M. Sone, H. Kurosu
203. NMR studies for the development of tissue-engineering biomaterials based on silk fibroin and polyurethane. **C.T. Nakazawa**, A. Higuchi, A. Asano, T. Kameda, Y. Nakazawa*
204. Improvement of *Bombyx mori* silk fibroin membranes with glycerin and NMR characterization. **T. Endo**, M. HIRAYAMA, M. Endo, T. ASAKURA*
205. Structure of *Samia cynthia ricini* silk fibroin with polyalanine sequences studied by solution and solid state NMR. **Y. Suzuki**, S. Kawanishi, A. Aoki, H. Saito, T. ASAKURA*
206. Characterization of a polymer complex of poly (allyl amine) and poly (γ-glutamic acid) by solid NMR. **T. Kakishita**, S. Maeda*
207. Higher-ordered structure and gas transport properties of poly (γ-benzyl-L-glutamate) studied by NMR. **H. Yoshimizu***

Hawaii Convention Center
325B

Synthetic Biopolymers (#37)

Organized by: T. Deming, Z. Li, T. Kaneko
Presiding: T. Deming, T. Kaneko, Z. Li

8:00 Introductory Remarks
8:05 – 208. Hyperbranched biopolymers synthesized from amino acids. **Y. Li***
8:40 – 209. Polypeptoid polymers: Recent discoveries in the development of functional peptidomimetic polymers. **D. Zhang**
9:15 – 210. Design of polypeptide and/or polysaccharide based copolymer self-assembled biomaterials. **S. Lecommandoux**
9:50 Break
10:05 – 211. Synthesis and applications of responsive and functional polypeptides. **T. Deming***
10:40 – 212. Thermal and oxidation responsive polypeptide materials. **Z. Li***
11:00 – 213. Re-examination of amino acid NCA polymerization 64: Preparation of monodispersed high molecular weight polypeptides by the primary amine initiated polymerization of amino acid *N*-carboxy anhydride. **H. Kanazawa**, A. Inada
11:20 – 214. RAFT polymerization of polyphenol-inspired antioxidant polymers. **H. Ejima***, Z. Kan, N. Yoshie
11:40 – 215. Controlled/living polymerization of naturally occurring terpenes. **K. Satoh***, M. Kamigaito

Hawaii Convention Center
323B

Polymer Gels as Advanced Soft Materials (#83)

Organized by: R. Yoshida, T. Miyata, F. Winnik, J. Aizenberg
Presiding: J. Aizenberg, T. Miyata

8:00 – 216. Photohealable materials based on photoreversible sol-gel transition of a triblock copolymer in an ionic liquid. **M. Watanabe***
8:30 – 217. Transforming the nanostructure of aqueous block ionomer gels for use in organic photovoltaics. **R.J. Spontak***, H.A. Al-Mohsin, K.P. Mineart
9:00 – 218. Stimuli-responsively porating gels. N. Kuriakose, **J. Texter***
9:20 – 219. Multifunctional polymer hydrogel-based hybrid membranes with stimuli-responsive properties. **M. Ulbricht***, M. Gajda, X. Lin, H. Ohashi
9:40 – 220. Stimuli responsive polymer-based sensors, muscles, and drug delivery platforms. **M.J. Serpe***
10:00 Break
10:10 – 221. Injectable purine-based sponges as a potential therapy to target remyelination post-spinal cord injuries. M. Mekhail, G. Almazan, **M. Tabrizian***
10:40 – 222. Synthetic gel based approach toward "electronics-free" artificial pancreas. **A. Matsumoto***, T. Ishii, H. Matsumoto, T. Suganami, M. Tanaka, Y. Ogawa, K. Kataoka, Y. Miyahara
11:00 – 223. Electrically induced controlled release from biopolymer capsules. **A. Gargava**, R. Ponte, R. Ragunathan, S.R. Raghavan*
11:20 – 224. Photofabrication of 2.5-dimensional microstructures composed of hydrogel sheet. **K. Sumaru***, T. Takagi, T. Satoh, T. Kanamori
11:40 – 225. Thermoresponsive polymer brush possessing cationic group for purification of human bone marrow derived mesenchymal stem cell. **K. Nagase***, Y. Hatakeyama, T. Shimizu, K. Matsuura, M. Yamato, N. Takeda, T. Okano

Hawaii Convention Center
Halls I, II, III

Simulation of Polymers (#110)

Organized by: Y. Masubuchi, S. Shanbhag, V. Vao-soongnern, C. Baig

Poster Session
10:00 – 12:00

226. Molecular dynamics simulations of concentration effect on conformations, hydrogen bond dynamics, and translational diffusion of poly(methacrylic acid) in salt-free aqueous solution. **R. Chockalingam**, U. Natarajan*
227. Molecular simulation of photon interaction with linear oligomers. **K. Narushima**
228. Dissipative particle dynamics simulations for self-assembly of polymer in vesicle. **Y. Yoshimoto***, N. Arai
229. Study of the adsoprtion of the cytochrome c on the graphene: Using molecular dynamics simulation. **X. Li**
230. Carrier generation mechanism in organic solar cells. K. Narushima*, **M. Takasaki**
231. Dissipative particle dynamics simulation for morphology of telechelic star polymer solution: Effect of shape of polymer. **N. Nishida***, N. Arai
232. Dissipative particle dynamics simulation for self-assembly structure and rheological property of Janus nanoparticles solution in nanotubes. **Y. Kobayashi***, N. Arai
233. Comparison of viscoelastic response function between a united-atom model of polyethylene and the Kremer-Grest model. **R. NISHIMURA**, K. TAKAHASHI, K. Yasuoka, Y. Masubuchi
234. Molecular simulations for segmental motions of polymer chains. **K. Sasaoka**, T. Koga

*** Principle Author**

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235. Computer simulation of dynamics of phase ordering of hydrogen-bonding supramolecular block copolymers. **R. Arimura***, T. Koga

Hawaii Convention Center
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Controlled Macromolecular and Supramolecular Architectures for Sustainability (#112)

Organized by: M. Kamigaito, C. Hawker, G. Qiao, K. Wooley, E. Yashima
Presiding: T. Choi, E. Yashima

8:00 – 236. Increasing 3D supramolecular order by decreasing molecular order. **V. Percec***
8:30 – 237. Sustainable and degradable polymers from glucose and castor oil. **T.M. Reineke**
9:00 – 238. Olefin metathesis and alkyne polymerization. **T. Choi***
9:30 – 239. Review for thermoreversible polymers consisting of multiple hydrogen bonds (MHB) and the pairs of Diels-Alder reaction. **K. Yamauchi***, D. Yamamoto, M. Yokoe, T.E. Long
10:00 – 240. Stereospecific polymerization and chiroptical properties of vinyl aromatics. **X. Wan***
10:30 – 241. Chirality transfer in chiral block copolymers. **R. Ho**
11:00 – 242. Functional nanospace macromolecules via precision crosslinking and association technologies of polymer chains. **T. Terashima**, M. Sawamoto
11:15 – 243. Precise synthesis of thermally curable hyperbranched polymers and their application to solvent-free adhesive materials. **E. Sato***, I. Uehara, T. Nishiyama, A. Matsumoto, H. Horibe
11:30 – 244. Remote stereocontrol of dynamic chiral structures. **N. Ousaka***, F. Mamiya, E. Yashima
11:45 – 245. Enantioselective synthesis of chiral polymer from racemic monomer through the click polymerization directed by the circularly polarized light. **G. Zou***

Hawaii Convention Center
323C

Characterization of Polymers and Polymer Assemblies in Solution (#172)

Organized by: T. Sato, T. Yoshizaki, T. Chang, J. Mays, C. Wu

8:00 – 246. Cryo-electron tomography study of complex compartmentalized nanostructures. A.H. Mueller*, T.I. Loebling, **A.H. Groeschel**, J. Haataja, C.V. Synatschke, F.H. Schacher
8:45 – 247. Characterizing polymeric micelles employed for DDS combining SAXS and FFF. **K. Sakurai**, Y. Sanada, I. Akiba
9:15 – 248. Association behavior of bovine serum albumin with the PEO-PPO multiblock copolymer in water. **K. Rikiyama***, Y. Katsumoto
9:45 – 249. Characterization of complexes formed by mixing aqueous solutions of polymethacrylic acid and a homopolymer or block copolymer of 2-ethyl-2-oxazoline. **Y. Matsuda***, M. Kikuchi, A. Takahara, S. Tasaka
10:30 – 250. Intermolecular interaction and self-assembly in aqueous solutions of a mixture of anionic-neutral and cationic-neutral block copolymers. **R. Takahashi**, T. Sato, K. Terao, S. Yusa
11:00 – 251. Two aggregation processes of thermo-responsive PEO-PPO multiblock copolymer in the aqueous solution. **T. Horiuchi***, S. Kondo, T. Sakai, Y. Katsumoto
11:30 – 252. Overview of self-assemblies formed by amphiphilic block, random, and alternating copolymers. **T. Sato***
11:55 Closing Remarks

Hawaii Convention Center
325A

Functional Materials Based on Organic-inorganic Hybrid Polymers (#221)

Organized by: K. Naka, F. Jaekle, C. Ha, J. Ohshita
Presiding: C. Ha, F. Jaekle, K. Naka, J. Ohshita, I. Tomita

8:00 – 253. Enhancement of photoluminescence and electroluminescence of samarium complex by polysilsesquioxane. **S. Watase***, T. Yamashita, Y. Hasegawa, K. Mitamura, T. Koga, N. Higashi, K. Matsukawa
8:15 – 254. Monitoring the formation of fluorescent micelles from crystallization driven self-assembly using STED and TEM. **E. Leitao**, I. Manners
8:30 – 255. Attempted synthesis of functional materials using metalladithiolene complexes. **S. Tsukada**, T. Sagawa, H. Sato, T. Gunji*
8:45 – 256. Synthesis and optical properties of cyclic and acyclic poly(germylene-ethynylene) materials. **H. Tanimoto***, T. Nagao, T. Fujiwara, K. Tanaka, T. Kakuta, Y. Chujo*, K. Kakiuchi*
9:00 – 257. π-Conjugated polymers containing versatile elements-blocks. **I. Tomita***, Y. Matsumura, Y. Komatsuzaki, H. Nishiyama, S. Inagi
9:20 – 258. Sol-gel silica nanoparticles and their application to functional organic/inorganic hybrid coating. **D. Lee**, S. Han, D. Kang
9:40 Break
9:50 – 259. Functional soft materials from the self-assembly of block copolymers containing main group elements and metals. **I. Manners***
10:20 – 260. Ionic liquid/boron compound binary electrolytes for lithium Ion secondary batteries. **N. Matsumi**
10:40 – 261. Preparation and applications of disilanobithiophene and –biphenyl as new silicon-bridged chromophores. **J. Ohshita**
11:00 – 262. Organic/inorganic hybrid nanostructures for organic electronic devices with polymer semiconductors. C. Lee, W. Lee, J. Seo, H. Kim, **Y. Kim***
11:20 – 263. Well-defined "N-type" organic electronic materials. **D.S. Seferos**
11:40 – 264. Synthesis of ferrocene-containing polytriazoles by metal-free click polymerization. **A. Qin***, B. Tang

Hawaii Convention Center
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Polymers from Renewable Sources and Sustainable Polymer Synthesis (#281)

Organized by: M. Cunningham, M. Sawamoto, P. Chamapgne, J. Rawlins
Presiding: M. Sawamoto

8:00 Open Remarks
8:05 – 265. Multifunctional nanoworms and nanorods and functional membranes. **M. Monteiro**
8:35 – 266. Biosourced polymer nanocomposites: high performance materials for durable applications. **P.G. Dubois***, M. Murariu, J. Raquez, L. Bonnaud, J. Odent
9:05 – 267. Novel efficient ligation reactions for polymer chemistry. **S. Perrier***
9:35 – 268. Chitosan-based flame retardant multilayer nanocoatings. **J. Grunlan***, T. Guin, M. Leistner
9:55 – 269. Synthesis and application of multifunctional nitrile *N*-oxides. **H. Sogawa***, S. Monjiyama, T. Takata
10:15 – 270. Conceptualizing sustainable thermoplastic elastomers from hydrocarbon-rich biomass. **C. Tang**
10:45 – 271. Hybrid materials based on nanoscopic cellulose and well-defined polymers. **E. Malmstrom***, A. Carlmark
11:15 – 272. Modification of chitosan via nitroxide-mediated polymerization and *grafting from* approach in homogeneous media. O. Garcia-Valdez, A. Darabi, R. Champagne Hartley, E. Saldívar-Guerra, **P. Champagne***, M. Cunningham
11:35 – 273. Alginate-based amphiphilic graft copolymer prepared via living radical polymerization. V. Kapishon, R. Whitney, P. Champagne, R.J. Neufeld, **M. Cunningham***

Hawaii Convention Center
323A

Sustainable Conversion of Lignin to Value-Added Products and Green Chemicals (#319)

Organized by: X. Zhang, Q. Guo, W. Qin, T. Hu, K. Ramasamy
Presiding: Q. GUO, X. Zhang

8:00 – 274. Studying bacterial lignin degradation in soil actinomycetes. **M.C. Chang***
8:20 – 275. Delignification of rice straw by *Trametes hirsuta* and *Myrothecium roridum* and comparison of saccharification yields with dilute acid pretreatment. **D. Carrier***, A. Arora, K. Rajan
8:40 – 276. Biodegradable lignin composites from biorefinery plant. **l. liu**
9:00 – 277. Biocatalytic routes of lignin to high value chemicals. **M. Tu***
9:20 – 278. Biomimetic Fenton catalyzed lignin depolymerization to aromatics and low molecular chemicals. **z. tong***, j. zeng, C. Yoo, f. wang, x. pan, w. Vermerris
9:40 break
9:50 – 279. Hydrothermal decomposition of cunninghamia lanceolata enzymatic/mild acidolysis lignin at different temperature in subcritical water. **Y. Zhao**, X. Li, S. Wu*, Y. Li
10:10 – 280. Fungal demethylation of Kraft lignin for polymer applications. **L. Christopher**, B. Venkatesagowda, L. Malek, R. Dekker
10:30 – 281. Lignin modification by ionic liquid. **M. Nejad***, M. Arefmanesh, E. Master
10:50 – 282. Low temperature hydrothermal decomposition of a lignin dimer model compound. D. Liu, J. Sun, E. Nagel, C. yuhe, z. Gu, **C. Zhang***
11:10 – 283. Lignin conversion to value-added products. **M.A. Lilga***, S. Lee
11:35 – 284. Overview of the main features of the LignoForce System™, the lignin product and emerging high-value applications. **M. Paleologou***, L. Kouisni, K. Maki, B. Richardson, Y. Zhang, M. Feng, P. Fatehi

Hawaii Convention Center
326A

Polymers for Energy and Optoelectronic Devices (#361)

Organized by: K. Oyaizu, R. Advincula, D. Choi
Presiding: R. Advincula, K. Oyaizu

8:00 – 285. Graphene/Polymer based templated electronic materials. **R. Advincula***
8:20 – 286. Out-of-plane structural and optical properties of solvent-treated PEDOT/PSS films. **K. Itoh**, Y. Honma, N. Asano, T. Sasaki
8:35 – 287. Electrical conduction properties in oriented films of conductive polymer PEDOT/PSS. **Y. Honma***, N. Asano, Y. Kato, K. Itoh, M. Guziak, T. Nishizaki, H. Masunaga, A. Fujiwara, T. Sasaki
8:50 – 288. Nanocrystallization process in acid-treated PEDOT/PSS films investigated by wide-angle X-ray diffraction. **N. Asano**, Y. Honma, Y. Kato, K. Itoh, H. Masunaga, A. Fujiwara, T. Sasaki
9:05 – 289. Controlling porosity of solution-deposited inherently conducting polymers to maximize electrochemical performance. **J.A. Irvin***, T. Cantu, J.R. Garcia, J. Frazer, T. Morgan, S. Vong
9:20 – 290. Whispering gallery mode photoemission from π-conjugated polymer microspheres and efficient intersphere energy transfer. **S. Kushida***, D. Braam, T.D. Dao, S. Kosuke, H. Saito, S. Ishii, T. Nagao, J. Kuwabara, T. Kanbara, M. Kijima, A. Lorke, Y. Yamamoto
9:35 Break
9:45 – 291. Fine-controlled metal-assembling polymers for advanced nanomaterials. **K. Yamamoto**
10:15 – 292. Dynamic covalent synthesis of conjugated ladder polymers. **L. Fang**
10:30 – 293. Aza-Diels–Alder route to polyquinolines. **D.J. Dibble**, M.J. Umerani, A. Mazaheripour, Y.S. Park, J.W. Ziller, A.A. Gorodetsky
10:45 – 294. In-situ formation of conjugated polymers via vapor-phase polymerization for optoelectronic applications. **T. Suga***, H. Nishide
11:00 – 295. Polyether-based electrolyte blends with nano-ordered phase separated structure for novel antistatic materials. **Y. Kubota**, Y. TOMINAGA
11:15 – 296. Fully organic multilayer nanocoatings with thermoelectric power factor that rivals inorganic tellurides. **J. Grunlan***, C. Yu

Hawaii Convention Center
Halls I, II, III

Macromolecular General Posters
10:00 – 12:00

Polymer Synthesis
297. Synthesis of graft copolymers and dendronized polymers by Cu-catalyzed multicomponent polymerization. **H. Kim**, K. Bang, J. Lee, T. Choi*
298. Ethylene-propylene copolymerization initialized by V complexes. **H. Ren**, Y. Yi, C. Li
299. Synthesis of helically chiral liquid crystalline polyphosphazenes. **M.L. Koeberle***, C.M. Thiele
300. Lignin-*b*-PMMA micelles *via* reversible addition-fragmentation chain transfer polymerization. **M. Callari***, M. Stenzel, M. Hernandez-Guerrero
301. Novel radical initiation system consisted of haloalkane/amine for free radical polymerizations of methyl acrylate, methyl methacrylate and styrene. **H. Tang***, C. Xu
302. Toward the synthesis of functionalized, helically-chiral polyisonitriles as transition-metal- or organocatalysts. **S. Otto**, M. Reggelin
303. Synthesis and catalytic activity of palladium nanoparticles using phenylazomethine dendrimer as atom number controlling templates. **T. Kofuku**, H. Kitazawa, K. Albrecht, W. Chun, T. Imaoka, K. Yamamoto
304. Controlled synthesis of novel poly(vinyl ether)-grafted poly(phenylacetylene)s by a combination of living coordination polymerization and living cationic polymerization. **S. Kawamura**, J. MOTOYANAGI, M. MINODA
305. Novel molecular brush grafted polyphenylene vinylene (PPV) and poly-phenylene ethynylene (PPE). **M. Damavandi**

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306. Synthesis of a water-soluble polypeptide containing thioester bonds on its side chains and dynamic exchange reaction using the thioesters. **S. URAI**, T. Oyama

Applications of Polymers

307. Development of the phosphorus and nitrogen containing flame retardant for value added cotton product. **B. Condon**, S. Chang

308. Analysis of fouling behavior of PVA-based anion-exchange membranes in electrodialysis processes. **R. Hironaga***, M. Higa

309. Study of the ability of phase transfer catalyst of the styrene based polymer having a hexaalkyl guanidinium salt. **S. Tanaka**, N. Iwasaki

310. Preparation and membrane characterization of a temperature-responsive anion exchange membrane. **T. Mizuno***, M. Higa

311. Production of Pickering emulsions stabilized by associative magnetic nanoparticles for recoverable emulsion flooding. **S. Choi***, T. YANG, J. Kim

312. Liquid crystals alignment properties of photopolymer with different photosensitive group. J. Kang*, S. Yang, H. Song, **K. Choi**, **S. Lee**, **G. Shin***

Polymer Characterization

313. Thermal decomposition of plastics at low temperature and ocean contamination generated from debris plastics. K. Koizumi, K. Amamiya, A. Okabe, D.M. Karl, K. Takatama, M. Nishimura, **K. Saido**

314. Pulse radiolysis studies on the early reactions of polystyrene derivative resists. **C. Wang***, Y. Hosaka, Y. Ito, A. Oshima, T. Kondoh, M. Washio, S. Tagawa

315. Characterization of ion exchange membranes prepared from poly (vinyl alcohol) based block copolymers. **M. Annno***, T. Mizuno, M. Higa

316. Stable helical phase in chiral block copolymers with high degree of chirality. **H. Wang**, Z. Fu, J. Lee, M. Li, J. Tsai, R. Ho

317. Clarification of the structural dependency of the inner microenvironments of poly(N-isopropylacrylamide) gels using a fluorescent probe technique. **D. Ito**, H. Itagaki

Polymer Processing

318. Electrospun nanofibre scaffolds for tissue engineering. **E.W. Chan***

319. Ordering and alignmentinhighnolecular-weight block copolymer films by neutral solvent vapor annealing. S. Park*, Y. Kim, **D. Ryu**

320. Purification of starting material, intermediates, and final products by recycling prep HPLC. **K. Tseng***, I. Hideto, T. Karasawa

321. Reactive extrusion of polyethylene terephthalate. **A. Ozdemir**

322. Ultra-high thermoresistant, transparent bio-polyimides from 4-aminocinnamate photodimer. **j. singh***, T. Kaneko, S. TATEYAMA, P. SUVANNASARA

323. Innovative green technique for preparing of flame retardant cotton. **S. Chang***, B. Condon, J. Smith

324. Toughening of epoxy resin by using cleavage of the covalent bonds between matrix and modifier during curing reaction. **T. Kaga***, T. Oyama

325. Miscibility enhancement of poly(vinyl-chloride)/polystyrene blend: Application as membrane for separation of benzene/cyclohexane mixture by pervaporation. **D.M. Aldhayan**

326. Polymer films having hierarchically ordered surface structure by a combination of nanoimprinting and surface-initiated controlled polymerization 1: Concept and examples using polymers bearing dithiobenzoate or benzyl chloride residues. M. MINODA*, **T. Uemura**, T. Matsumoto, M. Sumida, J. MOTOYANAGI

327. Polymer films having hierarchically ordered surface structure by a combination of nanoimprinting and surface-initiated controlled polymerization 2: Films made of polymers bearing photolinkable moieties and their surface properties. **T. Nohara***, T. Uemura, J. MOTOYANAGI, M. MINODA

Hydrigels

328. X-ray diffraction study on structural change of polymer hydrogels during dehydration. **R. Naohara**, K. Narita, Y. Okanao, Y. Sekine, T. Ikeda-Fukazawa

329. Effects of side chain structure on dehydration process of polymer hydrogel. **Y. Tojima**, T. Ikeda-Fukazawa, Y. Sekine

330. Wholly π-conjugated organogels based on pyrene-containing oligo(*m*-phenylene ethynylene)s. Y. Chen, **H. Wang***, D. Zhang, Z. Li

331. Tough, thermoresponsive hydrogels. **J. Cubuk**, S. Rajaraman*, P. Cohn*, D. Shah, M. Jani

332. Water states in physically cross-linked nanogels. **J. Kodama**, Y. Sekine, K. Akiyoshi, T. Ikeda-Fukazawa

Polymers for Electronics and Photonics

333. Synthesis of red-fluorescent π-conjugated polymers via direct arylation and their π-stacked gel formation. **S. Hayashi**, T. Koizumi

334. Synthesis of π-conjugated polymers from cross-conjugated poly(2,3-diaryl[2]dendralene)s and their optical properties. **T. Koizumi***, A. Kameda, S. Hayashi

335. Facile method for making PEDOT/PSS conductive microparticle with magnetite (Fe_3O_4) using a microfluidic droplet devices. **S. Lee**, J. Yim, Y.S. Ko

336. Syndiotactic polystyrene films co-crystallized with organometallic complex and conductive polymer. **T. Sano***, T. Okabe, Y. Kuboyama, H. Itagaki

337. Synthesis and suspension rheology of hydrophobically modified associative nanoparticles. **T. YANG***, S. Choi, J. Kim

Polymers for Bio-applications

338. Water-soluble fluorescence-switching polymers for super-resolution bioimaging. **M. Zhu**

339. Cereal protein polymer properties on processing and cure within a totally bio-based adhesive system. **N. Hati***, W. Grigsby, J. Jin, N. Edmonds

340. Evaluation of the physical properties of funori adhesive to be used for cultural properties. **Y. Hara***, N. HAYAKAWA, T. HONDA

Wednesday Afternoon

Hawaii Convention Center
323B

Polymer Gels as Advanced Soft Materials (#83)

Organized by: R. Yoshida, T. Miyata, F. Winnik, J. Aizenberg
Presiding: J. Aizenberg, T. Miyata

13:00 – 341. Supramolecular gels in energy and medicine. **S. Stupp***

13:30 – 342. Macroscopic self-assemby through molecular recognition. **A. Harada***

14:00 – 343. Designs of target molecule-responsive gels with cyclodextrins and their smart properties. **T. Miyata***, A. Kawamura, T. Uragami

14:20 – 344. Biomolecule triggered shape transformations of hybrid hydrogels. **J. Athas***, C. Nguyen , B.C. Zarket, Z. Nie, S.R. Raghavan*

14:40 Break

14:50 – 345. Anisotropic hydrogels with magnetifally oriented 2D electrolytes. **T. Aida***

15:20 – 346. Modeling the entrainment of self-oscillating gels to an applied, periodically varying force. V. Yashin, S. Levitan, **A. Balazs***

15:50 – 347. Spatiotemporal control of self-oscillating gel by uniformly aligned inorganic nano sheets. **Y. KIM***, Y. Ishida, Y. Ebina, T. Sasaki, R. Yoshida, T. Aida

16:10 – 348. Self-oscillating vesicles: Spontaneous cyclic changes of supramolecular structures formed by synthetic diblock copolymers. **R. Tamate***, T. Ueki, M. Shibayama, R. Yoshida

16:30 – 349. Functional hydrogels with a pinch of vanilla. **D. Kuckling***, Z. Chen, M. Ali, M. Roth, W. Birnbaum, M. Tiemann

Hawaii Convention Center
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Controlled Macromolecular and Supramolecular Architectures for Sustainability (#112)

Organized by: M. Kamigaito, C. Hawker, G. Qiao, K. Wooley, E. Yashima
Presiding: A. Almutairi, G.G. Qiao

13:00 – 350. Precise polymers and polymeric hybrids by ATRP. **K. Matyjaszewski**

13:30 – 351. Design and characterization of (polymer/ natural inorganic nanotube) assemblies. **A. Takahara**

14:00 – 352. Controlled polymerization in the formation of nanoscale thin films. **G.G. Qiao***

14:30 – 353. Stimuli-responsive polymers for patterning hydrogels. **A. Nelson**

15:00 – 354. Light-degradable polymers: Amplification strategies, response to new wavelengths, and application to a clinical challenge. J. Olejniczak, C. Carling, A. Garcia, V. Nguyen Huu, J. Luo, K. Zhang, **A. Almutairi**

15:30 – 355. Sterically protected nucleic acids for supramolecular assembly and in vivo delivery. **K. Zhang**, X. Lu, X. Tan, F. Jia, E. Watts

16:00 – 356. Mechanically responsive surfaces and interfaces via surface-initiated controlled radical polymerization. **H. Klok**

16:15 – 357. High fidelity IR 1D photonic crystals via brush polymer self-assembly. **R.J. Macfarlane***, R.H. Grubbs

16:30 – 358. Star polymer coatings for biocompatible interfaces. **T. Ando***, M. Totani, K. Terada, M. Kobayashi, M. Tanihara

16:45 – 359. Hollow polymer microspheres for targeted, responsive delivery. **G.J. Price***, E.G. Cradduck, E.K. Skinner

Hawaii Convention Center
323C

Polymer Interfaces: Design, Structure, Physical Properties and Applications (#194)

Organized by: K. Tanaka, A. Crosby, S. Kim, K. Dalnoki-Veress
Presiding: M. Seo, K. Tanaka

13:00 – 360. Bicontinuous nanostructures via polymerization-induced microphase separation. **M. Seo***

13:30 – 361. Synthesis and characterization of cationic organoiron dendrimers. **C. Agatemor**, A.A. Abdelghani, B. Thabet, N. Etkin, R. Bissessur, A.S. Abd-El-Aziz

13:45 – 362. Repeatable adhesion system using proton-acceptable and donative polymer brushes. **M. Kobayashi***

14:00 – 363. Electrodeposition of metal oxides onto polymer surface. **M. Watanabe***, T. Shinagawa, S. Watase, T. Tamai, K. Matsukawa

14:15 – 364. Automatic vertical alignment of nematic liquid crystals by directly introducing giant surfactants. **K. JEONG***

14:30 – 365. Controlling nanocomposite hydrogel mechanics via bioinspired interfacial bond dynamics. **N. Holten-Andersen***

15:00 – 366. New aspects in tribological properties of concentrated polymer brushes with large thicknesses. **Y. Tsujii***, S. Hsu, D. Ishibashi, K. Ohno

15:30 – 367. Lubrication properties of ionic liquid polymer brushes combined with molecularly smooth sheets. **H. Arafune**, T. Kamijo, T. Morinaga, T. Sato*

15:45 – 368. Self-healing of a cross-linked polymer with dynamic covalent linkages at ambient temperature. **K. Imato**, A. Takahara*, H. Otsuka*

16:00 – 369. Enzymatic synthesis of reactive cellulose nanosheets and their functionalization through click chemistry. **Y. Yataka**, T. Sawada, T. Serizawa*

16:15 – 370. Control of interfacial structure and dynamics of vinyl polymers for bioapplications. **Y. Oda***

Hawaii Convention Center
325A

Functional Materials Based on Organic-inorganic Hybrid Polymers (#221)

Organized by: K. Naka, F. Jaekle, C. Ha, J. Ohshita
Presiding: C. Ha, F. Jaekle, K. Naka, J. Ohshita

13:00 – 371. Conversion of biowaste silica to alkoxysilanes without using silicon. **R.M. LAINE***, J.C. Furgal, V. Popova

13:20 – 372. Advanced research in the fully return-to-nature polymer. **S. Kim**

13:40 – 373. Facile preparation of ionic cyclosiloxanes using superacid catalysts. **Y. Kaneko***

14:00 – 374. Mixing metals and macromolecules: Hybrid cobalt-block copolymer materials. **R.B. Grubbs***

14:20 – 375. Hierarchical structure design of necklace shaped inorganic polymer networks alternately bearing a POSS cage and slioxane chains. **M. Kunitake**

14:40 – 376. Influences of anti-corrosive sol-gel precursors containing amino-quinone functional groups on the protection of the metal substrates against the corrosion. **M. Han***

15:00 – 377. Amphiphilic polyhedral silsesquioxanes (POSS) for self-assembly and ion conductive materials. **J. Matsui***, M. Takeda, K. Kuroiwa, T. Miyashita, M. Mitsuishi

15:20 Break

15:25 – 378. Silicon and tin containing block copolymers for high resolution lithographic applications. **C.G. Willson***, C.J. Ellison, M. Maher, G. Blachut, S. Sirard, Y. Asano, W. Durand, M. Carlson, K. Mori

15:45 – 379. Self-organized hybrid polymer films for hierarchical porous structures. **T. Hayakawa***, K. Okuhara, R. Maeda, Y. Kushima, K. Azuma, Y. Tanaka

16:00 – 380. Hybrids organic/inorganic materials in chromatographic separations. **B. Muriithi**, K. Wyndham, N. Lawrence, D. Walsh, P. Iraneta, B. Alden, T. Walter

16:15 – 381. Polysaccharide derivatives with near-infrared dyes for optical and photoacoustic tumor imaging. **K. Miki***, K. Ohe*

16:30 – 382. Supramolecular control of optical and magnetic properties in functional metal complexes with diblock copolypeptide amphiphiles. **K. Kuroiwa***

16:45 – 383. Polystyrene-silica nanocomposites with well-controlled nanostructures provided from perhydropolysilazane. **R. Saito***, H. Hashimoto, H. Nakaseko

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Polymers from Renewable Sources and Sustainable Polymer Synthesis (#281)

Organized by: M. Cunningham, M. Sawamoto, P. Chamapgne, J. Rawlins
Presiding: M. Cunningham, J. Rawlins

13:00 – 384. Development of smart polymer applications for innovative separation of natural homologues. **S. Zhu***, W. Wang
13:30 – 385. Living copolymerization of isobutylene and alloocimene for block copolymer synthesis. **J.E. Puskas**, A.L. Gergely
14:00 – 386. Radical ring-opening polymerization of cyclic ketene acetal revisited: An experimental and theoretical study. A. Tardy, C. Lefay, D. Gigmes, **Y. Guillaneuf***
14:20 – 387. Precision polymerization of renewable vinyl monomers for sustainable polymers. **M. Kamigaito***, K. Satoh
14:50 – 388. Design of catalysts for sustainable and precision syntheses of functional polymers. **M. Ouchi***
15:20 – 389. ATRP catalyst separation and recycling. X. Jiang, M. Ding, L. Zhang, **Z. Cheng***, X. Zhu
15:50 – 390. Passerini multicomponent polymerization as a green polymerization method for new polymer synthesis. **Z. Li**
16:20 – 391. Green route to biobased polyesters: Solvent-free thin film reactions for enzymatic polycondensations. **A. Pellis**, L. Corici, V. Ferrario, E. Herrero Acero, C. Ebert, G.M. Guebitz, L. Gardossi*
16:40 – 392. Co_2**-t**riggered stimuli-responsive polymers for separations. Q. Zhang, P. Liu, G. Yu, Y. Lu, **W. Wang***, B. Li, S. Zhu

Hawaii Convention Center
323A

Sustainable Conversion of Lignin to Value-Added Products and Green Chemicals (#319)

Organized by: X. Zhang, Q. Guo, W. Qin, T. Hu, K. Ramasamy
Presiding: X. Zhang

13:00 – 393. Pretreatment, can we achieve effective biomass hydrolysis without removing lignin?. **J.N. Saddler***
13:25 – 394. Biobased epoxy nanocomposites and thermoplastics derived from lignin-based monomers. **M.M. Abu-Omar***, S. Zhao
13:45 – 395. Improving yield and deoxygenation of bio-oil produced by pyrolysis of mixtures of black liquor and selected additives. **A. van Heiningen***
14:05 – 396. Development of mechanoresponsive lignin hydrogels with self-healing properties. **D. Kai***, X. Loh
14:25 – 397. Thermally induced structural transformation of lignin during processing. **S. Renneckar***, M. Cho, W. Zhang, N. Sathitsuksanoh, B. Simmons, F. Ko
14:45 – 398. Study on the mechanism of synthesis of lignin-phenol-urea-formaldehyde co-condensed adhesive synthesized under alkaline condition. S. Yang*, T. Yuan*, **R. Sun***
15:05 break
15:15 – 399. Study on catalytic microwave pyrolysis lignin for production of aromatic hydrocarbon rich chemicals. **Q. Bu***
15:35 – 400. Characterization and optimization of alkaline wet oxidation of biorefinery lignin obtained from pretreated forest slash. **K. Srinivas**, F.d. Oliveira, P. Teller, A.R. Gonclaves, B.K. Ahring*
15:55 – 401. Risks associated with producing and using lignin from acidic pretreatment of non-woods. **R.C. Francis***
16:15 – 402. Performance enhancement of lignin-based thermosets and polymer blends. **J. Xin***, X. Guo, **J. Zhang**
16:35 – 403. Influence of lignin degradation methods on the biorefinery lignin structure analysis. **X. Zhang**, Y. Matsumoto

Hawaii Convention Center
326A

Polymers for Energy and Optoelectronic Devices (#361)

Organized by: K. Oyaizu, R. Advincula, D. Choi
Presiding: R. Advincula, K. Oyaizu

13:00 – 404. Polymer-based resistive nonvolatile memory devices. **T. LEE***
13:30 – 405. Phthalocyanine-cored star-shaped polymers for the application in organic memory devices. **J. Aimi***, C. Lo, W. Chen
13:45 – 406. Polyfullerene electrodes for high power supercapacitors. **T.B. Schon**, P.M. DiCarmine, D.S. Seferos*
14:00 – 407. TiO_2/polyaniline core/shell nanocomposite for high performance supercapacitor electrode. B. Patil, K. Jang, D. Kim, **H. Ahn***
14:15 – 408. Synthesis and reversible negative charge storage capability of anthraquinone substituted poly(norbornene). **T. Kawai***, K. Oyaizu, H. Nishide
14:30 – 409. Biohydrogen production from sugary waste water for clean energy. **E. Dewi***, Z. Dwi Hastuti, C. Yeon Chu, U. Priyanto
14:45 Break
14:55 – 410. Poly(ethylene carbonate)-based composite electrolytes for all-solid-state lithium polymer batteries. **K. Kimura**, Y. TOMINAGA*
15:10 – 411. Superionic conductivity and high temperature stability of photopolymerized solid polymer electrolyte networks. **T. Kyu***
15:25 – 412. Rocking chair-type charge-discharge property of redox copolymers and polymer composites containing TEMPO and charge-neutralizing anion. **H. Tokue***, T. Murata, K. Oyaizu, H. Nishide
15:40 – 413. Redox-active polyimide-polyether block copolymers as electrode materials for lithium batteries. **G. Hernández**, N. Casado, R. Coste, D. Shanmukaraj, L. Rubatat, M. Armand*, D. Mecerreyes*
15:55 – 414. Polymers with enhanced redox mediation capability for high performance energy storage devices. **K. Oyaizu***, H. Nishide
16:10 Closing Remarks

Wednesday Evening

Hawaii Convention Center
324

NMR Spectroscopy of Polymers and Biobased Materials (#12)

Organized by: H. Cheng, A. English, H. Kaji, S. Kawahara, A. Whittaker, J. White, L. Madsen, K. Saalwachter, Y. Yao, J. Battiste
Presiding: H.N. Cheng

19:00 Introductory Remarks
19:03 – 415. Polymeric MRI agents for disease detection: Advances and challenges. C. Zhang, K. Wang, H. Peng, s. puttick, K. Thurecht, S. Rose, **A. Whittaker***
19:42 – 416. Using NMR diffusometry and microimaging to probe soft materials from molecular to millimeter scales. **L.A. Madsen***
20:21 – 417. Solid state NMR of polymers: Ready to retire or forever young?. **H.W. Spiess***

Hawaii Convention Center
Halls I, II, III

Synthetic Biopolymers (#37)

Organized by: T. Deming, Z. Li, T. Kaneko

Poster Session
19:00 – 21:00

418. Re-examination of amino acid NCA polymerization 66: Preparation of monodispersed high molecular weight polypeptides by the polymerization of amino acid N-carboxy anhydride initiated by tertiary amine. H. Kanazawa, **Y. Kanazawa**, A. Inada
419. Synthesis of amylose-analogous heteropolysaccharides by phosphorylase-catalyzed enzymatic copolymerization. **R. Baba**, Y. Takata, K. Yamamoto, J. Kadokawa*
420. Photoswelling of poly(cinnamoyl ester)s with a zig-zag backbone. **S. Rawat***, T. Kaneko, K. Okeyoshi, S. TATEYAMA, k. yasaki
421. Accelerating the degradation and clearance of β-amyloid fibrils by a decapeptide inhibitor peptide. Q. Zhang, J. Liu, X. Hu, **W. Wang***, **Z. Yuan***
422. Synthesis of poly(ω-methoxyalkyl acrylate)s and their blood compatibility evaluation. **M. Wakui**, S. Kobayashi, R. Satou, M. Tanaka*
423. Enzymatic synthesis of amphoteric polysaccharide materials. **Y. Takata**, K. Yamamoto, J. Kadokawa*
424. Effective saccharification of cellulosic biomass and ethanol fermentation. **A. Gulibusitan***, X. Liang, T. Uryu, T. Yoshida
425. Reactive gels and dispersions made with water-based extracts from canola meal. **A. Parker***, J. Marcinko, D. Parker
426. Synthesis of glycodendrimers with different branched numbers for DDS purpose. **S. Han***
427. Enhancement of proton transport in an oriented polypeptide thin film. **S. Laokroekkiat**, Y. Nagao*, J. Matsui, T. Abe, H. Hiramatsu, H. Yamamoto, T. Miyashita
428. Cysteine derived cross-linker for anionic UV curing of epoxy resins. **M. Furutani**, S. Sato, K. Arimitsu*

Hawaii Convention Center
323B

Polymer Gels as Advanced Soft Materials (#83)

Organized by: R. Yoshida, T. Miyata, F. Winnik, J. Aizenberg
Presiding: T. Miyata, R. Yoshida

19:00 – 429. Biomimetic growth of a pathologic biomineral in hydrogels. G. Mallam, **M. Tsianou***
19:20 – 430. Highly sensitive signaling molecularly imprinted nanocavity for biomarker proteins prepared via post-imprinting in-cavity functionalization. **R. Horikawa**, H. Sunayama, Y. Kitayama, T. Takeuchi*
19:40 – 431. Temperature-assisted assembly of monodisperse, covalently cross-linked, and degradable poly(N-isopropylacrylamide) microgels based on oligomeric precursors. D. Sivakumaran, E. Mueller, **T. Hoare***
20:00 – 432. Phase-separated thiol-epoxy-acrylate hybrid networks with controlled crosslink density synthesized by simultaneous thiol-acrylate and thiol-epoxy click reactions. **K. Jin**, N. Wilmot, W.H. Heath, J. Torkelson*
20:20 – 433. Validity of scaling laws for physical hydrogels. **L. Li***
20:40 – 434. Material design of gel actuator using problem solving techniques by nature. **T. Yamauchi***, T. Nishiyama, T. Hirano, S. Tamesue, T. Mitsumata, K. Hashimoto, N. Tsubokawa, H. Kobayashi

Hawaii Convention Center
Halls I, II, III

Characterization of Polymers and Polymer Assemblies in Solution (#172)

Organized by: T. Sato, T. Yoshizaki, T. Chang, J. Mays, C. Wu

Poster Session
19:00 – 21:00

435. Dimensional properties of cyclic amylose tris(3,5-dimethylphenylcarbamate) in solution. **A. Ryoki**, H. Ichikawa, S. Kitamura, K. Terao*
436. Dimensional properties of linear and cyclic amylose tris(*n*-octadecylcarbamate) in solution. **A. Ryoki**, S. Kitamura, K. Terao*
437. Conformation and dynamics of polysaccharides and their derivatives in solution. **X. Jiang**, K. Terao, T. INOUE
438. Chain dimensions and intermolecular interactions of polysilanes bearing alkyl side groups over the thermochromism temperature. **X. Jiang**, K. Terao, W. CHUNG, M. NAITO
439. Molecular simulations of helix formation induced by hydrogen-bonding chiral molecules. **K. Horie***, T. Koga
440. Separation of star-shaped polymers with regard to number of arms. **M.I. Malik***, M. Irfan, J. Park, T. Chang
441. Characterization of the chemical composition heterogeneity in poly(styrene-*co*-butyl acrylate) by RAFT copolymerization. **T. Kawai**, Y. Itoh, K. Sudo, R. Sato
442. HPLC retention behavior of topologically different polymers. **J. Ahn***, Y. Jeong, T. Chang
443. Hysteresis in the phase change of the aqueous solution of the stereo-controlled PNiPAm. **K. Hamamura***, Y. Katsumoto
444. Effect of solvation for the Ludwig-Soret effect of poly(N-isopropylacrylamide) studied in various solvents. **R. Kita***
445. pH-induced reversible control of intramolecular cross-linking of poly(phenylboronic acid). **M. Um**, H. Lee*
446. Facile one-pot preparation of 2D structure based on polymer self-assembly. **S. Shin**, K. Bang, T. Choi*
447. pH-Responsive formation of micelle and vesicle by diblock copolymer in water. **R. Enomoto***, M. Khimani, P. Bahadur, S. Yusa
448. Studies on the formation of polymersomes consisting of photocleavable amphiphilic diblock copolymer and the release of an encapsulated substance. **S. Yamamoto**, J. Nakanishi, S. Nakahama, K. Yamaguchi*
449. Study on relation between spatial distribution and release properties of model drug compounds incorporated in polymeric micelles. **R. Nakanishi**, I. Akiba*, R. Shigeoka
450. pH-responsive polyion complex vesicle. Y. Tsuda, K. Nakai, **S. Yusa**, K. Ishihara
451. Size control of polyion complex vesicles covered with phosphobetaine and their uptake of guest molecules. **K. Nakai**, S. Yusa, K. Ishihara
452. Formation of core-shell type micelles composed of polyion complex of cationic block copolymer and anionic polymer. **R. Shigeoka**, I. Akiba*, R. Nakanishi
453. Polyion complex (PIC) micelle composed of pH-responsive anionic unimer micelle and cationic diblock copolymer. **S. Ohno***, S. Yusa, K. Ishihara
454. Self-assembly of binary block copolymer complex driven by intermolecular hydrogen bonding. **S. Nakashima**, I. Akiba*

*** Principle Author**

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455. Adsorption and aggregation properties of homogeneous polyoxypropylene-polyoxyethylene type nonionic surfactants without molecular weight distribution. **S. Yada***, T. Yoshimura

456. Intra- and intermolecular interactions and self-assembly of an amphiphilic alternating copolymer in aqueous solution: complexation with cyclodextrin. **R. Takahashi**, T. Sato, K. Terao, A. Hashidzume

457. Adsorption and aggregation properties of hydrocarbon-fluorocarbon hybrid-type gemini surfactants with carboxylates or quaternary ammonium salts. **T. Yoshimura***, A. Morishima, A. Okuda

458. Supramolecular organogel from amphiphilic cyclic peptide self-assembly in organic solvent. **S. Kanazawa**, I. Akiba*, R. Nakanishi

Hawaii Convention Center
Halls I, II, III

Polymers from Renewable Sources and Sustainable Polymer Synthesis (#281)

Organized by: M. Cunningham, M. Sawamoto, P. Chamapgne, J. Rawlins
Presiding: M. Cunningham

Poster Session
19:00 – 21:00

459. Sustainable monomers and thermoplastic polymers derived from plant oils via amidation. **L. Yuan**, Z. Wang, N. Trenor, C. Tang*

460. Evaluation of dyeing property using regenerated wool fiber. **R. Yasukawa***, S. Asano, K. Sawada

461. Hydrogels based on *Agave tequilana* xylans for wound healing. A. Gonzalez, A. Escalante, E. Delgado, J. González, P. Gatenholm, **G. Toriz***

462. Hemicelluloses-*click*-chitosan polymer stabilized palladium (0) as an active catalyst for Suzuki reactions. C. Wu, **M. Song**, **X. Peng***, L. Zhong, R. Sun

463. Preparation and characterization of polyurethanes derived from biomass based furan-diols. **S. Shin***, H. Ngo

464. Aliphatic polycarbonates based on carbon dioxide, furfuryl glycidyl ether, and glycidyl methyl ether: Reversible functionalization and crosslinking. **M. Scharfenberg**, H. Frey

465. Novel surface wrinkling system with natural resources: Morphology control. **N. Okuda**, S. Ifuku, M. Morimoto, H. Saimoto, H. Izawa*

466. Biosynthesis of Poly(3-hydroxyalkanoate) from amino acids in medium with nitrogen, phosphate, and magnesium, or some combination of these nutrients. **T. NAKAOKI***, M. Sakamoto

467. Novel soft materials derived from green-tide-forming chlorophyta. **K. Kanno**, S. Takahashi, S. Kato, Y. Umeno

468. Preparation of high-molecular-weight aliphatic polycarbonates by condensation polymerization of diol and dimethyl carbonate and Its various applications. **J. Jeon***, B. Lee*

469. Differences in chemical composition and anatomical structure between juvenile wood and mature wood of cultivated *Larix decidua* Mill. from fast growing tree plantations. **A. Jankowska**, P. Boruszewski, A. Kurowska, R. Auriga

470. Copolymerization of epoxides with CO_2 catalyzed by multinuclear cobalt complexes. **Y. Hiranoi**, K. Nakano*

471. Chemical composition of *Populus Hybrida 275* and *Larix decidua* Mill. wood from fast-growing trees plantations as a new type of raw material for wood-based panels industry. **P.J. Boruszewski***, A. Jankowska, R. Auriga, M. Maminski, A. Kurowska, R. Toczylowska-Maminska

472. Polymeric sulfur cathodes based on renewable feedstocks. **A. Melker**, C.J. Hawker

473. Novel surface wrinkling system with natural resources: Mechanism. **H. Izawa***, N. Okuda, S. Ifuku, M. Morimoto, H. Saimoto

474. Ring opening synthesis of polyethylene furanoate (PEF) as a renewable resource based substitute for polyethylene terephthalate (PET). **P. Fleckenstein***, J. Rosenboom*, G. Storti, M. Morbidelli

475. Environment-dependent single-chain mechanics of biomacromolecules and its implications to prebiotic chemical evolution. **S. Cui***

476. Aromatic end-group functionalization as a method to improve mechanical properties of poly(lactic acid). **L. Chile**, A. Wong, P. Mehrkhodavandi*, S.G. Hatzikiriakos*

477. Cyclic carbonate as building block for sustainable synthesis of non-isocyanate polyurethane elastomers. **G. Beniah**, B.E. Uno, N. Wilmot, W.H. Heath, K. Scheidt, J. Torkelson

478. Tailored adhesion of cellulose substrates by surface modification with block copolymers. **J.L. Engström**, F. Hatton, F. D'Agosto, M. Lansalot, E. Malmstrom, A. Carlmark

479. Novel preparation of hybrid thiol-acrylate/thiol-epoxy materials synthesized using a single base-catalyzed cure. **E. Dhulst**, J. Torkelson, W.H. Heath, N. Wilmot

480. Chemical modification on biopolymers for improved functionality in biobased materials. **M.E. Borjesson***

481. Activating polymer production with spinach leaves. **S. Shanmugam***, **J. Xu**, **C. Boyer**

482. Preparation of cationic polymerizable imdazolium ionic liquid-acrylamide copolymer and its corrosion inhibition. **Z. Liu***

483. PPC/PPO selectivity dependency on oxidation state of Co/salcy complex. **M. Hatazawa**, K. Nozaki

484. Enhanced microwave synthesis of nanostructured polyaniline materials. **M. Gizdavic-Nikolaidis***, M. Jevremovic, T. Merian, N. Redon, J. Wojkiewicz, D. Stanisavljev, G. Bowmaker, Z. Zujovic

485. Living polymerization of renewable methylene butyrolactone monomers using oxidatively activated group transfer polymerization initiators. **Y. Zhang***, E. Chen*

486. Natural polymers reinforced with cellulose nanocrystal to protect the antimicrobial properties of active packaging and beads. **m. lacroix***

487. Crystalline and functional CO_2-based polycarbonates. Y. Liu, W. Ren, **X. Lu***

488. Thermal degradation and stability of starch under different processing conditions. **X. Liu**, S. Zhou

Hawaii Convention Center
Halls I, II, III

Sustainable Conversion of Lignin to Value-Added Products and Green Chemicals (#319)

Organized by: X. Zhang, Q. Guo, W. Qin, T. Hu, K. Ramasamy
Presiding: X. Zhang

Poster Session
19:00 – 21:00

489. Synthesize and characterization of 2-pyrone-4,6-dicarboxylic acid derivatives and their charge-transfer complexes. **K. Hiruko***, Y. Kuwana, R. Takahashi, K. Inoue, Y. Otsuka, M. Nakamura, H. Ogata

490. Structure and electronic properties of the charge transfer complexes based on 2-pyrone-4,6-dicarboxylic acid and similar molecules. **R. Takahashi***, Y. Kuwana, K. Hiruko, G.F. Gagabe, Y. Otsuka, M. Nakamura, H. Ogata

491. Structures and physical properties of charge-transfer complexes using a metabolicintermediate of lignin, 2-pyrone-4,6-dicarboxylic acid. **Y. Kuwana***, R. Takahashi, K. Hiruko, Y. Otsuka, M. Nakamura, H. Ogata, G.F. Gagabe

492. Lignin model compound bioconversion by versatile peroxidase from *B.adusta*: Mathematical modeling and process control. N. Busse, M. Kraume, **P. Czermak**

493. Influence of lignin on the enzymatic hydrolysis of pretreated biomass substrates. **S. Nakagame***, J.N. Saddler

494. Ti and Au/Ti doped mesoporous materials for the oxidative degradation of lignin. **V. Dufaud***, A. Nunes, L. Djakovitch, D. Da Silva Perez

495. Elucidation of structural features on lignin sub-fractions obtained from sequential solvent fractionation. **S. Park***, J. Kim, H. Hwang, J. Moon, J. Lee, J. Choi

496. Copper on electrospray ligin nanosphere: A catalytic system for azide-alkyne cycloaddition reaction under solvent free condition. Z. Zhou, J. Ma, **X. Peng***, L. Zhong, R. Sun*

497. Comparative study on topochemistry of hydrothermal delignification from Japanese cedar and Japanese beech. **M. Takada***, E. Minami, H. Kawamoto, S. Saka

Hawaii Convention Center
Halls I, II, III

Polymers for Energy and Optoelectronic Devices (#361)

Organized by: K. Oyaizu, R. Advincula, D. Choi

Poster Session
19:00 – 21:00

498. Liquid crystal photo-alignment characteristics of polyimide with charge transfer complexes. **S. Sato***

499. Transformation process and mechanism between the α-conformation and β-conformation of conjugated polymer Poly(9,9-dioctylfluorene) in precursor solution. **D. LU**

500. Electrochemical and mechanical properties of polycarbonate/silica nanofiber composite electrolytes. **Z. LI**, H. MATSUMOTO, Y. TOMINAGA

501. Diindeno[1,2-*g*:1',2'-*s*]rubicene: All-carbon nonfullerene electron acceptor for efficient bulk-heterojunction polymer solar cells with high open-circuit voltage. **C. Chen***, H. Chen, C. Chen

502. Anisotropic field-effect mobilities of liquid crystalline conjugated polymers on photoaligned insulators. **J. Bae***, S. Han, K. Song

503. Electrochemical characterization of polycarbonate-based electrolytes for all-solid-state Li batteries. **M. Yajima**, Y. TOMINAGA*

504. New water-soluble and crosslinkable binder based on chitosan for Si anode of Li-Ion batteries. **M. Cho**, Y. Lee*, C. Chen

505. Broad absorbing and low band gap random copolymers for field effect transistor and polymer solar cell applications. V. Tamilavan , **M. Hyun***

506. Screening for improved bulk heterojunction morphologies of organic semiconductor materials through large-scale Hildebrand solubility parameter calculations. **S.R. Kimura**, D. Yoshidome, H.S. Kwak, M.D. Halls

507. Benzo[1,2-b:4,5-b']dithiophene-functionalized hydrogen-bonding oligothiophene: Self-assembly and photovoltaic properties. **X. Lin**, S. Yagai, T. Kizaki, K. Nakayama

508. Theoretical study of morphology and performance of organic photovoltaics. **E. Kawashima***, M. Fujii, K. Yamashita

509. Electrochemical hydrogenation of poly(4-vinylacetophenone) and its application to a hydrogen storage material. **Y. Shimazaki**, R. Kato, K. Oyaizu, H. Nishide*

510. Synthesis and properties of folded π-stacking polymers and their utilization to organic photovoltaic cell. **Y. Naito**, C. Matsuno, S. Funyu, S. Okamoto*

511. Optoelectronic properties of polymer composites doped by fullerene derivatives with electron-donating/accepting functionalization. **F. Kim***, H. Song, K. Park, J. Choi, N. Kim

512. Effects of impurity in amorphous conjugated polymer on performance of organic photovoltaics. **J. Kuwabara**, N. Takase, T. Yasuda, T. Kanbara

513. High performance ambipolar field-effect transistor based on diketopyrrolopyrrole and benzodithiophene copolymer with cyanovinylene linkage. **J. Park**, S. Park, S. Park*

514. Synthesis and characterizations of polyamides and polyimides containing indolo[3,2-*b*]carbazole moiety in main-chain or side-chain. **R. Ueno**, T. Yoshii, T. Mimura, Y. Nagase*, M. Kawamoto

515. Flexible organic photovoltaics on polyethylene terephthalate substrate prepared by low-temperature process. **T. Kuwabara***, W. Xiaofan, T. Yamaguchi, T. Taima, K. Takahashi

516. Synthesis and properties of bisphenol B novolac resin as a photo-resist material. **T. Nishimura**, H. Yamasaki*

517. New electrochromic polymers based on Tröger's base. **W. Li**, T. Michinobu

518. Helix-sense-selective polymerization of 3,5-bis(hydroxymethyl)phenylacetylene bearing rigid and branched aryl groups and their chiroptical properties. **Z. Shi**, M. Teraguchi, T. Aoki, T. Kaneko

519. Simplified electrochemical polymerization to fabricate a PEDOT hole injection/transport layer. **T. Matsushima***, S. Katori, K. Hiroki

520. Synthesis and characterization of poly(arylenevinylenes) by ring-opening metathesis polymerization. C. Yu*, S. Wen, **C. Wang**

521. Electrocatalytic hydrogenation of pyridine polymers and their application to a hydrogen storage material. **T. Ooya**, R. Kato, K. Oyaizu, H. Nishide*

522. Nitrogen atom substitution in benzothiadiazole of conjugated polymer for high performance polymer solar cells. **E. Jung**, J. Jung, j. jo, W. Jo

523. Conjugated random copolymers consisting of pyridine- and thiophene-capped diketopyrrolopyrrole as co-electron accepting unit for efficient polymer solar cells. **J. Lee**, W. Jo

524. Photovoltaic behavior of inverted polymer solar cells using indium tin oxide electrodes modified by piperazine derivatives. **T. Kusumi**, K. Fujimori, T. Kuwabara, T. Yamaguchi, T. Taima, K. Takahashi*

525. Synthesis and characterizations of pendant type poly(acryl amide) containing indolo[3,2-*b*]carbazole moiety. **T. Mimura**, M. Kawamoto, Y. Nagase*

526. Spectroscopic ellipsometry and FTIR-ATR study on removal stage of solvent in spin-coated PEDOT:PSS on crystalline-Si. H. Shirai*, **S. Funada**, Q. Liu, R. Ishikawa, K. Ueno

527. Chemical mist deposition of organic and inorganic films on textured c-Si for efficient crystalline-Si/organic heterojunction solar cells. H. Shirai, **T. Ohki**, K. Ichikawa, H. Jaker, R. Ishikawa, K. Ueno

528. Insight into the energy loss in organic solar cells based on benzotrithiophene copolymers. **E. Al-Naamani**, M. Ide, A. Gopal, A. Saeki*, I. Osaka, S. Seki

529. Carbazole-assisted electrodeposition of graphene oxide. **P. Advincula***, J. Mangadlao, R. Advincula*

530. Spectroscopic studies of curing and alignment mechanisms of photoreactive mesogen molecules. K. Song*, **J. Jung**

531. Molecular engineering of benzothienoisoindigo copolymers allowing highly preferential face-on orientations. **M. Ide***

*** Principle Author**

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532. Low bandgap polymer nanofiber-based organic photovoltaic devices processed in ambient air. **T. Kim**, S. Yang, **C. Park**
533. Syntheses of benzene type step-π-conjugated polymer and study on photoinduced electron transfer. **H. Guo***, H. Aota
534. Development of new hole-transporting polypeptide materials and their charge-transport properties. **S. Itazawa**, K. Karino, M. Ichikawa, T. Uchida, T. Hiejima*
535. Syntheses of benzene type step-π-conjugated polymer and study on photoinduced energy transfer. **Y. Ishikawa***, H. Aota
536. Step-π-conjugated polymer as macromolecular wire. **H. Aota***
537. On the anomalous temperature dependence of intrinsic birefringence for polymers. **Y. Okada**, O. Urakawa, T. INOUE*
538. Synthesis and electrochemical properties of radical polymer containing anionic group for a high energy density organic secondary battery. **T. Murata**, H. Tokue, K. Oyaizu, H. Nishide*
539. Charge-discharge performance of TEMPO-containing polymer particles under flow conditions. **R. Watanabe**, R. Sakazaki, H. Tokue, K. Oyaizu, H. Nishide
540. Development of protic ionic liquid-based polymer electrolytes with toughness for polymer electrolyte fuel cells. **S. Honma**, T. Morinaga, R. Shomura, T. Sato, T. Mori, K. Ohno, Y. Tsujii
541. Simultaneous enhancement of upconversion and downshifting luminescence via plasmonic structure. **J. Park**, D. Ko
542. Solid state NMR studies on the aggregated structures and properties of polymer:fullerene bulk heterojunction films with solvent additives. **S. Kawano**, H. Ogata
543. Fiber-based flexible electrode for electrochemical supercapacitor with high capacitance. **J. Lee***

Thursday Morning

Hawaii Convention Center
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NMR Spectroscopy of Polymers and Biobased Materials (#12)

Organized by: H. Cheng, A. English, H. Kaji, S. Kawahara, A. Whittaker, J. White, L. Madsen, K. Saalwachter, Y. Yao, J. Battiste
Presiding: A. English, J.L. White

8:00 – 544. NMR measurement of relative chain orientations over >10 nm and of chain end location in polyethylenes: Structural models without excess density. **K. Schmidt-Rohr**, K.J. Fritzsching, K. Mao, A.W. Bosse
8:25 – 545. Solid state NMR guides the design of tailored physical properties in gradient copolymers. **J.L. White**, J. Sigle, A. Clough
8:50 – 546. Interchain proximity of polystyrene explored by solid-state NMR. **X. Wang***, P. Sun, Q. Xue
9:15 – 547. Solid-state ^{33}S NMR of polymers. **K. Yamada***
9:40 Break
9:55 – 548. Organic light-emitting diodes and organic solar cells: NMR analysis toward higher performance. **H. Kaji***, T. Fukushima, K. Suzuki, K. Shizu
10:20 – 549. Direct measurements of donor/acceptor interfaces in organic photovoltaics via heteronuclear recoupling experiments. **R. Nieuwendaal**, D. Delongchamp, A. Sieval, J. Hummelen, M. Heeney, Z. Fei
10:45 – 550. Accessing molecular motion features in polymers using dipolar filtered time domain NMR signals at low field. U.B. da Silva, M.F. Cobo, m.N. DEurídice, **E.R. deAzevedo***
11:10 – 551. Relayed dynamic nuclear polarization to probe micro structures. A. Pinon, P. Berruyer, J. Schlagnitweit, A. Rossini, A. Lesage, **L. Emsley**

Hawaii Convention Center
325B

New Perspectives of Synthetic and Biological Soft Matter (#57)

Organized by: F. Horkay, J. Douglas, N. Choudhury, H. Jinnai
Presiding: J.F. Douglas, G. Wnek

8:00 Opening remarks
8:05 – 552. Fast and complete thixotropic recovery of molecular organogels. **R.G. Weiss**, V. Mallia
8:35 – 553. Soft functional materials from bile salts. S. Chatterjee, T. Gorai, M. Maity, **U. Maitra***
9:05 – 554. Biomimetic tough hydrogels for biomedical applications. **N. Roy Choudhury***, J. Whittaker, N.K. Dutta, C.M. Elvin, A.J. Hill
9:35 Break
9:50 – 555. Self-assembly and interactions in biopolymer systems. **F. Horkay***, P. Basser
10:20 – 556. Amphiphilic hyperbranched dendritic-linear polymers for drug-delivery applications. **E. Malmstrom***, C. Porsch, A. Nyström, Y. Zhang
10:50 – 557. Spatially controlled surface modification of coextruded PCL nanofibers as cell responsive biomaterials. **S. Kim**, J. Pokorski*
11:10 – 558. Two step microfluidic generation of aqueous alginate multicompartment capsules and their application in bacterial quorum sensing. A. Lu, **S.R. Raghavan**, J. Terrell, W. Bentley

Hawaii Convention Center
Halls I, II, III

Polymer Gels as Advanced Soft Materials (#83)

Organized by: R. Yoshida, T. Miyata, F. Winnik, J. Aizenberg

Poster Session
10:00 – 12:00

559. Stimuli responsive and self-healing supramolecular materials through host and guest interactions. **Y. Takashima**, A. Harada
560. Self-healing materials baced on polyrotaxane-boronate interactions. **S. Mori**, M. Nakahata, Y. Takashima, A. Harada*
561. Functional supramolecular polymeric materials based on redox-responsive host-guest interaction. **M. Nakahata**, Y. Takashima, A. Harada*
562. Macroscopic artificial muscle powered bythe microscopic sliding motion of [c2]daisy chain. **K. Iwaso***, Y. Takashima, A. Harada*
563. Supramolecular gelation of functional liquids and their dielectric properties. **R. YAMAMOTO**, Y. MINAMI, J.K. Hui, M. Morikawa, N. Kimizuka*
564. Rotaxane cross-linked polymers synthesized with macromolecular [2]rotaxane cross-linker. **J. Sawada***, D. Aoki, T. Takata
565. Effects of both amines and acid in supramolecular hydrogel formation of contained tetracarboxylic acids calix[4]arene gelator. **H. Choi***, J. Lee, J. Jung*
566. Pyridine-based supramolecular gel induced by hydrazone bond and Its properties. **Y. Choi**, J. Jung*, J. Lee, S. Jung
567. Supramolecular gels with high strength by tuning of calix[4]arene-derived networks. **J. Lee**, J. Jung*
568. Relationship between mesoscopic heterogeneity and re-gelation behavior of a supramolecular network. **Y. Matsumoto**, A. Shundo, K. Matsumoto, M. Ohno, N. Tsuruzoe, M. Goto, K. Tanaka*
569. Evaluation of fracture behavior for polymer gels with controlled network structure. **Y. Akagi***, T. Sakai
570. Design of hydrogels with controlled swelling properties by tuning the chemical structure of polymer backbones. **H. Kamata***, U. Chung, T. Sakai
571. Hydrogel with a reliable deformation region in an aqueous environment. **S. Kondo**, T. Hiroi, U. Chung, M. Shibayama, T. Sakai
572. Electrophoretic mobility of double stranded DNA in defect controlled polymer networks: Relation to correlation length and mesh size. **K. Khairulina**, X. Li, K. Nishi, M. Shibayama, U. Chung, T. Sakai
573. High-toughness ion gel with controlled polymer network. **K. Hashimoto***, K. Fujii, T. Sakai, M. Shibayama
574. Analysis of electrostatic interaction causing high sliding friction of polyzwitterionic hydrogel. J. Ahmed, **T. KUROKAWA**, H. Guo, T. Yamamoto, M. Takahata, T. Nakajima, J. Gong*
575. Novel double-network hydrogel directly bondable to the bone and its application to fixation of artificial cartilage and ligament. **T. Nonoyama**, S. Wada, R. Kiyama, N. Kitamura, M. Mredha, X. Zhang, T. KUROKAWA, T. Nakajima, Y. Takagi, K. Yasuda, J. Gong*
576. Controlling superstructure of rigid polyelectrolytes in oppositely charged hydrogels via programmed internal stress. **R. Takahashi***, Z. Wu, M. Ariffuzzaman, T. Nonoyama, T. Nakajima, T. KUROKAWA, J. Gong
577. Surface HAp mineralization: Novel hydrogel immobilization method on bone tissue. **R. Kiyama**, T. Nonoyama, S. Wada, N. Kitamura, T. KUROKAWA, T. Nakajima, K. Yasuda, J. Gong*
578. Stimuli-responsible gel consisted of rigid inorganic nanotube "imogolite". **K. Shikinaka***, K. Kaneda, T. Maki, H. Masunaga, Y. Osada, K. Shigehara
579. Synthesis and mechanical properties of joint-linker gels with reversible redox sol-gel transition. **K. Moriyama***, N. Naga, K. Takase, H. Furukawa
580. Extremely tough and elastic hydrogel using macro-crosslinkers. **S.K. Goswami***, J. McAdam, L. Hanton, S. Moratti
581. Shutdown of ionic conductivity for an ion gel functionalized by LCST thermosensitive polymer. **Y. Kobayashi***, Y. Kitazawa, H. Kokubo, M. Watanabe
582. Study of ionic liquid-polymer dielectric layer for high-performance flexible thin film transistors. **J. Ko**, K. Lim, C. Jo, N. Cho, J. Park, Y. Kim, Y. Kim*
583. Radiation-induced syntheses and applications of novel polymeric ionic liquid gels. **M. Zhai**, S. Wang, X. Zhang, J. Peng
584. Rational design of ionic-liquid-gel surfaces with easy-sliding and ultra-durable features. **H. Liu***, L. Jiang
585. Small-angle X-ray scattering studied on thermoresponsive microgels. **T. Kureha**, S. Matsui, T. Shibamoto, T. Watanabe, T. Sato, D. Suzuki*
586. Synthesis and structural evaluation of microgels integrated by of the star polymers in the submicron-sized water droplets. **T. Shibamoto**, T. Kureha, S. Matsui, T. Sakai, D. Suzuki*
587. Preparation and properties of moisture-absorbing film impregnated with sodium polyacrylate and polyurethane. **J. Lee**, D. Jeong, S. Ko, S. Park, S. Hwang, **S. Lee***
588. Preparation of glucose-responsive shape-memory hydrogels using molecular complexes as dynamic crosslinks. **M. Hayashi**, A. Kawamura, T. Miyata*
589. Synthesis of responsive hydrogels with protein recognition sites by molecular imprinting and their recognition behaviors. **Y. Masui**, A. Kawamura, T. Miyata*
590. Synthesis of dual stimuli-responsive polymers that undergo sol-gel phase transition by light and biomolecule. **K. Okuma**, A. Kawamura, T. Miyata*
591. Formation of dynamic biomolecular recognition sites in smart hydrogels by molecular imprinting and their recognition control. **Y. Kuriu**, A. Kawamura, T. Miyata*
592. Network structure and responsive behavior of temperature-responsive hydrogels synthesized by controlled radical polymerization. **C. Norioka**, A. Kawamura, T. Miyata
593. Preparation of prostaglandin-imprinted hydrogels with cyclodextrin and their responsive behavior. **Y. Tanaka**, A. Kawamura, T. Miyata*
594. Relationship between gel network and molecular recognition of stimuli-responsive hydrogels with cyclodextrins. **S. Yamafuji**, A. Kawamura, T. Miyata*
595. Modular and injectable poly(oligoethylene glycol methacrylate)-based hydrogels with tunable physiochemical and biological interactions. **E. Bakaic***, N.M. Smeets, T. Hoare
596. Metal ion-responsive biodegradable hydrogels made of PEG-DNA copolymers. **S. Tanaka**, K. Fukushima, K. Wakabayashi, A. Kuzuya*, Y. Ohya
597. New robust biodegradable platform for the engineering of macromolecules for consumer and biomedical applications. **H. Ye***
598. 3D perfusion culture through patterned photodegradable hydrogels. **F. Yanagawa***, M. Tamura, S. Sugiura, T. Takagi, K. Sumaru, T. Kanamori
599. Investigation of new cooling systems based on copolymers of temperature-responsive poly(N-isopropylacrylamide) with butyl acrylate and vinyl acetate. **H. Sasaki**, H. Honda, Y. Kita, K. Sekimoto, H. Tsukada, A. Tosaka, A. Sasaki, M. Kadokura
600. Thermoresponsive strong anionic copolymer brushes grafted silica beads for effective cation exchange chromatography. **K. Nagase***, J. Kobayashi, A. Kikuchi, Y. Akiyama, H. Kanazawa, T. Okano
601. Self-oscillating polymer brushes: Design of autonomous functional surfaces exhibiting spatio-temporal property changes. **T. Masuda***, K. Homma, A. Mizutani Akimoto , K. Nagase, T. Okano, R. Yoshida
602. Self-oscillating multiblock copolymers with dynamic viscoelastic oscillation. **M. Onoda***, T. Ueki, M. Shibayama, R. Yoshida
603. Biphasic electroactive hydrogel: Integrating microelectronics and biotechnology. **z. shi***, G. Yang
604. Controlled drug release of core (poly-N-isopropylacrylamide-β-cyclodextrine) shell (poly-N-isopropylacrylamide) gels. J. Gutiérrez, E. Delgado, **G. Toriz**, M. Rabelero
605. Nanogel tectonics materials: Preparation and characterization of nanogel-crosslinked hybrid film. **S. Mukai**, Y. Hashimoto, Y. Tahara, S. Sawada, K. Akiyoshi
606. Protein-mimic strategies to design hydrogel particles that reversibly captures target ions. **Y. Hoshino***, M. Yue, T. Miyoshi, Y. Miura
607. hPG@PVCL thermoresponsive nanogels for drug delivery. **J. Bergueiro***, S. Wedepohl, M. Calderon
608. Self-assembly of brush block copolymers to nanostructured materials. **A. Chang**, R.H. Grubbs
609. One-pot synthesis of poly(*N*-isopropylacrylamide) gels with nearly-ideal polymer network structure. **Y. Jochi***, Y. Takeoka, T. Seki, K. Satoh, M. Kamigaito

*** Principle Author**

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610. Effect of composition ratio on electrical conductivity of PEDOT/PSS nanogels. **T. Horii***, H. Hikawa, M. Katsunuma, Y. Li, H. Okuzaki
611. PEDOT/PSS/Polyglycerin composite for stretchable electrodes. **M. Sato**, R. Tanigawa, T. Kubota, H. Okuzaki
612. All-organic supercapacitors using PEDOT/PSS as flexible electrodes. **H. Takezawa***, M. Katsunuma, M. Sato, H. Okuzaki
613. Synthesis and characterization of PEDOT/PSS with conductivities higher than 1000 S/cm. **H. Amemiya**, T. Horii, H. Okuzaki
614. Stretchable and highly conductive polymer gels. **T. Kubota**, K. Iwashita, H. Okuzaki
615. Ammonium oxidation reaction catalyzed by bacteria entrapped within macroporous polymeric hydrogels using a suspension-gelation method. **R. Sato***, R. Noma, H. Tokuyama
616. Temperature-swing adsorption of metal ions onto thiol-functionalized thermosensitive gels. **M. Onodera***, H. Tokuyama
617. Esterification in organic media using lipase immobilized within amphiphilic NIPA-*co*-PEGMEA gels. **H. Tokuyama***, R. Sato, A. Sato
618. Preparation of anisotropic physical hydrogels of cyanobacterial polysaccharides. **M. Okajima**, R. Mishima, T. Kaneko*
619. Orientation mechanism of rigid polysaccharides on gas-liquid/solid-liquid interfaces and application to anisotropic materials. **K. Okeyoshi**, M. Okajima, T. Kaneko
620. 1D swelling of in-plane oriented hydrogels of supergiant LC polysaccharides. **K. Amornwachirabodee***, M. Okajima, T. Kaneko
621. Effect of side chain structure on helix-helix transition of polypeptide hybrid gels. **Y. Mizuno***, H. Furuya
622. Physical hydrogels based on multifunctional polyurethanes via ionic or acidic crosslinking. **M. Nguyen-Kim***, J.C. Licht, J.C. Borghs, A. Böker
623. SAXS and SANS study on phase-separated structure of amphiphilic gel composed of poly(dimetylsiloxane) and poly(*N*,*N*-dimethyl acrylamide) in solvated state. **K. Yamamoto***, Y. Mori, E. Ito
624. Time-resolved SANS study to determine the chain exchange kinetics of associative network micelles. **D.G. Abebe**, K. Liu, S. Mishra, A. Wu, T. Fujiwara*
625. Molecularly imprinted polymers prepared using posteriori cross-linking methodology of functional polymer species. **K. Yoshikawa***, Y. Kitayama, T. Takeuchi
626. Molecular simulation of structure and mechanical properties of gels formed by end-linking of tetra-arm polymers. **H. Tanaka***, H. Ozaki, T. Koga
627. Stimuli-responsiveness of hydrogels originated from the supramolecular interactions depending on polymer network structure. **S. Noguchi**, S. Tamesue*, Y. Kimura, T. Mitsumata, N. Tsubokawa, T. Yamauchi
628. Effect of solution composition on the thermoresponsive CO_2 adsorption/desorption properties of poly(N-isopropylacrylamide)-polyamine copolymer gel. **Y. Amano**, Y. Seida*, E. Furuya
629. Synthesis and property of noria-templated functioned gel. **T. Miyamae***
630. Photostimulated swelling behaviors of polypeptide gel containing azobenzene units. **T. Aso**, T. Okamura, T. Hiejima
631. Photostimulation induced expansion-contraction of uniaxailly oriented liquid crystalline polypeptide gel containing spiropyran units. **H. Imai**, A. Akai, T. Hiejima*

Hawaii Convention Center
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Controlled Macromolecular and Supramolecular Architectures for Sustainability (#112)

Organized by: M. Kamigaito, C. Hawker, G. Qiao, K. Wooley, E. Yashima

Poster Session
10:00 – 12:00

632. Acrylonitrile –conjugated diene copolymers by Ru-catalyzed living radical copolymerization. **F. Bando**, M. Ouchi, M. Sawamoto
633. Reversible addition-fragmentation chain transfer polymerization of hydroxy-functional vinyl ethers. **S. Sugihara***, **Y. Maeda**, Y. Kawamoto
634. Design of electrophoretic acrylic polymer synthesized via atom transfer radical polymerization. **T. Kameyama**, A. Takasu
635. Photo-induced switchable living cationic and radical polymerization. **R. Ishibashi**, K. Satoh, M. Kamigaito*
636. Polymerization mediated by RAFT agents bearing cyclodextrin moieties. **K. Koyanagi**, Y. Takashima, A. Harada
637. Highly recyclable imidazolium-functionalized β-cyclodextrin catalyst for the Heck coupling reaction in water. **S. Fortun**, A.R. Schmitzer*
638. Living cationic polymerization via degenerative chain transfer on C–S bond. **M. Uchiyama**, K. Satoh, M. Kamigaito*
639. Halogenation of growing anionic species in living anionic polymerization of hydrocarbon monomers for subsequent mechanistic transformation. **Y. Mori**, K. Satoh, M. Kamigaito*
640. Silylium-catalyzed living methacrylate polymerization via in situ hydrosilylation of monomer. **T. Xu**
641. Investigation of Ni-catalyzed catalyst-transfer Suzuki-Miyaura cross-coupling polymerization for the synthesis of polyphenylene. **K. Kosaka**, K. SUZUKI, H. OKAMOTO, Y. Ohta, T. Yokozawa
642. Palladium catalyzed chain-growth polycondensation of fluorene by direct lithium-halogen cross-coupling reactions. **Y. Qiu**, K. Noonan
643. Model reactions for catalyst-transfer condensation polymerization of symmetric donor-acceptor-donor and acceptor-donor-acceptor triaryl monomers. **Y. Tokita**, T. Yokozawa*, Y. Ohta, m. Katoh
644. Highly active and syndioselective zinc complexes for the ring-opening polymerization of β-Butyrolactone. **T. Ebrahimi**, S.G. Hatzikiriakos, P. Mehrkhodavandi*
645. Control of molecular weight and end-functional groups of polyesters by means of $A_2 + B_2$ polycondensation and cross metathesis. **R. Okabayashi**, Y. Ohta, T. Yokozawa*
646. Proton-transfer polymerization (HTP): Converting commercially available and biomass-derived dimethacrylates into polyesters by *N*-heterocyclic carbenes. **M. Hong**, E. Chen*
647. Enzymatic synthesis and characterization of cellulose-based composite hydrogels. **Y. Hata**, T. Sawada, T. Serizawa*
648. Dynamic hybridization mechanisms of glucans with water-soluble polythiophene. **G. Fukuhara**, M. Imai, D. Fuentealba, K. Tamano, M. Sasaki, C. Yang, T. Mori, U. Hiroshi, C. Bohne, Y. Inoue
649. Synthesis of polypeptides by means of chain-growth condensation polymerization of amino acid monomers bonded to polynorbornene copolymers. **A. Morimitsu**, Y. Ohta, T. Yokozawa
650. Proton conduction in a cephalopod structural protein. **D.D. Ordinario***, L. Phan, W.G. Walkup IV, J. Jocson, E. Karshalev, N. Husken, A.A. Gorodetsky
651. Synthesis and conformational analysis of a double-stranded helical foldamer. **T. Tsuda**, N. Ousaka, E. Yashima*
652. Synthesis of novel multistaranded copolymers by postpolymerization of template Poly(substituted phenylacetylenes). **K. Sono**, K. Matsui, Y. Zang, T. Aoki, M. Teraguchi, T. Kaneko
653. Synthesis and association behavior of a carboxylic acid tetramer connected through chiral amide and *o*-phenylene diethynylene linkers. **Y. Nakajima**, J. Tanabe, N. Ousaka, E. Yashima
654. Helix-sense-selective photodegradation of racemic helical Poly(substituted phenylacetylene)s by highly selective photocyclic aromatization (SCAT) using circularly polarized light (CPL). **M. Miyata**, M. Teraguchi, T. Kaneko, T. Aoki
655. Synthesis of helical poly(phenylacetylene)s bearing chiral and achiral imidazolidinone pendants and their application to asymmetric organocatalysis. **K. Shimomura**, T. Leandro, H. Iida, K. Hayashi, A. Dos Santos, E. Yashima*
656. In-chain ring polyacrylamides via molecular recognition-assisted living radical cyclopolymerization: Precision synthesis and novel properties. **Y. Kimura**, T. Terashima*, M. Sawamoto*
657. Synthesis and property of mechanically linked block copolymers derived from functional macromolecular [2]rotaxanes. **D. Aoki***, S. Uchida, T. Takata
658. Controlled assembly of π-conjugated molecules with multiple stimuli. **V.R. Kotagiri**, D. Miyajima, T. Aida*
659. Synthesis of main- and side-chain sequenced polymers via radical (Co)polymerization of maleimide-functionalized sequence-regulated oligomonomers. **T. Soejima**, K. Satoh*, M. Kamigaito*
660. Synthesis of a brush macromolecule composed of a poly(acrylate ester) main chain and carbon-dioxide-derived poly(propylene carbonate) side chains. **S. Honda**, H. Sugimoto
661. Synthesis and self-assembly of toothbrush-like block copolymers with water-soluble comb-block and thermoresponsive PNIPAM block. **H. Kubosawa**, D. Yao, R. Jin*
662. Crosslinked single-chain block copolymers via living radical polymerization: Connected microgel spheres. **M. Matsumoto**, T. Terashima*, M. Sawamoto*
663. Synthesis and microphase separation of well-defined hyperbranched polyamide-*b*-poly(methyl methacrylate). **K. Sakurai**, K. Hosoya, Y. Ohta, T. Yokozawa*
664. Imine-based microgel star polymers: Precision network π-conjugated nanospace. **Y. Azuma**, T. Terashima*, M. Sawamoto*
665. In situ nanoparticlization of fully conjugated block copolymers containing polythiophene. **I. LEE**
666. Synthesis and characterization of amphiphilic diblock copolymer using photodegradable heterobifunctional crosslinking reagent bearing alkyne protected by silyl group and maleimide. **S. Yamazaki**, S. Yamamoto, S. Nakahama, K. Yamaguchi
667. Renaissance of a forgotten polymer: Branched polybischloromethyloxetane. **E. Christ***, H. Frey
668. Novel synthetic method of polymer nitrile *N*-oxide and application to catalyst-free polymer linking. **T. Tsutsuba***, H. Sogawa, T. Takata
669. Structurally-dynamic hydrogels based on 1,2-dithiolanes. **X. Zhang***, R. Waymouth*
670. Synthesis of linear polyethyleneimine-*b*-hyperbranched polyamide and transcription of its self-assembled structures to silica by silification. **Y. Ohta**, K. Sakamoto, D. Inoue, M. Saito, R. Jin, T. Yokozawa*
671. Precise synthesis of organic/inorganic hybrid polyamide and characterization of its nano structure. **Y. Nagae***, T. Ohishi, M. Kido, M. Sato, K. Kojio, T. Hirai, A. Takahara
672. Synthesis of self-standing 2D polymer membranes (7): By ADMET 2D polymerization of supramolecular polymers of cyclic trimers of phenylacetylenes prepared by highly selective photocyclic aromatization. **S. Sato**, T. Aoki, M. Teraguchi, T. Kaneko
673. Preparation of functional properties in well-controlled stereoregular polymer brushes using living anionic polymerization method. **M. Sato***, Y. Higaki, N. Ohta, K. Kojio, T. Hirai, A. Takahara
674. Molar mass change of a modified polyamide and its effect on the melt flow behavior. Y.P. Seo, **Y. Seo***

Hawaii Convention Center
326A

Monomer Sequence Control: Using Nature's Strategy to Create 21st Century Polymers (#158)

Organized by: T. Meyer, M. Ouchi, H. Sleiman, Z. Li
Presiding: T.Y. Meyer

8:00 Welcoming Remarks
8:05 – 675. Controlling structure in functionalized polymers prepared using metathesis. **M. Hillmyer***
8:35 – 676. Synthesis of functional polymers using controlled polymerization. **R.H. Grubbs***
9:05 – 677. Preparation of sequenced copolymers using entropy-driven ring-opening polymerization. R.M. Weiss, A.L. Short, **T.Y. Meyer***
9:35 – 678. New precision structures of polyethylene. **K.B. Wagener***, A.S. Veige, H. Li
10:05 Break
10:15 – 679. Sequence-controlled polymers: About monomer-coded information, structure, and function. **J. Lutz***
10:45 – 680. General approach to sequence-controlled polymers through macrocylic ROMP. **W.R. Gutekunst***, C.J. Hawker
11:15 – 681. Tapered block copolymers: Controlling segment sequence to improve materials properties. **T. Epps***, W. Kuan

Hawaii Convention Center
323C

Polymer Interfaces: Design, Structure, Physical Properties and Applications (#194)

Organized by: K. Tanaka, A. Crosby, S. Kim, K. Dalnoki-Veress
Presiding: A.J. Crosby, H. Yabu

8:00 – 682. Controlling crystallization of, and with, conjugated polymers at interfaces. **R. Hayward**
8:30 – 683. New approach to dissolved air flotation: Bubble surface modification using tailored polymers. **A.M. Granville***, R.K. Henderson*, N. Hanumanth Rao, R. Yap
8:45 – 684. Distribution of glass transition temperature in polymer thin films by neutron reflectivity and low energy muon spin relaxation. **T. Kanaya**, H. Ogawa, R. Inoue, T. Prokscha
9:00 – 685. Structure and adhesion of crystalline polymer interfaces. **T. NISHINO***
9:30 – 686. Surface mediated self-assembly of biopolymers. **Z. Fakhraai***

*** Principle Author**

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10:00 – 687. On-demand liquid transportation using bioinspired omniphobic lubricated surfaces based on honeycomb and pincushion films prepared by self-organization. J. Kamei*, **H. Yabu**
10:15 – 688. Lamellar structure formation in poly(*N*-dodecylacrylamide) by humidity annealing. **J. Matsui***, Y. Hashimoto, T. Sato, S. Nagano, Y. Nagao, M. Mitsuishi
10:30 – 689. Phase behavior of diblock copolymers in spherical 3D confinement. **T. Higuchi***, M. Pinna, A.V. Zvelindovsky, H. Jinnai, H. Yabu
10:45 – 690. New design of block copolymers for sub-10 nm features and perpendicular orientation by thermal annealing. **T. Seshimo**, D. Kawana, K. Ohmori, T. Hayakawa
11:00 – 691. Probing molecular structures of buried polymer interfaces in situ. **Z. Chen***
11:15 – 692. Plastic deformation mechanisms in semicrystalline and nanostructured block copolymers. **J. Rottler**, S. Jabbari-Farouji, A. Parker, O. Lame, A. Makke, M. Perez, J. Barrat

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Functional Materials Based on Organic-inorganic Hybrid Polymers (#221)

Organized by: K. Naka, F. Jaekle, C. Ha, J. Ohshita
Presiding: F. Jaekle, K. Naka, J. Ohshita

Poster Session
10:00 – 12:00

693. Triple stimuli-responsive ferrocene-containing PEG-based materials for surface-modification and nanocapsules. **A. Alkan***, F.R. Wurm
694. Fabrication of hydrophilic electrospun fiber blends. S. Ali*, **S. Kim**
695. Self-assembly of metal organic materials incorporating 1,3-adamantanedicarboxylic acid and 1,3 bis(4-pyridyl) propane for tuning of polymer properties. **C.V. Gauthier***, J.P. Harmon, J.J. Flanagan, G. Beggs, G. Craft, A. Lopez
696. Synthesis and properties of boron/silicon bimetallic copolymers. **P. Puneet**, R. Vedarajan, N. Matsumi
697. Synthesis of redox-responsive polymer nanostructures containing ferrocene moieties by living coordination polymerization of allene derivatives. **H. Eguchi**, H. Nishiyama, S. Inagi, I. Tomita
698. Fabrication of functionally advantageous highly filled nanocomposites by employing new reactor granule technology. **B. Maira***, M. Terano, T. Toshiaki
699. Thermal diffusion of carbon molecule into polytetrafluoroethylene. **M. Ito***
700. Investigation of the crosslinking mechanism of mutilfunctionalized POSS/PU composties by rheology. **Q. Zhang***, K. Xi, X. Jia*
701. Sacrificial reducing agent free photoinduced green synthesis of metal nanoparticles over polythiophene foam/TiO_2 nanocomposite. **R. Badam***, R. Vedarajan, N. Matsumi
702. In situ formation of honeycomb silicon-containing polymer-derived ceramics by a hybrid strategy involving plasma and pyrolysis. **J. Gong**, B. Xu, X. Tao
703. Structure and physical properties of chiral $[MnCr(oxalate)_3]^-$ crystals with supramolecular cations. **M. Yoshitake***, K. Kubo, S. Nishihara, K. Inoue, T. Akutagawa, S. Noro, T. Nakamura
704. Synthesis of element-block polymers from para-disubstituted T8-caged silsesquioxane monomers. **T. Maegawa**, Y. Irie, H. Imoto, K. Naka*
705. Properties of polyimides from bis(3-aminopropyl) hexaisobutyl substituted T8-caged silsesquioxane. **O. Miyashita**, T. Maegawa, Y. Irie, H. Imoto, K. Naka*
706. Controlled polymerization of vinyl monomers by visible light-induced SI-ATRP on titania/reduced graphene oxide nanocomposite. **A. Bansal***, A. Kumar, S. Jain, S. Ray
707. Transparent and high-dielectric polymer composite film consisting of densely polymer-grafted inorganic particles. **N. Iwata**, O. Sato, K. Ohno, M. Tokita*
708. Coating of inorganic particles or fibers with conducting polyanilines and their electrical conduction and corrosion protection properties. **S. LEE**
709. Synthesis and properties of polybenzoxazine-silica nanocomposites provided from perhydropolysilazane. **J. Lee**, R. Saito*
710. Development of shuttle adsorbent between the bottom and surface of water for adsorption of pollutants. **Y. Mihara***, S. Itoh, S. Tanaka
711. Chiral crystals of inorganic-organic hybrids based on polyoxometallates and supramolecular cations. **J. Xiong***, K. Kubo, S. Noro, T. Nakamura*
712. Preparation and gas barrier properties of silica/chitosan organic-inorganic hybrid gas barrier membranes via sol-gel method. **K. Kuraoka**, R. Yamamoto
713. Electric heating films based on biopolyurethane nanocomposites containing carbon nanotube. **B.G. Min***, S.G. Kang
714. Luminescent dendrimers using typical elements. **T. Kambe**, T. Imaoka, K. Yamamoto
715. Fabrication of flower-like nickel oxide hollow spheres with enhanced supercapacitive performance. **L. Huang***
716. Hybrid polyphosphazene containing two symmetrical polyhedral oligomeric silsesquioxane (POSS) units. I. HWANG, J. LIM, **K. Kim***
717. One-pot synthesis of gold-polymer hybrid nanoparticles and tuning of their structures and colors. **Y. Fukui**, K. Fujimoto*
718. Self-assembled carbon nanotube-incorporated polymer films using mixed metal-terpyridine complexes: Enhancement of photoinduced electron transfer. D. Jeong, Y. Lee, **C. Song***
719. Preparation of organic solvent-dispersible titanium oxide/silsesquioxane hybrid nanoparticle. **K. Imai**
720. Synthesis of D-A polymers with disilanobithiophene donor and pyridine or pyrazine acceptor and their applications to dye-sensitized solar cells. **Y. Adachi**, J. Ohshita*, D. Tanaka, M. Nakashima, Y. Ooyama
721. Preparation of silica/hydrophilic polymer inorganic-organic hybrid oil/water separation membranes via sol-gel method. **T. Tanaka**, K. Kuraoka
722. Gas and water separation properties of acetoxy group-containing bridged polysilsesquioxane membrane. **K. Yamamoto**, J. Ohshita, T. Tsuru
723. Preparation of imidazolium-group-containing cyclic siloxane indicating ionic liquid nature. **T. Kubo**, S. Koge, J. Ohshita, Y. Kaneko
724. Synthesis and photo-induced electron injection process studies in a ruthenium containing triblock copolymer/multiwalled carbon nanotubes composite. **H. Shi**, L. Du, W. Chan, D.L. Phillips
725. Structure and properties of bacterial cellulose/nanofiller composites by in situ cultivation. **R. NARAHARA**, C. Hongo, T. NISHINO*
726. Preparation of organic-inorganic hybrid patterns by utilizing reaction development patterning. **S. Imabayashi***, T. Oyama
727. Control of properties of composite films of conjugated polymers containing POSS fillers. **K. Ueda***, K. Tanaka, Y. Chujo
728. Preparation and characteristics of ionic liquid containing cage-like oligosilsesquioxane with different types of side-chain groups. **A. Harada***, S. Koge, J. Ohshita, Y. Kaneko
729. Sol-gel synthesis of amphiphilic silsesquioxane capable of forming reverse micelle. **A. Nagatomo**, Y. Kaneko
730. Preparation of soluble polysilsesquioxane containing mercapto groups. **H. Kugimiya**, Y. Kaneko
731. Preparation of ionic liquids containing cyclic siloxanes with ammonium side-chain groups. **T. Hirohara**, Y. Kaneko
732. Synthesis of thermoresponsive polysilsesquioxane containing urea group. **S. Yamamoto***, Y. Miyasaka, Y. Kitamoto, O. Moriya
733. Control of thermoresponsibility on polysilsesquioxane having urea and fluorescent groups. **Y. Kitamoto***, S. Yamamoto, O. Moriya
734. Fabrication of free-standing calcite thin films from octacarboxy-terminated T8-caged silsesquioxane-vaterite composite particles. **S. Miyauchi**, K. Naka*, H. Imoto
735. Synthesis of π-conjugated units terminated polyhedral octasilicate-core dendrimers and their material properties. **Y. Irie***, K. Naka
736. Stepwise functionalization of polymer and material surface using orthogonal nitrile *N*-oxide agent. **S. Cheawchan***, H. Sogawa, T. Takata
737. Gigantic enhanced circular dichroism of optically active di(*p*-alkylphenyl)polysilanes during aggregation by limonene chirality transfer. **K. Yoshida***, M. Fujiki
738. Luminescent supramolecular metallogel constructed by Pt(II) complex possessing bis(phenylisoxazolyl)phenylacetylene ligand. **K. Hirano**, T. Haino*, T. Ikeda
739. Synthesis of the noncovalently-linked sequence-regulated polymers formed by molecular recognition. **T. Hirao**, T. Haino*
740. Hydrogel biosensor based on bacterial cellulose with MWCNTs. **a.j. kzar/shammary**, z. shi, G. Yang
741. Preparation of anionic UV curing films containing dispersed titania particles and their application to self-cleaning materials. **Y. Tachibana**, M. Furutani, K. Arimitsu*
742. In-situ generation method of diiodoarsines: Syntheses and optical properties of organoarsenic compounds with arsole backbone. **T. Kato**, K. Naka
743. Synthesis of 9-arsafluorene-Pt(II) complexes and their solid-state luminescence. **S. Tanaka**, T. Kato, H. Imoto, K. Naka
744. Rheological characterizations of time-dependent structure and phase evolutions in polymer-aided silver pastes. **J. Jiang**, J. Liang, H. Yi, C. Hua, S. Chen
745. Ring-opening polymerization of necklace shaped inorganic polymers alternately bearing a POSS cage and siloxane chains. **N. Katsuta**, M. Kunitake*, T. MATSUO, T. OOBA
746. Synthesis and characterization of titanium phosphonate clusters. **R. Hayami**, S. Tsukada, T. Gunji*
747. Individually aligned tubular ZnO nanostructures on solid substrates. G. Jeon, S. Lee, S. Yim, J. Kim*, **S. Yang***
748. Preparation of anionic UV-cured coating films including scaly silica modified with base-amplifying groups. **S. Sugioka**, K. Watanabe, M. Furutani, K. Arimitsu*
749. Molecular design and synthesis of D-π-A pyrazinium dyes for photodynamic therapy. **T. Enoki**, Y. Ooyama, J. Ohshita
750. Organic electronic sensors with organic/inorganic hybrid nanolayers. **J. Seo**, C. Lee, M. Song, H. Kim, Y. Kim*
751. Synthesis of the side-chain type metaladithiolene polymer complexes. **H. Sato***, S. Tsukada, T. Gunji
752. Synthesis of novel one-dimensional platinum coordination polymers having poly(vinyl ether) pendants. **M. Tanaka***, J. MOTOYANAGI, M. MINODA
753. Effect of organic/inorganic hybrid polymeric materials on the performance of organic transistors. **C. Lee**, J. Seo, H. Kim, Y. Kim*
754. Design of low crystalline isobutyl-substituted T8-caged silsesquioxane derivatives by star-shaped architectures. **T. Yamanaka**, Y. Irie, H. Imoto, K. Naka
755. Synthesis of oligosiloxanes and derivatives. **I. Abe**, S. Tsukada, T. Gunji*
756. Role of organic/inorganic hybrid interfacial technology and materials for low-cost biomedical devices. **H. Kim**, C. Lee, J. Seo, J. Jeong, M. Song, C. Ha, Y. Kim*
757. Preparation of platinum-supported mesoporous silica. **H. Suzuki**, S. Tsukada, T. Gunji, H. Momose
758. Synthesis and properties of cage octasilicate polymers. **T. Igarashi***, S. Tsukada, T. Gunji

Hawaii Convention Center
325A

Polymer Materials Performance, Degradation and Optimization (#369)

Organized by: M. Celina, T. Dargaville, H. Kudo, J. Lewicki
Presiding: B. Fayolle, H. Kudo

8:00 – 759. Applications of high-resolution X-ray CT to the characterization and quantitative analysis of physical and chemical aging in polymeric foam materials. J.P. Lewicki*, **J. Maisano***, T. Weisgraber, A. Maiti, S.C. Chinn, T.S. Wilson, R.S. Maxwell
8:30 – 760. Tools for predicting radiation effects in silicone elastomers. **S.C. Chinn***, R.S. Maxwell, J.P. Lewicki, T.S. Wilson, L. Dinh, A. Maiti, T. Weisgraber, W. Small
9:00 – 761. Enzymes that "eat" plastics: The search for true polyurethanases. **A.L. Cockrell***, D.E. Barlow, W.J. Crookes-Goodson, J.N. Russell, J.C. Biffinger
9:30 – 762. Characterisation of transformation products of vitamin E in UHMWPE-based orthopaedic implants. **S. Al-Malaika***
10:00 BREAK
10:10 – 763. Study on conductivity change of PEDOT/PSS by EB irradiation. **T. Hinata**, A. Oshima, M. Washio*
10:40 – 764. Major tunability of translational diffusivity of small molecules in thin polymer films: A confinement effect study. **T. Lan**, J. Torkelson*
11:10 – 765. Cure chemistry kinetics in epoxy materials. **M.C. Celina***, N. Giron, A. Quintana
11:35 – 766. Can non-isothermal decomposition measurements be used to assess aging of polymers?. **J.G. Cordaro***, A.M. Kruizenga, A.S. Moore, A. Nissen

Hawaii Convention Center
323A

New Perspectives of Bioplastics for Environmental Benign Materials (#396)

Organized by: U. Hiroshi, I. Chin, T. Iwata, J. Li, P. Smith
Presiding: I. Chin, U. Hiroshi

8:00 – 767. Advances in microbial system for production of PLA-related polymers. **S. Taguchi***
8:30 – 768. Biosynthesis and characterization of poly(3-hydroxybutyrate-*co*-3-hydroxyhexanoate) using oil and flower extract from *Madhuca indica* (Mahua). **K. Sudesh***
9:00 – 769. Microbial synthesis of P(glycolate-*co*-3-hydroxybutyrate) with hydrolytic degradability. **K. Matsumoto***, T. Shiba, Y. Hiraide, S. Taguchi
9:20 – 770. Syntheses and properties of novel alternating copolymers of 3-hydroxybutyrate and lactate units. **H. Abe***
9:40 – 771. Development of metabolically engineered microorganisms for biobased sustainable production of bioplastics and monomers. **S. Park***, Y. Oh, S. Lee

*** Principle Author**

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10:10 – 772. Innovative production of lactic acid from renewable resources for cost-effective production of biopolymers. **J. Wu***
10:40 – 773. Characterization and substrate specificity of a poly(lactate-*co*-3-hydroxybutyrate) depolymerase from soil bacterium. **C. Utsunomia**, J. Sun, K. Matsumoto, T. Ooi, S. Taguchi*
11:00 – 774. Preparation of biodegradable polyester P(3HB-*co*-3HV) films prepared by aging on cold crystallization and by soaking solvent effect. **T. Tanaka***, T. Iwata
11:20 – 775. Antistaphylococcal, anti-Candida, and anti-influenza activities of poly-γ-glutamate-based supramolecular plastics-coated surfaces. **M. Ashiuchi***, S. Oike, S. Shibatani, H. Hakuba, N. Oka, H. Kobayashi, K. Yoneda

Hawaii Convention Center
327

Advances in Precision Polymer Synthesis Using Reversible Deactivation Radical Polymerization (#401)

Organized by: D. Keddie, N. Tsarevsky, G. Moad, S. Yamago
Presiding: D. Keddie, G. Moad

8:00 – 776. Organocatalyzed living radical polymerization controlled by photo irradiation. **A. Goto***
8:30 – 777. Precision polymer synthesis by combining light driven reactions with RDRP. **C. Barner-Kowollik***
9:00 – 778. Novel organocobalt based on acetylacetonate ligands for the precision synthesis of telechelic polymers. **J. Demarteau***, D. Cordella, A. Kermagoret, A. Debuigne, C. Detrembleur
9:15 – 779. Phosphine-grafted RAFT-monoliths as catalysts for Michael addition reactions in flow synthesis. **K. Barlow***, X. Hao, T. Hughes, O. Hutt, A. polyzos, K. Turner, G. Moad
9:30 – 780. RAFT of ethylene. **F. D'Agosto***, V. Monteil, C. Dommanget, C. Boisson, S. Norsic
10:00 – 781. Access to ultra-high molar mass block copolymers by aqueous RAFT gel polymerization. L. Despax, S. Harrisson, E. Read, A. Cadix, J. Wilson, **M. Destarac***
10:30 – 782. Controlled radical photopolymerization of vinylidene fluoride and synthesis of PVDF block copolymers. **A. Asandei**
10:45 – 783. Exploring the capabilities of novel photochromic RAFT agents with photoswitchable reactivity. **O. Majewski***, D. Keddie, M.L. Coote, D.A. Lewis
11:00 – 784. Macromolecular engineering by organotellurium-mediated radical polymerization (TERP). **S. Yamago**
11:30 – 785. Nitroxide-mediated radical ring-opening copolymerization: A single cyclic ketene acetal comonomer to control the polymerization of methacrylates and to confer degradability. V. DELPLACE, S. Harrisson, Y. Guillaneuf, D. Gigmes, **J. NICOLAS***

Hawaii Convention Center
323B

Aggregation Induced Emission: Materials and Applications (#444)

Organized by: M. Fujiki, B. Tang, B. Liu
Presiding: M. Fujiki, B. Liu, D. Zhang

8:00 – 786. Silole-based cyclosiloxanes with high solid-state fluorescence quantum yields and their AIE properties. **R. West***, Y. Cai, K. Samedov, B.Z. Tang
8:40 break
8:50 – 787. Photochemical properties of novel organoiron dendrimers. **A.S. Abd-El-Aziz**, A.A. Abdelghani, C. Agatemor, B. Thabet, S. Ahmed
9:20 – 788. Tuning the solid state packing and optical properties of organic crystals. **M. Hariharan***
9:50 – 789. Sensing and bioimaging agents incorporating AIE-active tetraaryl- and heteroarylethylenes. **F.C. Pigge**
10:20 break
10:30 – 790. Theranostic systems built via endowing responsive polymers with AIE features. X. Wang, **S. Liu***
11:00 – 791. Bioprobes based on AIEgen. **B. Liu***
11:20 – 792. Network polymers crosslinked by AIE molecules. **K. Kokado***, R. Taniguchi, K. Sada*
11:40 – 793. Design and syntheses of aminobenzopyranoxanthenes (ABPXs) with single-molecule multiple fluorescence emission and coloration. **S. Kamino**

Thursday Afternoon

Hawaii Convention Center
324

NMR Spectroscopy of Polymers and Biobased Materials (#12)

Organized by: H. Cheng, A. English, H. Kaji, S. Kawahara, A. Whittaker, J. White, L. Madsen, K. Saalwachter, Y. Yao, J. Battiste
Presiding: H. Kaji, J.L. White

13:00 – 794. Monitoring spider silk assembly in vitro with NMR. D. Xu, C. Guo, D. Onofrei, **G.P. Holland**
13:25 – 795. Structure of *Bombyx mor*i silk fibroin studied with NMR. **K. Okushita**, T. ASAKURA
13:50 – 796. NMR studies for the development of tissue-engineered cardiac patches based on silk fibroin. **Y. Nakazawa***, A. Asano, C.T. Nakazawa, T. Kameda, S. Nemoto, Y. TOMINAGA
14:15 – 797. Using NMR to elucidating the structure and dynamics in spider silks and related protein-based biopolymers. **J. Yarger**, B. Cherry
14:40 Break
14:55 – 798. Untying the knots and tangled chains: NMR studies of elastin's cross-linking and hydrophobic domains. **K.K. Kumashiro**
15:20 – 799. ^{13}C, ^{2}H NMR studies of structural and dynamical modifications of glucose exposed porcine aortic elastin. M. Silverstein, K. Bilici, S. Morgan, Y. Wang, Y. Zhang, **G. Boutis**
15:45 – 800. NMR study of the binding mechanism of peptides to metal oxide surfaces. **Y. Suzuki**
16:10 – 801. Characterization of gels from poly(allyl amine) and poly(ε-L-lysine) with carbon dioxide as gellant by solid NMR. **S. Maeda***, K. Kunimoto

Hawaii Convention Center
325B

New Perspectives of Synthetic and Biological Soft Matter (#57)

Organized by: F. Horkay, J. Douglas, N. Choudhury, H. Jinnai
Presiding: H. Jinnai, R.A. Siegel

13:00 – 802. Dynamics of polyelectrolyte gels. **M. Muthukumar***
13:30 – 803. Molecular rigidity and entropy-enthalpy compensation in DNA hybridization. **J.F. Douglas**, F. Vargas Lara
14:00 – 804. Some new observations on poly(acrylic acid) gels. J. Scott-McKean, J. Garr, A. Walker, A. Costa, **G. Wnek***
14:30 Break
14:40 – 805. Cartilage extracellular matrix as a composite medium. **P. Basser***, F. Horkay
15:10 – 806. Collective motion of active swimming particles analogous to acoustic wave propagation. **R. Yamamoto***, N. Oyama, J. Molina
15:40 – 807. Novel computational method for calculating electromagnetic and hydrodynamic properties of objects having arbitrary shape. **B.A. Pazmino Betancourt**, J.F. Douglas
16:00 – 808. Factors controlling the directed self-assembly of microtubule nano-arrays. M. Bachand, N. Bouxsein, S. Cheng, M. Stevens, **G.D. Bachand**
16:20 – 809. Predictive computational approach for calculating the hydrodynamic solution properties of DNA-functionalized gold nanoparticles and other self-assembled DNA constructs. **F. Vargas Lara**, J. Liddle, J.F. Douglas
16:40 – 810. Single nucleotide polymorph analysis using toehold-mediated DNA strand displacement. R. Fenati, D. Khodakov, **A. Ellis***

Hawaii Convention Center
326A

Monomer Sequence Control: Using Nature's Strategy to Create 21st Century Polymers (#158)

Organized by: T. Meyer, M. Ouchi, H. Sleiman, Z. Li
Presiding: Z. Li

13:00 – 811. Precision glycomacromolecules – a chemist's approach to tune biointeractions. S. Igde, H. Wöhlk, C. Gerke, **L. Hartmann***
13:30 – 812. Translation and selection of functional sequence-defined synthetic polymers. **D.R. Liu**
14:00 – 813. Sequence-defined oligomers: Tuning structure and properties via sequence control. **C.A. Alabi***
14:30 Break
14:40 – 814. Exploiting sequence-dependent molecular recognition in the engineering of polymeric gels. **D.A. Tirrell***
15:10 – 815. Biomimetic sequence defined polymers based on a new backbone architecture: Synthesis and simulation. **J.W. Grate***, K. Mo, M. Daily, X. Ma, H. Jin
15:40 – 816. Peptide mimetic precision polymers: "Learning how to glue". **H. Boerner***, E. Maron
16:10 – 817. Effect of oligonucleotide sequence on thermal properties of a cross-linking ionic network. **K. Yang**, A. Coates, J.S. Moore*

Hawaii Convention Center
323C

Polymer Interfaces: Design, Structure, Physical Properties and Applications (#194)

Organized by: K. Tanaka, A. Crosby, S. Kim, K. Dalnoki-Veress
Presiding: C.J. Ellison, S. Kim

13:00 – 818. Self-assembly of block copolymer particles. **G. Yi***, D. Jung, J. Oh, B. Kim
13:30 – 819. Kinetics of the dynamic polymer brush formation at polymer water interfaces. H. Tanoue, M. Inutsuka, K. Inoue, K. Ito, **H. Yokoyama***
13:45 – 820. Conformation of single polymer chain in spin-cast thin films revealed by super-resolution fluorescence microscopy. **H. Aoki***, T. Kuroda, T. Asada, T. Tanii
14:00 – 821. Programming surface energy driven Marangoni convection in polymer thin films to generate topographic patterns. **C.J. Ellison***, C. Kim, D. Janes, T. Arshad, R. Bonnecaze
14:15 – 822. Theoretical study of interfaces between ordered block copolymer phases. **A. Shi***
14:45 – 823. Segregation of chain ends to the surface of a polymer melt. **M.W. Matsen***, P. Mahmoudi
15:15 – 824. Toward an understanding of glass transitions in thin polymer films. T. Salez, J. Salez, K. Dalnoki-Veress, E. Raphael, **J. Forrest***
15:45 – 825. Heterogeneous and interfacial dynamics in stacked thin polymer films. **K. Fukao***, T. Hayashi, K. Sadakane, N. Yamada
16:00 – 826. Transition to area-dependent dissipation in droplet spreading. M. Ilton, O. Bäumchen, **K. Dalnoki-Veress**
16:15 – 827. Uniaxial stress-strain mechanics for ultrathin polymer film. **A.J. Crosby***, Y. Liu
16:30 – 828. Hydrodynamic slip: origins and effects in micro- and nanoscopic polymer flows. **J.D. McGraw***, K. Jacobs

Hawaii Convention Center
325A

Polymer Materials Performance, Degradation and Optimization (#369)

Organized by: M. Celina, T. Dargaville, H. Kudo, J. Lewicki
Presiding: J.P. Lewicki, J. Maisano

13:00 – 829. Radiation-induced synthesis of metal nanoparticles in ethers THF and PGMEA. **H. Yamamoto***
13:30 – 830. Evaluation of long-term stability and degradation on plastic glass based on polycarbonate. **M. Ito***, Y. Masuda, K. Nagai
13:55 – 831. Effect of pre-irradiation on thermal resistant properties of ethylene-propylene elastomer. **M. Ito***
14:25 – 832. Degradation of cable insulation materials around a research nuclear reactor. **H. Kudo***
14:55 BREAK
15:05 – 833. Influence of prepolymers on kinetic oxidation of epoxy networks. **E. Ernault***, E. Richaud, B. Fayolle
15:35 – 834. Oxidatively degradable epoxy resin. **N. Kihara***, T. Oguri, Y. Shirai
16:00 – 835. Oxidative ageing of a polychloroprene elastomer. P. Le Gac, P. Davies, M.C. Celina, G. Roux, J. Verdu, **B. Fayolle***

Hawaii Convention Center
323A

New Perspectives of Bioplastics for Environmental Benign Materials (#396)

Organized by: U. Hiroshi, I. Chin, T. Iwata, J. Li, P. Smith
Presiding: U. Hiroshi, T. Iwata

13:00 – 836. Effect of block length on the physical and structural properties of multi-stereoblock poly(lactic-acid)s. **H. Yamane***, Y.W. Widhianto, K. Masutani, Y. Kimura
13:30 – 837. How to improve the processing and mechanical properties of PLA. **Y. Wang***
14:00 – 838. Two-step surface functionalization of poly(L-lactic acid) films with enzymes. **A. Pellis**, E. Herrero Acero, H. Weber, M. Obersriebnig, R. Breinbauer, E. Srebotnik, G.M. Guebitz*
14:20 – 839. Expanding the thermal properties of bioplastics. **S.A. Miller***
14:40 – 840. Degradable plastics with low-temperature formability. **I. Taniguchi***, K. Masutani
15:00 – 841. Functional materials from bio-based furan polymers. **N. Yoshie***
15:30 – 842. High performance bio-based materials from polysaccharides. **T. Iwata***
16:00 – 843. Orientation birefringence of cellulose triacetate/xylan acetate blend. **S. Nobukawa**, Y. Enomoto-Rogers, T. Iwata, M. Yamaguchi

*** Principle Author**

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16:20 – 844. Elastic modulus of the crystalline regions of biobased polyesters. **S. LEE***, C. Hongo, T. NISHINO
16:40 – 845. Biobased LC polyarylates showing polarimetry-controlled fluorescence. **T. Kaneko***, K. Kan

Hawaii Convention Center
327

Advances in Precision Polymer Synthesis Using Reversible Deactivation Radical Polymerization (#401)

Organized by: D. Keddie, N. Tsarevsky, G. Moad, S. Yamago
Presiding: N.V. Tsarevsky, S. Yamago

13:00 – 846. Transition metal-catalyzed living radical polymerization: Catalysis and catalyst design. **M. Sawamoto***
13:30 – 847. Approaches to RAFT synthesis of multifunctional, multi-armed polymers – the stars of therapeutic delivery. **G. Moad**, K. Barlow, A. Postma, J. Chiefari, E. Rizzardo, J. Rosselgong, s. thang, X. Wei
14:00 – 848. Synthesis of functionalized amphilphilic block copolymers by RAFT to immobilize organocatalysts. **D. Kuckling***, X. Yu, A. Döring, M. Schneider, S. Pascual
14:15 – 849. Synthetic methodologies for polymer grafted nanoparticles via RAFT polymerization. T. Neely, M. Bell, **B.C. Benicewicz***
14:30 – 850. Organometallic mediated radical polymerization, a versatile tool for the precision synthesis of unprecedented copolymers. **C. Detrembleur**, D. Cordella, J. Demarteau, A. Kermagoret, N. Patil, C. Jérôme, A. Debuigne
15:00 – 851. Synthesis of high-precision polymers using radical oligomerization and polymerization. **J. Lutz***
15:30 – 852. Polymerization and degradation of aliphatic polyesters synthesized by atom transfer radical polyaddition. **C. Huang***, Y. Han, H. Chen
15:45 – 853. Visible-light organic photocatalysts for atom transfer radical polymerization. **G. Miyake**
16:00 – 854. Effect of scandium triflate on the RAFT copolymerization of methyl acrylate and vinyl acetate controlled by an acid/base “switchable” chain transfer agent. A. Tselepy, T. Schiller, S. Harrisson, C. Guerrero-Sanchez, G. Moad, **D. Keddie***
16:30 – 855. Sulfur free RAFT polymerisation to methacylic block copolymers in emulsion polymerisation. **D. Haddleton***

Hawaii Convention Center
323B

Aggregation Induced Emission: Materials and Applications (#444)

Organized by: M. Fujiki, B. Tang, B. Liu
Presiding: F.C. Pigge, H. TIAN, J. Yu

13:00 – 856. Design strategies and sensing protocols based on luminescent metal complexes via electrostatic assembly and aggregation processes. **V. Yam***
13:40 – 857. Color-tunable fluorescence based on the vibration induced emission of phenazine. **H. TIAN**
14:10 break
14:20 – 858. Pentacyclic coumarin-based blue emitters - the new case of AIEE. **D.T. Gryko**
14:50 – 859. Multicomponent and domino syntheses of AIE chromophores. **T.J. Müller***
15:10 – 860. Ultrasound-induced transformation of fluorescent organic nanoparticles from a molecular rotor into rhomboidal nanocrystals with enhanced emission. **D.M. Guldi**
15:40 break
15:50 – 861. Aggregation induced near infrared emission. **A. D’Aléo***, E. Zaborova, F. Fages
16:10 – 862. Trigonal azobenzene assembly into 1D structures with aggregation-induced emission enhancement characteristics. **M. Han***, S. Cho, Y. Norikane, M. Shimizu, A. Kimura, T. Tamagawa, Y. Takeoka, T. Seki
16:30 – 863. Twisted luminescent molecules for solar concentration. **K. Ghiggino***, J. Banal, W. Wong
16:50 – 864. AIE based water-soluble nanofluorogens for the application in cell imaging. Y. Xia, Y. Jin, **B. Song***
17:10 – 865. Structure-property correlations and functional opportunities of AIE active organic/organometallic luminogens. **T. Pakkirisamy***

Thursday Evening

Hawaii Convention Center
324

NMR Spectroscopy of Polymers and Biobased Materials (#12)

Organized by: H. Cheng, A. English, H. Kaji, S. Kawahara, A. Whittaker, J. White, L. Madsen, K. Saalwachter, Y. Yao, J. Battiste
Presiding: A. Whittaker

19:00 – 866. NMR imaging in the study of drug tablets in simulated biological fluids. E. Assad, Y. Wang, M. Mateescu, **J.X. Zhu***
19:25 – 867. Shear banding and spatio-temporal fluctuations in complex fluids investigated by advanced Rheo-NMR. S. Kuczera, T.I. Brox, B. Douglass, M.A. Williams, **P. Galvosas***
19:50 – 868. Field-cycling NMR: From simple relaxometry to molecular rheology. **E. Roessler***, M. Hofmann, F. Fujara, B. Kresse, A. Privalov, N. Fatkullin
20:15 – 869. Ultrafast sample spinning for solid-state NMR. M.K. Pandey, M. Malon, J.R. Yarava, A. Ramamoorthy, **Y. Nishiyama***

Hawaii Convention Center
Halls I, II, III

New Perspectives of Synthetic and Biological Soft Matter (#57)

Organized by: F. Horkay, J. Douglas, N. Choudhury, H. Jinnai
Presiding: J.F. Douglas, F. Horkay

Poster Session
19:00 – 21:00

870. Effective tracheal tissue regeneration by bioactive molecules-loaded asymmetrically porous matrix. S. Lee, T. Kim, S. Oh, S. Kwon, **J. Lee***
871. Peripheral nerve regeneration through asymmetrically porous nerve guide conduit with nerve growth factor gradient. T. Kim, J. Kang, S. Oh, **J. Lee***
872. Acid-cleavable PEO-*b*-PPO-*b*-PEO copolymers as “smart” surfactants for miniemulsion polymerization. **M. Worm***, H. Frey
873. Preparation and characterization of polyampholyte copolymers of *N*-(3-aminopropyl) methacrylamide hydrochloride (APM) and acrylic acid (AA). **J. Zhao**, N. . Burke, H.D. Stöver*
874. Preparation of amylose supramolecular gel materials by vine-twining polymerization. **K. Tanaka**, D. Hatanaka, K. Yamamoto, J. Kadokawa*
875. Cartilage: Supramolecular structure and biological function. **F. Horkay***, I. Horkayne-Szakaly, E.K. Dimitriadis, P. Basser
876. Visuallization of hierarchical structure in hydrogel of self-assembled synthetic polypeptide. **K. Yamamoto***, E. Ito, H. Yokoi, A. Otani
877. Preparation of cellulosic nanofiber and its application in polymer films. **J. Kim***, K. Son, S. Jang
878. Photolysis of self-assembled monolayers and model compound using photodegradable 2-nitrophenethyl linker. **M. Ito**, K. Yamaguchi
879. Assembly and functionalization of nano-objects from polymer-grafted proteins. **K. Fujimoto***, Y. Fukui
880. Structural and property development of silicone elastomer blended with crystalline component. **Y. Isogai**, H. Uehara, T. Yamanobe, E. Akiyama
881. Comparative study on phase behavior of AB diblock copolymer, cyclic AB diblock copolymer, and ABA triblock copolymer. **Y. Jeong***, T. Chang

Hawaii Convention Center
326A

Monomer Sequence Control: Using Nature’s Strategy to Create 21st Century Polymers (#158)

Organized by: T. Meyer, M. Ouchi, H. Sleiman, Z. Li
Presiding: J. Lutz

19:00 – 882. Precision polymer constructs for next-generation biodegradable polymer-drug conjugates. **M.F. Ebbesen***, A. Banger, L. Cappel, C. Gerke, L. Hartmann
19:30 – 883. Sequence-controlled vinyl polymers from bulky and cleavable monomers. **D. Oh**, M. Ouchi*, M. Sawamoto*
20:00 – 884. Synthesis and electrochemical characterization of oligonucleotide-inspired organic nanowires. **A. Mazaheripour***, N. Husken, J. Jocson, A. Burke, **A.A. Gorodetsky**

Hawaii Convention Center
Halls I, II, III

Polymer Interfaces: Design, Structure, Physical Properties and Applications (#194)

Organized by: K. Tanaka, A. Crosby, S. Kim, K. Dalnoki-Veress

Poster Session
19:00 – 21:00

885. Molecular interaction between polymers and low-molecular weight compounds 19: Identification of poly(amino acid)s. H. Kanazawa, **A. Inada**
886. Synthesis of highly surface active amphiphilic chitosan nanoparticles. **a.m. atta***, h.a. al-lohedan
887. Synthesis of novel polymers having precisely placed tetrahydrofurfuryl side-chain branches via regio/stereoselective ring-opening metathesis polymerization. **M. Kataoka**, S. Kobayashi, R. Satou, M. Tanaka*
888. Synthesis amphiphilic polyIonic liquid based on 2-acrylamido-trimethyl ammonium salt as petroleum crude oil additives. a.m. atta, **h.a. al-lohedan**
889. Synthesis of composite particles by seeded emulsion polymerization with microgel particles as seeds. **T. Watanabe**, C. Kobayashi, T. Kureha, D. Suzuki*
890. Novel and facile method to synthesize hollow cyanoacrylate nanoparticles. **T. Matsubayashi**, M. Tenjimbayashi, K. Manabe, S. Shiratori
891. Repeatable adhesion using a hydrogen-bonding interaction of poly(4-vinylpyridine) brushes. **H. Yoshioka***, K. Yamaguchi, M. Kobayashi
892. Photopolymerization-induced surface segregation of zwitterion polymers in superhydrophilic protective coating. **M. Kobayashi**, T. Suga, H. Nishide*
893. In-situ formation of nano-scaled surface feature during photocuring: Design of functional block copolymer additives. **K. Katayama**, K. Minamibayashi, T. Suga, H. Nishide*
894. One-step preparation of core-shell polyacrylate latex containing fluorine and silicone and its film properties. **T. Lyu***, H. Zhao, D. Zhang
895. Simultaneous control over size, shape, and nanostructure of monodisperse block copolymer colloidal particles. **J. Shin**, H. Hwang, B. Kim*
896. Structural characterization of poly(*N*-isopropylacrylamide-*co*-ruthenium tris(2,2′-bipyridine)) microgel investigated by small-angle X-ray scattering. **S. Matsui**, T. Kureha, Y. Nagase, K. Okeyoshi, R. Yoshida, T. Sato, D. Suzuki*
897. Structure analysis of N-linked glycan of laccase from Japanese lacquer tree. **O. TUMURBAATAR**, T. Yoshida
898. Effect of alignment layers on molecular alignment induced by photopolymerization. **M. Ishizu**, K. Hisano, A. Shishido*
899. Colloidal crystals from Poly(vinylidene fluoride) nanospheres. **D. OKADA***, S. Furumi, M. Takeguchi, Y. Yamamoto
900. Interfacial structure of poly(methyl methacrylate) stereocomplex. **K. Sasahara**, M. Inutsuka, A. Horinouchi, K. Tanaka*
901. Self-assembly polymer brush via surface segregation of liquid crystalline block copolymer. **K. Mukai***, M. Hara, S. Nagano, T. Seki
902. Molecular aggregation structure of fluorinated side-chain liquid crystalline diblock copolymer in the bulk and thin film states. **S. Nojima**, Y. Higaki, R. Ishige, M. Kido, T. Hirai, A. Takahara*
903. Interfacial effects on the crystallization and surface properties of poly(L-lactic acid) ultrathin films. **A. Udagawa***, T. Fujie, Y. Kawamoto, A. Saito, S. Takeoka, T. ASAHI*
904. Primer effect on adhesion and microstructure of isotactic polypropylene/cyanoacrylate interface. **Y. NAKANISHI**, C. Hongo, T. NISHINO
905. Lattice deformation of microphase separated structure in diblock copolymer thin film revealed by low energy. **I. Saito***, K. Yamamoto
906. Nanopatterning with block copolymer with strong segregation. **H. Mitsushima**, M. Takenaka
907. Perpendicular oriented lamellar nanostructures with sub-10 nm features by surface segregating fluorine- and silicon-containing block copolymers. **T. Hayakawa***, H. Takano, L. Wang, Y. Tanaka, R. Maeda
908. Microphase-separated structures in block copolymer droplets prepared by solvent-induced dewetting. **Y. Hirai***, T. Higuchi, H. Jinnai, H. Yabu
909. Restraining factor in ionic conductivity: The role of interphase in semicrystalline poly(ethylene oxide)/$LiClO_4$ electrolyte. **X. Zhang***, Y. Wang, H. Ye, Q. Zhou
910. Polymer nanotubes confined to cylindrical alumina nanopores: Tailoring tube thickness and Tg. **A.W. Tan***, J. Torkelson
911. Search for a fluorescence probe with thermal stability to examine interfacial polymer mobility. **M. Aoki**, D. Kawaguchi, T. Ganbe, N. Sekine, K. Okamoto, K. Tanaka*
912. Substantial spatial heterogeneity and tunability of glass transition temperature observed with dense polymer brushes prepared by ARGET ATRP. **T. Lan**, J. Torkelson
913. Glass transition and dynamics of PS/P2CS/PS stacked thin films. **K. Suzuki**, N. Taniguchi, T. Hayashi, K. Sadakane, K. Fukao

*** Principle Author**

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914. Different glass transition behavior of confined polystyrene thin films supported on graphitic vs. silica substrates. **L. Chen**, J. Torkelson*
915. Dielectric relaxation behavior of thin films of polyamide random copolymers. **N. Taniguchi**, K. Fukao
916. Study of surface analysis of polystyrene nano particle by using attenuated total reflectance spectroscopy in the far-UV region. **Y. Morisawa**, T. Ochi
917. Study of magnetic thermoplastic elastomers with enhanced mechanical properties. **F. Jiang**, J. Bai, Z. WANG*
918. Thermal adhesion property of polystyrene brushes. **Y. Aoki***, K. Yamaguchi, M. Kobayashi
919. Modification of chemically stable polymeric materials 60: Improvement in the adhesive property of polymeric and FRP materials. H. Kanazawa*, **T. Tanaka**, A. Inada, T. Arai
920. Molecular simulations of lubrication properties of concentrated polymer brushes. **H. Okamoto***, T. Koga
921. Effects of the interfacial reaction on morphology and toughness of polyamide 6 blends with ethylene copolymers carrying different reactive groups. **E. Yamada***, H.T. Oyama, K. Uetani, Y. Mori
922. Fabrication of large-area microstructures for superhydrophobic surfaces using screen-mesh architectures. **H. Tokuhisa**, S. Tsukamoto, S. Morita, N. Shirakawa
923. Study of electronic state of polyethylene glycol using attenuated total reflectant spectrosopy in far ultraviolet. **N. Ueno**, Y. Morisawa
924. Tuning mechanical and optoelectrical properties of poly(3-hexylthiophene) through systematic regioregularity control. **J. Kim**, J. Kim, W. Lee, H. Yu, H. Kim, I. Song, M. Shin, J. Oh, U. Jeong, T. Kim*, B. Kim*
925. Hydration and viscoelasticity measurements of biocompatible polymers by using quartz-crystal microbalance with energy dissipation technique. **S. XUE**, S. Kobayashi, M. Tanaka, H. Furusawa*
926. Investigation of the mechanism underlying bioinertness of self-assembled monolayers by surface force measurements. **T. Sekine***, M. Tanaka, C. Sato, A. Tsunoi, T. Yano, M. Hara, T. Hayashi*
927. Preparation of liquid crystalline polymer films with chromophores and their fluorescent behaviors. **K. Ueda**, A. Kawamura, T. Miyata*
928. Preparation of smart films exhibiting structural color by assembling stimuli-responsive gel particles. **Y. Nishimura**, A. Kawamura, T. Miyata
929. Direct and vapor contact antifungal activity assays of essential oils impregnated in nanocellulose reinforced chitosan, poly lactic acid, and methyl cellulose composite films. **F.M. Hossain***
930. Cellular behavior on polymer scaffolds with 2D-pattern of mechanical properties. **S. Shimomura**, K. Sanada, H. Matsuno, Y. Kinoshita, S. Fujimura, K. Tanaka*
931. Plasma modification of carbon-steel surface for improving green elastomeric blend adhesion. **J. Oravec***, J. Preto, J. Hronkovic, P. Melus, H. Hirahara, J. Sang, S. Aisawa, K. Miura
932. Electrophoretic mechanism of non-ionic poly(ester-sulfone)s. **M. Yokoyama**, A. Takasu
933. Preparation of porous Poly(pyrrole) utilizing agar particles as soft template and evaluation of its actuation property. **S. Tamesue***, K. Obata, T. Mitsumata, N. Tsubokawa, T. Yamauchi
934. Controllable end group modification of PAMAM and its study on the stability mechanism of immobilized AChE. H. Liu*, J. Diao, **Y. Sun**
935. Identification and characterization of peptides that recognize stereoregular poly(*N*-isopropylacrylamide). **S. Suzuki**, T. Sawada, T. Ishizone, T. Serizawa*
936. Multi-chromic polymer nanoparticles composed of a polythiophene derivative in aqueous media. **K. Salikolimi**, P. He, Z. Li, T. Aigaki, Y. Ito, M. Kawamoto
937. Transparent rapidly liquid slipping smooth surface with self-healing property. **M. Tenjimbayashi**, T. Matsubayashi, K. Manabe, S. Shiratori*
938. Evaluation of interaction for bioactive compounds with thermoresponsive polymer brush grafted on polystyrene monolith surfaces using capillary chromatography. **T. Koriyama**, T. ASOH, R. ISHIHARA, A. Kikuchi*
939. Synthesis of polyamine block copolymers for removal of engineered nanopollutants from water. **R.F. DSouza**, S. Valiyaveettil*
940. Antifouling flat film with transparency, self-standing, and flexible property. **T. Nakashima***, M. Tenjimbayashi, K. Manabe, S. Shiratori, M. Fujita, T. Kamiya, T. Honda
941. Antibiofouling surface with plant oil infused porous structure for laparoscope lenses. **S. Nishioka**, M. Tenjimbayashi, K. Tsukada, S. Shiratori
942. Photo-avtivation bonding between polymer material and aluminum. **C. Kong***, T. Utsunomiya, T. Ichii, H. Sugimura
943. Flexible cotton fabrics with reversible wettability. **K. Sasaki**, M. Tenjimbayashi, K. Manabe, S. Shiratori*
944. Clay/polymer composite with water vapor barrier property by spray layer-by-layer assembly method. **M. Notoya**, K. Kyung, K. Fujimoto, S. Shiratori
945. Effect of micro-roughness of interface on adhesion strength of aluminum/polymer joint. **D. Seo**, S. Lee, C. Lee, J. Seo, J. Jho*
946. Organosilane molecular film formation on cyclo-olefin polymer surface for protective coating against organic solvents. **T. Utsunomiya**, T. Kanzawa, K. Onishi, T. Ichii, H. Sugimura
947. Introduction of microscale roughness onto polymer surface by replicating etched steel surface. **S. Lee**, D. Seo, C. Lee, J. Seo, J. Jho*
948. Molecular orientation control by crystal nucleating agent and healing property of craze phase. A. Takeno*, **Y. Horiguchi**, T. Miyata, S. Takahashi
949. Suppression of coffee-stain for Nafion thin film by ethanol vapor treatment. **Y. Ono**, Y. Guo, Y. Nagao*
950. Natural rubber latex with low protein and application. **N.T. Phan***, Y. Yoshimasa , S. Kawahara

Hawaii Convention Center
Halls I, II, III

New Perspectives of Bioplastics for Environmental Benign Materials (#396)

Organized by: U. Hiroshi, I. Chin, T. Iwata, J. Li, P. Smith
Presiding: U. Hiroshi

Poster Session
19:00 – 21:00

951. Biosynthesis of unusual bioplastic: Medium chain length homo polyhydroxyalkanoate from plant biomass. **A. HIROE***, K. MAEZIMA, S. WATANABE, T. Tsuge*
952. Terminal modification of PHA via alcoholysis reaction catalyzed by class IV synthase. **M. Hyakutake***, S. Tomizawa, K. Mizuno, T. Tsuge, H. Abe
953. Synthesis of polyhydroxyalkanoates by photosynthetic purple bacteria. M. Higuchi-Takeuchi*, **K. Numata**
954. Biosynthesis and thermal characterization of novel microbial polyester bearing phenyl and phenylalkyl side groups. **S. Mizuno**, T. Tsuge
955. Substrate stereoselectivity of poly(Asp) hydrolase-1 capable of cleaving β-amide bond. **T. Hiraishi***, H. Abe, M. Maeda
956. Preparation of bacterial cellulose/polyacrylonitrile composite monolith and its application for electrode of EDLC. **A. Dobashi**, S. Kuwabata, J. Maruyama, U. Hiroshi
957. Development of flame retardant polymer materials using lignophenol derived from woody resource. **A. Nodera***, M. Funaoka
958. Electromagnetic wave shielding effect of plastic/bamboo/graphite composites. **M. Maeda***, H. Nishida
959. Sequential refining and utilization of lignin, molecular segments complex. **M. Funaoka***
960. Temperature dependence of the elastic modulus of the crystalline regions of collagen triple helix. **S. Konoike**, C. Hongo, T. NISHINO*
961. Preparation of chitin nanofiber-based composite materials by surface modification. **R. Endo**, K. Yamamoto, J. Kadokawa*
962. Nucleating effect of xylan propionate on poly(lactide) stereocomplex. **D. Ishii***, M. Kimishima, K. Otake, T. Iwata
963. Synthesis of star-shape biopolymers with extremely small branches and their application as phthalate-free plasticizer designed for non-toxicity and improved migration resistance. **J. Chung***
964. Impact modification of PLA by poly(n-butyl acrylate-g-$_L$-lactide) with annealing induced intermolecular crystallization effect. H. Lee, S. Kim, **I. Chin***
965. Generation of monolithic porous poly(lactic acid) with stereocomplex formation. **T. Kanno**, H.T. Oyama, U. Hiroshi
966. Synthesis and characterization of stereoblock polylactides consisting of L- and D-lactyl segments. **K. Masutani***, M. Yamamoto, Y. Kimura, H. Yamane
967. Preparation and characterization of bio-based poly(crotonate)s from the non-edible biomass. **Y. Takenaka***, H. Abe
968. Synthesis of a series of vanillin-based polyesters and determination of their physical property. **K. Tachibana**, H. Abe*
969. Polyurethane elastomers based on a non-edible plant oil. **T. Kasahara**, U. Hiroshi
970. Development of biobased epoxy polymers derived from cashew nut shell liquid. **S. Kanehashi***, T. Miyakoshi
971. Enzymatic polymerization of biobased catechol inspired oriental lacquer, "Urushi". **S. Kanehashi***, T. Miyakoshi
972. Controlled/living cationic polymerization of vinyl ethers derived from glycerol. **A. Kajita**, K. Satoh*, M. Kamigaito*
973. Living radical polymerization of renewable styrene derivatives from natural resource. **H. Takeshima**, K. Satoh*, M. Kamigaito*

Hawaii Convention Center
Halls I, II, III

Advances in Precision Polymer Synthesis Using Reversible Deactivation Radical Polymerization (#401)

Organized by: D. Keddie, N. Tsarevsky, G. Moad, S. Yamago
Presiding: G. Moad, S. Yamago

Poster Session
19:00 – 21:00

974. Phosphine containing copolymers via RAFT polymerization: Toward selective recyclable catalysts. **D. Keddie***, K.J. Sykes
975. RAFT polymerization of HPMA using chain transfer agent bearing porphyrin moiety. **Y. Tsutsui***, M. Obata
976. Determination of the termination mechanisms in the radical polymerization. **Y. Nakamura**, S. Yamago*
977. Grafting polymerization of aqueous monomer on the surface of mono-disperse polymer particles using RAFT agent. Y. Suenaga*, **M. Urayama**
978. Controlled radical polymerizations with particles (CRPwP) for efficient production of high-performance brush-like polymer-coated nanofillers. **T. ARITA**
979. Controlled synthesis of periodic copolymers by RAFT polymerization of protecting group-free vinyl ethers and electron-deficient vinyl monomers. **Y. Yamamoto***, J. MOTOYANAGI, T. Tanaka, M. MINODA, A. Oguri

Hawaii Convention Center
323B

Aggregation Induced Emission: Materials and Applications (#444)

Organized by: M. Fujiki, B. Tang, B. Liu
Presiding: Y. Hong, J. Xu

19:00 – 980. BODIPY-containing probe for cell-type-specific fluorescence imaging of plasma membrane, nucleus and/or nuclear envelope in live cells. **D. Chen**, S. Gu, X. Feng, P. Liu, J. Shi, B. Tong, Y. Dong*
19:20 – 981. AIE behavior of tetraaryl-1,3-butadiene derivatives and their applications in mechanochromism, thermochromism, and explosive detection. **X. Feng**, Y. Dong, B. Wang
19:40 – 982. Smart fluorescent dye with aggregation-induced emission characteristic for lysosome imaging and nucleic acid detection. **Y. Zhao**, J. W. Y. Lam, B. Tang*
20:00 – 983. Emerging optically active luminescent poly(dioctylfluorene) aggregates by polymer chirality transfer with helical polysilanes. **N. Abdul Rahim**, S. Guo, N. Suzuki, M. Fujiki
20:20 – 984. Pentaphenylpyrrole derivates with aggregation-induced emission characteristics as "turn-on" sensors for the detection of bovine serum albumin and metal ions. **B. Tong**
20:40 – 985. Multicomponent tandem polymerizations towards functional conjugated polymers with aggregation-enhanced emission characteristics. **H. Deng**, J. W. Y. Lam, B. Tang*

Friday Morning

Hawaii Convention Center
324

NMR Spectroscopy of Polymers and Biobased Materials (#12)

Organized by: H. Cheng, A. English, H. Kaji, S. Kawahara, A. Whittaker, J. White, L. Madsen, K. Saalwachter, Y. Yao, J. Battiste
Presiding: L.A. Madsen, K. Saalwaechter

8:00 – 986. Stokes-Einstein and beyond: NMR studies of macromolecular diffusion in confined-bulk and crowded-solution environments. **K. Saalwaechter**
8:25 – 987. ^{31}P CODEX NMR and phospholipid lateral diffusion in membranes. **P.M. Macdonald***, Q. Saleem, A. Lai
8:50 – 988. HRMAS NMR pulsed field gradient diffusion investigations in soft and swollen materials. **T.M. Alam***
9:15 – 989. NMR spectroscopy, relaxometry, and diffusion studies of carbohydrates in ionic liquids. **M.E. Ries***, T. Budtova, S.M. Green, A. Radhi
9:40 Break
9:55 – 990. Influence of entanglements on chain diffusion and mechanical deformation in solid state of linear ultra high molecular weight polyethylene. **S. Rastogi***, S. Ronca, D. Romano, Y. Yao
10:20 – 991. Dynamics of random poly(styrene-co-methyl methacrylate) in bulk and on silica. M. Maddumaarachchi, **F.D. Blum***

*** Principle Author**

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10:45 – 992. How molecular dynamics contributes to the mechanical properties of elastomers and fibers. **W. Hu***
11:10 – 993. Segmental motions and hydrogen bond dynamics in supramolecular polymer-based architectures: A multinuclear solid-state NMR investigation. **C. Lorthioir***, J. Cortese, C. Soulié-Ziakovic

Hawaii Convention Center
325B

New Perspectives of Synthetic and Biological Soft Matter (#57)

Organized by: F. Horkay, J. Douglas, N. Choudhury, H. Jinnai
Presiding: F. Horkay, M. Muthukumar

8:00 Opening Remarks
8:05 – 994. Nature-inspired hydrogels that change shape in response to external stimuli or to specific biomolecules. **S.R. Raghavan**
8:35 – 995. Sensing the surface: What can polymer brushes tell us about surface interactions?. **K.L. Beers***, S. Orski, C. Deodhar, R. Sheridan
9:05 – 996. 3D shape (rod to corkscrew) transitions in thermosensitive hydrogels induced by a spiral scaffold. **R.A. Siegel***, H. Lee, J. Oneill, T.M. Kowalewski
9:35 – 997. Directing order and functionality in stimuli-responsive intrinsically disordered protein polymer. **N.K. Dutta***, R. Balu, N. Roy Choudhury, C.M. Elvin, A.J. Hill
10:05 Break
10:20 – 998. Molecular positioning of nature's elastic assembly modules to build complex multidimensional vascular and microvascular structures. **A.S. Weiss***
10:50 – 999. Characterization of DNA/polymer nanoparticles and application for cancer immunotherapy. **J. Lisziewicz**, E.R. Toke, O. Lorincz, L. Molnar, Z. Csiszovszki , E. Somogyi, J. Toth, K. Pantya, J.F. Douglas, F. Horkay, F. Lori
11:20 – 1000. Preparation of poly(vinyl alcohol) hydrogels by γ-irradiation for cluster culture of neural stem cells. **H. Mori**, M. Hara
11:40 – 1001. Smart hydrogels based on DNA quadruplexes. **A. Kuzuya***, S. Tanaka, K. Wakabayashi, K. Fukushima, Y. Ohya

Hawaii Convention Center
Halls I, II, III

New Frontiers in Polymer Crystallization (#96)

Organized by: W. Hu, A. Toda, C. Li

Poster Session
10:00 – 12:00

1002. Imaging and controlling block copolymers crystallization using AFM. **L. Alharbe**
1003. Crystallization kinetics of polyethylene on fast cooling up to 10 MK/s. **E. Zhuravlev***, C. Schick
1004. Preparation of high-performance poly(oxymethylene) film by drawing techniques. **T. Sakamura**, H. Uehara, T. Yamanobe, T. Ikeda
1005. Single molecule study of polymer interactions in the single crystal of nylon-66. **X. Lyu**, W. Zhang*
1006. PS blocks improve the mechanical stability of the PS-b-PEO-b-PS single crystal. **P. Yang***, Y. Song, W. Zhang
1007. Aggregation structure of polyimide fibers during heat-drawing process. **Q. Zhang**, j. dong, C. Yin
1008. Thermodynamics of strain-induced polymer crystallization in solutions. **L. Zha**, W. Hu
1009. Molecular simulation of polymer crystallization in stereo-complex blends. **R. Zhang**, W. Hu
1010. Chain-length effects on the crystallization of cyclic polymers. **H. Gao**, **C. Luo**, **W. Hu**, **J. Sommer**
1011. Acceleration effect of retraction on strain-induced copolymer crystallization. **X. Guan**
1012. Designing of polymer crystallization nucleating agents: Synthesis and microstructure of polystyrene-*block*-poly(styrene-*alt*-maleic anhydride) block copolymers and their ionomers. **J. Si***, S. Xing, P. Tang
1013. Determination of local packing and chain folding structure of mesomorphic form isotactic polypropylene. **S. Yuan**, T. Miyoshi
1014. Crystallization and thermal behavior of Poly(ϵ-caprolactone) and its copolymers studied by vibrational spectroscopy. **T. Toyouchi***, H. Sato, Y. Ozaki
1015. Extraordinary phase transition observed in the helix-sense inversion of polyaspartate in the solid state. **y. suzuki***, H. Furuya, A. Abe
1016. Hydrogen bondings and stereocomplex formation of poly(L-lactic acid) and poly(D-lactic acid) during isothermal crystallization studied by Raman spectroscopy and X-ray diffraction. **H. Sato***, Y. Narihisa, D. Furukawa, Y. Ozaki
1017. Crystallization and chain orientation in the ultrathin films of poly(3-hydroxybutyrate) studied by IR-RAS and GIXD. **.. Khasanah***, R. Kummetha, I. Takahashi, H. Sato, Y. Ozaki
1018. In-situ analysis for melt drawing behaviors of metallocene- and Ziegler-catalyzed ultra-high molecular weight polyethylene. **C. Narita***, H. Uehara, T. Yamanobe, K. Inatomi, S. Abe
1019. Acceleration in crystallization kinetics of polylactide in immiscible blends through the comb-like copolymer strategy. **Y. ZHANG**, J. Wang, Z. WANG*
1020. Shear flow induced formations of shish-kebab and transcrystallite assisted with preformed spherulites in isotactic polypropylene. J. Wang, Y. ZHANG, **Z. WANG***
1021. Shear-induced enhancements of crystallization kinetics and crystalline morphological evolutions for long chain branched polylactides with different branching degree. **J. Wang**, J. Bai, Z. WANG*
1022. Shear-induced crystallization kinetics for asymmetric PLLA/PDLA blends. **J. Bai**, J. Wang, Z. WANG*
1023. Phase transition of isotactic polypropylene induced by heat-stretching. **T. Imai***, K. Yamada, K. Nozaki
1024. Electrospinning of Poly(vinylidene fluoride)-partially sulfonated Poly(1,4-phenylene sulfide) blends and their piezoelectric properties. S. Pervin, **M. Yoo**, A. Prabu, K. Kim*
1025. Characterization of thin films of biodegradable <P(HB-*co*-HHx)/PEG blends. Y. Chen, Y. Park, I. Noda, **Y. Jung**
1026. Effects of molecular dynamics and crystallization kinetics on the mechanical properties and the structure of the amorphous phase of poly(ϵ-caprolactone). **A. Seidlitz***, Y. Men, T. Thurn-Albrecht
1027. Structure and physical properties of polymer/cyclodextrin composite: Poly-(lactic acid) and polypropylene. **Y. Takada***, H. Uehara, T. Yamanobe, K. Takahashi
1028. Structural insights into the solid-state formation of the carbazolyl-diacetylene PDCHD polymer. **B. Bagautdinov***, K. Sugimoto, H. Tanaka, S. SASAKI, K. Tashiro, M. Takata
1029. Microscopic kinetics model for nucleation of polymer crystallization. **J. Xu**
1030. Crystallization behavior of aliphatic polyesters with dialkene fumarate randomly copolymerized on main chain. **H. Ye***, C. Wang, Y. Song
1031. Crystalline structure control of poly(vinylidene fluoride) in antisolvent addition crystallization. **T. Nishiyama***, T. Sumihara, E. Sato, H. Horibe
1032. Non-solvent preparation of nanostructured membranes of ultrahigh molecular weight polyethylene by drawing technique. **H. Uehara***, T. Yamanobe
1033. FTIR spectroscopic analysis of the crystallization of precision halogen substituted polyethylenes. **X. Zhang**, L. Santonja-Blasco, R.G. Alamo

Hawaii Convention Center
326A

Monomer Sequence Control: Using Nature's Strategy to Create 21st Century Polymers (#158)

Organized by: T. Meyer, M. Ouchi, H. Sleiman, Z. Li
Presiding: M. Ouchi

8:00 – 1034. Toward sequence control in homogeneous polymerization via single monomer addition in living ring-opening metathesis polymerization. **Y. Xia***
8:30 – 1035. Control of sequence for vinyl copolymers using bond manipulation. **M. Ouchi**
9:00 – 1036. Sequence control in RAFT polymerization. **G. Moad***, M. Danial, C. Guerrero-Sanchez, J. Haven, M. Hendrikx, A. Postma
9:30 – 1037. Sequence-controlled polymers via tandem catalysis of living radical polymerization and transesterification: Modular synthetic approaches to gradient and pinpoint functionalization. **T. Terashima**, M. Sawamoto
10:00 Break
10:10 – 1038. Monomer sequence control in main- and side-chains of vinyl polymers by controlled radical polymerization. **M. Kamigaito***, K. Satoh
10:40 – 1039. Precision polymers toward biological precision: Multiblock copolymers and monodisperse sequence-controlled oligomers. **T. Junkers**, J. Vandenbergh
11:10 – 1040. Preparation of 1:1 alternating, nucleobase-containing copolymers for use in sequence-controlled polymerization. **E.G. Williams***, s. thang, B. Fairbanks, R. Mulder, E. Rizzardo, G. Moad

Hawaii Convention Center
323C

Polymer Interfaces: Design, Structure, Physical Properties and Applications (#194)

Organized by: K. Tanaka, A. Crosby, S. Kim, K. Dalnoki-Veress
Presiding: K. Dalnoki-Veress, R.D. Priestley

8:00 – 1041. Nanoconfinement of polymers in coordination nanochannels. **T. Uemura***
8:30 – 1042. Polystyrene nanoparticles and films: Identical glass transition temperature confinement effect through qualitative comparison. **L. Chen**, M. Szymusiak, Y. Liu, J. Torkelson*
8:45 – 1043. Enhanced Tg-confinement effect and related physical aging behavior in crosslinked polystyrene characterized by ellipsometry. **K. Jin**, J. Torkelson*
9:00 – 1044. Engineering structure and properties in polymer thin films by MAPLE. **R.D. Priestley**
9:15 – 1045. Inhibition of bacteria adhesion and protein adsorption on hydroxyapatite surface using PEG-Phosmer copolymers. **X. CUI**, Y. Kojima, H. Seto, Y. Hoshino, Y. Miura*
9:30 – 1046. Ion transport properties of block copolymer electrolytes: Effects of confinement and interface. **M. Park***
10:00 – 1047. Controlled growth of organic semiconductors by eutectic solidification. **Y. Kang**
10:30 – 1048. Flow field penetration into thin nanoporous polymer films under laminar flow by Förster resonance energy transfer coupled with total internal reflectance fluorescence microscopy. **J.E. Pemberton**, H. Wang, L. Cheng, E. Saez
10:45 – 1049. Catheter coatings for reduced bacterial growth. V. Thompson, D.B. Uswatte, P. Adamson, D. Gordon, **I. Koeper***
11:00 – 1050. Design of molecularly imprinted polypeptide gel films on sensor chips and their target molecule-responsive behavior. **K. Matsumoto**, B.D. Tiu, A. Kawamura, R. Advincula, T. Miyata
11:15 – 1051. Morphology observation of natural rubber with nanomatrix structure. **L. Fukuhara**, S. Kawahara*
11:30 – 1052. High-performance all-polymer solar cells based on face-on stacked polymer blends with low interfacial tension. **B. Kim**

Hawaii Convention Center
325A

Polymer Materials Performance, Degradation and Optimization (#369)

Organized by: M. Celina, T. Dargaville, H. Kudo, J. Lewicki
Presiding: S. Al-Malaika, S.C. Chinn

8:00 Delayed start
8:10 – 1053. Synthesis of novel liquid-type latent curing agents to generate imidazoles and their application to thermosetting resins. **K. Kudo**, S. Fuse, M. Furutani, K. Arimitsu*
8:40 – 1054. From white board to product: Development of a nanocomposite material. **P. Beavis***
9:10 – 1055. Mechanical durability of interface controlled silica particulate composite. **K. SHINTANI**, C. Hongo, T. NISHINO
9:40 BREAK
9:55 – 1056. Toward rationally designed, additively manufactured carbon fiber composites with optimized mesostructures and orthotropic macroscale properties. **J.P. Lewicki***, E. duoss, W. Elmer, R.A. Fellini, M.J. King, M.L. Moffet, j. rodriguez, T. Van Buuren, M.A. Worsley, A.S. Wu, C. Zhu
10:25 – 1057. Selective functionalization at photo-irradiated surfaces by using reaction development patterning. **T. Oyama***, K. Watanabe, H. Ogasawara
10:55 BREAK
11:00 – 1058. Designing the mechanical properties of additively manufactured silicone cellular solids with ordered microstructures. **T. Weisgraber**, J.P. Lewicki, A. Maiti, W. Small, S.C. Chinn, E. duoss, T.S. Wilson
11:30 – 1059. High molecular weight poly(*m*,*p*-phenylene)s derived by Suzuki polycondensation: Synthesis, processing, and testing. **B. Deffner***, D.A. Schlüter

Hawaii Convention Center
323A

New Perspectives of Bioplastics for Environmental Benign Materials (#396)

Organized by: U. Hiroshi, I. Chin, T. Iwata, J. Li, P. Smith
Presiding: J. Li, P.B. Smith

8:00 – 1060. Novel polymeric materials from triglycerides. **H.N. Cheng***, A. Biswas
8:30 – 1061. Diacids and diols as renewable monomers for replacing oil-based harmful aromatics. **S. Kim***
9:00 – 1062. High performance and sustainable polyurethane materials by using new biobased aliphatic diisocyanate and its hardener. **T. Nakagawa**, H. Morita, S. Yamasaki

*** Principle Author**

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9:20 – 1063. Biobased sources for p-xylene. **P.B. Smith***, D.R. Henton, A. Dumitrascu, D.A. Hucul, M.N. Masuno, R. Smith, J. Bissell
9:40 – 1064. Highly heat-resistant polyesters from plant biomass-derived aromatic hydroxy acids. **D. Ishii***, T. Iwata
10:00 – 1065. Potential as structural materials and chemo-enzymatic synthesis of poly(amino acid). **K. Numata***
10:30 – 1066. Development of biomass-based functional copolymers through grafting lignin via atom transfer radical polymerization. **J. Li***
11:00 – 1067. Controlled/living polymerization of styrenes derived from natural resources. **K. Satoh***, M. Kamigaito
11:20 – 1068. Preparation of self-assembled chitin nanofiber-reinforced cellulosic materials. **J. Kadokawa***
11:40 – 1069. Chemoenzymatic synthesis of peptide capped with nylon4 unit at C-terminal aimed for thermally-processed peptide materials. **K. Yazawa***, K. Numata

Hawaii Convention Center
327

Advances in Precision Polymer Synthesis Using Reversible Deactivation Radical Polymerization (#401)

Organized by: D. Keddie, N. Tsarevsky, G. Moad, S. Yamago
Presiding: D. Keddie, N.V. Tsarevsky

8:00 – 1070. Controlled/living radical polymerization techniques in the synthesis of well-defined polymers containing reactive functional groups. **N.V. Tsarevsky**
8:30 – 1071. RAFT dispersion polymerization in nonpolar solvents. **S.P. Armes***
9:00 – 1072. Networks in the commercialisation of innovation projects using controlled radical polymerization (CRP). **D. Lusher***, M. Gilding, T. Spurling, G. Simpson, M. Flsher, I. Elsum, J. Brennecke, P. Wang, V. Bunton, T. Klein, B. Roden, J. Brailly
9:15 – 1073. Sustainable controlled/living radical polymerization with spinach extract. **S. Shanmugam***, J. Xu, C. Boyer
9:30 – 1074. Precision chemistry for the chain-end and mid-chain functionalisation of RAFT polymers. **S. Perrier***
10:00 – 1075. Industrial application of organotellurium-mediated living radical polymerization(TERP). **T. Shimizu**
10:30 – 1076. Polymer networks through tailored synthetic design. **T. Schiller***, D. Keddie
10:45 – 1077. End group removal of switchable RAFT agents. **S. Stace***, C. Fellows, G. Moad, D. Keddie
11:00 – 1078. Synthesis of single-ion BAB triblock nanostructurated copolymers as efficient electrolytes for lithium metal batteries. **D. Gigmes***
11:30 – 1079. Green polymer chemistry: Investigating the mechanism of radical ring-opening redox polymerization (R3P) of 3,6-dioxa-1,8-octanedithiol (DODT). **J.E. Puskas***, E.Q. Rosenthal-Kim

Hawaii Convention Center
323B

Aggregation Induced Emission: Materials and Applications (#444)

Organized by: M. Fujiki, B. Tang, B. Liu
Presiding: K. Ghiggino, D.T. Gryko, Y. Ma

8:00 – 1080. Biosensing/imaging with AIE fluorophores and polymorphism-dependent emission. **D. Zhang***
8:30 – 1081. AIE molecular crystal for organic light-emitting field-effect transistors. **Y. Ma***
9:00 – 1082. Excimers beyond pyrene: A far-red optical proximity reporter and its application based on aggregation-induced emission. **Y. Kim***
9:20 break
9:20 – 1083. Photoactivatable aggregation induced emission fluorophors-embedded silica nanoparticles functionalized with DNA aptamers. **A. Tong**, Y. Xiang, X. Wang, L. Peng
9:40 – 1084. Using aggregation induced emission to gain access to phosphorescent tellurophenes and benzotellurophenes. **E. Rivard**, G. He, W. Torres Delgado, D. Zomerman, B. Wiltshire, K. Shankar, A. Brown
10:00 – 1085. AIE-luminogen-functionalized mesoporous materials: Fabrication and application. **J. Yu***
10:30 break
10:30 – 1086. New fluorescent probes for visualizing cell structures and function. **Y. Hong***
11:00 – 1087. Fluorescence color change in solid state due to the acrylonitrile derivatives polymorphs: Preparation, structures, and optical properties. **M.J. Percino***, M. Cerón, A. Bañuelos, G. Soriano-Moro, M. Castro, V. M. Chapela, E. Pérez-Gutierrez
11:20 – 1088. Restriction of intramolecular rotations via conjugation effect to efficiently enhance emission. H. Nie, K. Hu, R. Hu, A. Qin*, **Z. Zhao***, B.Z. Tang*
11:40 – 1089. Aggregation-induced emission (AIE) effect of self-assembled diazatwistpentacene microcrystals. **Q. Zhang**

Friday Afternoon

Hawaii Convention Center
324

NMR Spectroscopy of Polymers and Biobased Materials (#12)

Organized by: H. Cheng, A. English, H. Kaji, S. Kawahara, A. Whittaker, J. White, L. Madsen, K. Saalwachter, Y. Yao, J. Battiste
Presiding: S. Kawahara, Y. Yao

13:00 – 1090. Elucidation of 3D nanoclusters of semicrystalline polymers embedded in single crystals by solid-state NMR. **T. Miyoshi***
13:25 – 1091. Probing the nanostructure, interphase, and dynamics of polymers and biopolymers by advanced multiscale solid-state NMR. F. Wang, R. Zhang, **P. Sun***, A. Shi
13:50 – 1092. Polymer functionalized nanoparticles and their nanocomposites: Solid-state NMR characterization. **L. Reven***, S. Allie, L. Zhu, H. Seo, V. Toader
14:15 – 1093. Polymers and interfaces in composite materials. **U. Scheler***
14:40 Break
14:55 – 1094. Structure and dynamics of polymers at the nanomaterials interface. **P.A. Mirau***, R. Naik
15:20 – 1095. Relaxation analyses of rubbers with carbon black and with aging. **A. Asano***, M. Tsunomura, T. Ohkubo, K. Okushita, K. Numata, Y. Nakazawa
15:45 – 1096. Latex state NMR spectroscopy for rubbery polymers. **S. Kawahara***, S. Kewwarin
16:10 – 1097. Molecules, particles, and films: Dynamic NMR insights into polymer dispersions. **N. Nestle***

Hawaii Convention Center
325B

New Perspectives of Synthetic and Biological Soft Matter (#57)

Organized by: F. Horkay, J. Douglas, N. Choudhury, H. Jinnai
Presiding: P. Basser, N. Roy Choudhury

13:00 – 1098. Challenges for nanoscale imaging of soft materials by electron microscopy. **H. Jinnai***, T. Higuchi
13:30 – 1099. Positron annihilation lifetime spectroscopy to probe molecular organisation in self-assembled biomimetic systems. **A.J. Hill***, C. Fong, A.W. Dong, B.J. Boyd, C.J. Drummond
14:00 – 1100. Mechanical properties of well-defined polymeric hydrogels. **C.S. Patrickios***, E.J. Kepola, D.E. Apostolides, E.N. Kitiri, P.A. Panteli, T. Stylianopoulos, C. Voutouri
14:30 Break
14:40 – 1101. Longitudinal mapping of the mechanics of mouse knee articular cartilage. **E.K. Dimitriadis***, I. Morgan, E.L. Mertz, P.L. Chandran, F. Horkay
15:10 – 1102. Design and characterization of novel functional soft interfaces by polyelectrolyte brush immobilization. **A. Takahara***, Y. Higaki, M. Kobayashi
15:40 – 1103. β-Sheet nanocrystallite-reinforced synthetic thermoplastic elastomers. **L. Jia***
16:00 – 1104. Magic of interpenetrating networks based on ionic silicones and silicone elastomers. **S. Hvilsted***, L. Yu, A.L. Skov
16:20 – 1105. Influence of food additives on phase transition of thermosensitive polymer in aqueous solution. **H. Shimizu***, R. Wada, M. Okabe
16:40 – 1106. Impact of the ring density on the mechanical properties of polyrotaxane gels. **K. Kato**, K. Ito

Hawaii Convention Center
323C

New Frontiers in Polymer Crystallization (#96)

Organized by: W. Hu, A. Toda, C. Li
Presiding: W. Hu, C. Li

13:00 Opening
13:05 Functional Materials
13:05 – 1107. Giant polyhedra and giant surfactants based on nano-atoms: Tuning from crystals, to quasicrystals, to Frank-Kasper phases. M. Huang, K. Yue, W. Zhang, **S.Z. Cheng***
13:25 – 1108. Control over microphase separation, crystallization, and molecular orientation of all-conjugated diblock copolymers. **Y. Han**
13:45 – 1109. Engineering crystal defects for enhanced ferroelectric properties in functional polymers. **L. Zhu**
14:05 – 1110. Crystallization of protein-based composite materials. **X. Hu***
14:25 – 1111. Crystallization of biobased polymers with heterocyclic rings in the main chain. **H. Marubayashi***, T. Ushio, D. Aoki, S. Nojima
14:40 – 1112. Dissolution, hydrolysis and crystallization behavior of polyamide 6 in superheated water. **S. Yang***
14:55 Break
15:05 Molecular Simulations
15:05 – 1113. Role of the primitive path for crystallization and thickness selection in dense polymers. **J. Sommer**, C. Luo
15:25 – 1114. Molecular simulation of crystallization in polymers: Beyond model linear polymers. **T. Yamamoto**
15:45 – 1115. Conformation transitions of a polyelectrolyte chain in solution: A replica exchange Monte Carlo study. P. Chi, L. Wang, **B. Li***
16:05 – 1116. Single molecule study of polymer interactions in single crystal: A combination of experiment and simulations. **W. Zhang**, Y. Song, X. Lv, P. Yang
16:25 – 1117. Stepwise polymerization coupled with crystallization studied by molecular simulation. **Y. Ma***, J. Liu

Hawaii Convention Center
326A

Monomer Sequence Control: Using Nature's Strategy to Create 21st Century Polymers (#158)

Organized by: T. Meyer, M. Ouchi, H. Sleiman, Z. Li
Presiding: H. Sleiman

13:00 – 1118. Precision structural control in sequence-defined peptoid polymers. **R. Zuckermann***
13:30 – 1119. Sequence-regulated Poly (ester-amide)s: Facile synthesis and properties. Y. Wang, F. Du, **Z. Li***
14:00 – 1120. Biomimetic approaches to sequence controlled materials. **R.K. O'Reilly***
14:30 Break
14:40 – 1121. Sequence controlled polymers on DNA nanostructures. **H. Sleiman***
15:10 – 1122. Making molecules with the tiniest machines. **D. Leigh***
15:40 – 1123. Syntheses of sequence-controlled polymers via consecutive multicomponent reactions. Z. Zhang*, J. Yan, **Y. You**
16:10 – 1124. Engineering polymer self-assembly via sidechain modification in phenylene vinylene polychromophores. **K.N. Plunkett**

Hawaii Convention Center
325A

Macromolecular Self-Assembly for Smart Biomaterials (#196)

Organized by: S. Thayumanavan, L. Dai, J. Ryu
Presiding: S. Thayumanavan

13:00 – 1125. Macromolecular self-assembly as smart delivery systems for gene and oligonucleotide. **K. Kataoka***
13:25 – 1126. Importance of the intricate linkage of the needs of particular biomedical applications to the design characteristics of functionally-sophisticated nanoscopic macromolecules to achieve efficacy. **K. Wooley**
13:50 – 1127. Polymers and nanoparticles for multiparameter immunoassays. **M. Winnik***
14:15 – 1128. siRNA delivery using polymers nanoparticles. **M. Monteiro**
14:40 – 1129. Design of tunable multifunctional polymers for solubilizing highly lipophilic drugs. **T.M. Reineke***, J. Ting
15:05 Break
15:15 – 1130. Conjugated polymer nanoparticles for sensing, imaging, and therapy. **B. Liu**
15:40 – 1131. Self-assembled organic nanoparticles for bioimaging and drug delivery. **Y. Zhao***
16:00 – 1132. Noncovalent polymer-gatekeeper in hollow nanoparticle for drug delivery platform. **J. Ryu***
16:20 – 1133. Multilocation-multistimuli-responsive degradation strategy for accelerated drug release. **J. Oh***
16:40 – 1134. Biomimetic polymersomes from controlled self-assembly of block copolymer. **S. Lecommandoux**

Hawaii Convention Center
327

Cyclic and Topological Polymers (#248)

Organized by: Y. Tezuka, S. Grayson, M. Monteiro
Presiding: S. Grayson

13:00 Opening Remark
13:05 – 1135. Progress in the synthesis and characterization of cyclic polymers using the click cyclization approach. **S. Grayson**
13:35 – 1136. Ring-closure methods for preparing cyclic polymers based on light-induced click chemistry. **K. Zhang***

*** Principle Author**

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14:05 – 1137. Evaluation of chain end coupling methods leading to macrocyclic vinyl polymers. **E. Tillman***
14:35 – 1138. Preparation of a cyclic macromonomer based on a cyclic thermo-responsive polyoxazoline and its copolymerization with water-soluble vinyl monomers. **M. Kubo***, M. Hioki, T. Uno, T. Itoh
14:55 Break
15:05 – 1139. Crystallization of cyclic PCL molecules and the effect of adding small quantities of linear PCL analogs. **A.J. Müller***, R. Perez, J.V. López, B. Zhang, S. Grayson
15:35 – 1140. Cyclic polypeptoids: Recent discoveries in the synthesis, characterization, and solution self-assembly. **D. Zhang**
16:05 – 1141. Thermoresponsive properties of linear- and cyclic-poly(N-isopropylacrylamide) thin films. D. Magerl, M. Philipp, X. Qiu, P. Muller-Buschbaum, **F. Winnik**
16:25 – 1142. Synthesis and self-assembly of degradable cyclic graft copolymers. **A.P. Dove**, R.K. O'Reilly, R.J. Williams

Hawaii Convention Center
323A

Fusion Materials: Functional Self-Organized Materials Consisting of Fused Organic and Inorganic Components (#294)

Organized by: T. Kato, M. Aizenberg, H. Kikuchi, S. Yu, H. Imai, C. Otsuki, C. Fraser, S. Kim

13:00 Opening Remarks
13:10 – 1143. Rationally designed microstructures. **J. Aizenberg***, W. Noorduin, A. Grinthal
13:40 – 1144. Photoresponsive self-assembled organic nanoparticles for bioimaging and drug delivery. **Y. Zhao***
14:10 – 1145. Janus polymer microparticles containing magnetic nanoparticles encapsulated in mussel-inspired amphiphilic polymers. H. Ohshima, Y. Saito, T. Higuchi, **H. Yabu***
14:30 – 1146. Switchable dispersivity and molecular-trapping performance of mesostructured $CaCO_3$/thermosensitive polymer composite mcrospheres. **H. Imai**, A. Inoue, H. Tamagawa, Y. Oaki
14:50 Coffee Breat
15:00 – 1147. Bioinspired fusion materials. **H. Cölfen***
15:30 – 1148. Supramolecular adhesion: Direct bond formation between organic and inorganic materials. **Y. Takashima**, A. Harada*
15:50 – 1149. Design of dynamic interface using hyperbranched polymers. **K. Tanaka***, R. Awane, M. Inutsuka, Y. Oda, H. Matsuno, N. Yamada, M. Haraguchi, M. Ozawa
16:10 – 1150. Self-assembly of mesogen-coated gold nanorods. **T. Hegmann***
16:30 – 1151. Interdisciplinary molecular self-assembly toward fusion materials. **N. Kimizuka**

Hawaii Convention Center
323B

Aggregation Induced Emission: Materials and Applications (#444)

Organized by: M. Fujiki, B. Tang, B. Liu
Presiding: Z. Li, T.J. Müller, A. Qin

13:00 – 1152. Molecular recognition system orchestrated by self-assembly: From conventional AIE phenomena to assembly-based sensory systems. **T. Noguchi***, S. Shinkai
13:30 – 1153. Aggregation induced emission molecules: Design, synthesis, and stimuli response behaviors. **W. Tian***
14:00 – 1154. Fluorescent sensing for biomolecules via combining polyelectrolytes and AIE-active fluorophores. H. Xie, F. Zheng, Y. Wu, F. Zeng, **S. Wu***
14:20 break
14:30 – 1155. Complex of a DNA-switchable photosensitizer and triangular-shaped DNA origami for photodynamic therapy. X. Zhuang, Q. Jiang, C. Zhang, **G. Zou**, X. Liang
14:50 – 1156. Tuning luminescence of metal-organic frameworks for sensing applications. **B. Wang***
15:10 – 1157. Aggregation-induced emission (AIE) active polymers derived from tetraphenylethene and polyhedral oligomeric silsesquioxane (POSS) acrylates. **J. Xu**
15:40 break
15:50 – 1158. Luminogenic polymers with aggregation-induced emission characteristics. **A. Qin***, B. Tang
16:20 – 1159. Organic luminescent materials: High efficient solid state emission and amplified spontaneous emission. **B. Xu***, S. Ma, J. Chen, W. Tian
16:40 – 1160. Supramolecular assembly induced emission enhancement in pillarene chemistry. N. Song, **Y. Yang**
17:10 – 1161. Discriminatively visualizing raft and non-raft domains in plasma membrane via a fluorescent probe with aggregation-induced red emission property. **J. Sun***, X. Yu

Friday Evening

Hawaii Convention Center
324

NMR Spectroscopy of Polymers and Biobased Materials (#12)

Organized by: H. Cheng, A. English, H. Kaji, S. Kawahara, A. Whittaker, J. White, L. Madsen, K. Saalwachter, Y. Yao, J. Battiste
Presiding: L.A. Madsen

19:00 – 1162. Elucidating ion dynamics and structure in solid state organic conductors and ionic liquids using multinuclear NMR techniques. **M. Forsyth***, L. O'dell, K. Romanenko, L. Jin, H. Zhu, D. Gunzelmann, J. Pringle
19:25 – 1163. Structure, dynamics and ionic conductivity of crystalline PEO/alkali-metal-salt complex polyelectrolytes – a solid-state NMR study. **Y. Yao***, L. Yang, X. Fu
19:50 – 1164. Behavior of water and proton in polymer electrolyte membrane: Insight into proton transfer mechanism. **O. Han***, J. Song, S. Han, S. Kim, H. Ha

Hawaii Convention Center
325B

New Perspectives of Synthetic and Biological Soft Matter (#57)

Organized by: F. Horkay, J. Douglas, N. Choudhury, H. Jinnai
Presiding: E.K. Dimitriadis, J. Lisziewicz

19:00 – 1165. Enzyme instructed supramolecular self-assembly in biological environment for biomedical applications. **Y. Gao***, F. Horkay
19:20 – 1166. Synergistic self-assembly of templating scaffolds with building blocks for directed synthesis of organic nanomaterials. **S. Dergunov***, A. Richter, M. Kim, S. Pingali, V. Urban, E. Pinkhassik
19:40 – 1167. Charge-separated peptide β-sheets: Sequence-secondary structure relationship for arranging charged side chains. **T. Nakayama***, T. Sakuraba, K. Tashiro, N. Ishii, Y. Yamamoto
20:00 – 1168. Naphthyl-based Val/Phe peptides as molecular sponges. **S. Martic***
20:20 – 1169. Unusual effect of topological structure of polymer chain on dynamic behaviour of polymer nanocomposites. **T. TANG***
20:40 – 1170. Morphological developments of diblock copolymers in thin film during solvent vapor annealing. **D. Lee***, T. Chang

Hawaii Convention Center
323C

New Frontiers in Polymer Crystallization (#96)

Organized by: W. Hu, A. Toda, C. Li
Presiding: S.Z. Cheng, B. Lotz

19:00 Self-assembly of Block Copolymers
19:00 – 1171. Micelle engineering via living crystallization-driven block copolymer self-assembly. **G. Whittell***, I. Manners
19:20 – 1172. Regulation of the morphology of PCL-*b*-PEO crystalline micelles in aqueous solution by different methods. **J. Xu***, J. Yang
19:40 – 1173. Study on the physics of polymer crystallization based on the chain model of rod-coil multiblocks. **P. Tang**, J. Gao, H. Zhang, F. Qiu, Y. Yang
20:00 Surface- or Interface-induced
20:00 – 1174. Lamellar and molecular orientation of polyethylene and alkanes on graphene and related surfaces. R. Zhang, S. Park, **G. Ungar**, X. Zeng, A. Tracz, O. Kwon, J. Jang
20:20 – 1175. Epitaxial crystallization of polymers: Structure control and mechanism. **S. Yan**
20:40 – 1176. Polymer crystallization at liquid-liquid interface. **C. Li***

Hawaii Convention Center
Halls I, II, III

Monomer Sequence Control: Using Nature's Strategy to Create 21st Century Polymers (#158)

Organized by: T. Meyer, M. Ouchi, H. Sleiman, Z. Li

Poster Session
19:00 – 21:00

1177. Control of iterative double monomer addition for sequence-controlled vinyl polymers. **K. Nishimori**, M. Ouchi*, M. Sawamoto*

Hawaii Convention Center
Halls I, II, III

Macromolecular Self-Assembly for Smart Biomaterials (#196)

Organized by: S. Thayumanavan, L. Dai, J. Ryu
Presiding: L. Dai

Poster Session
19:00 – 21:00

1178. Design of biodegradable nanosphere having cationic groups (II) - evaluation of DNA adsorption capacity. **K. Takahashi**, M. Fujita, Y. Takeoka, M. Rikukawa
1179. Poly-gamma-glutamic acid from *Bacillus licheniformis* CGMCC 2876 as a potential substitute for polyacrylamide in the sugarcane industry. **N. He***, S. Yan, L. Shen, Y. Peng
1180. Hydrogel lenses with surface-immobilized PEG layers for reduction of protein adsorption. **J.K. Lee**, H. Kim*
1181. Novel application of corn fiber gum in food processing: Emulsification, gelation, and starch behaviour modifying. **L. Yin**
1182. Host-Guest interaction mediated engineering of pH-responsive supramolecular vesicles for drug delivery. **B. Yang***, Z. Guo, L. Xiao, G. Zhou
1183. Introduction of flow photolithography and versatile applications. **J. Lee**
1184. Stimuli-responsive supramolecular assemblies of amphiphilic self-immolative polymers. **R.E. Yardley**, E.R. Gillies*, B. Fan, J.F. Trant, A.D. Wong, T.M. Gungor
1185. Multilayered micelles using PEG-P(Asp)-(PLLA) block copolymers for dual drug delivery. **K. Liu***, T. Fujiwara
1186. Synthesis of amphiphilic azobenzene molecules and their self-assembly, multi-stimuli-responsive properties. **Y. Xu***, M. R. Molla, B. Liu, K. R. Raghupathi, L. Dai, S. Thayumanavan
1187. Coordination-responsive drug delivery systems based on selenium-/tellurium-containing polymers. **W. Cao***, H. Xu
1188. Redox-responsive crosslinked nanoassemblies for drug controlled release. **C. Yuan**, L. Dai
1189. Self-healable polymer films from peptide-based multiblock polymers. **T. Koga***, T. Morishita, N. Higashi
1190. Controllable supramolecular polymerization through self-sorting of aliphatic and aromatic motifs. **L. Chen**, Z. Huang, J. Xu, X. Zhang
1191. Self-immolative polymersomes for high-efficiency triggered release and programmed enzymatic reactions. **G. Liu***, S. Liu
1192. Biodegradable amphiphilic polycarbonate bearing ratiometric fluorophores and H_2O_2-reactive pendent groups to serve as a multifunctional drug delivery platform. **C. Chen***, Y. Fu, C. Chen
1193. Porous biocompatible polymer nanocapsules with nanometer-thin walls: Synthetic approach and applications. **S. Dergunov***, M. Kim, E. Pinkhassik
1194. Synthesis and evaluation of PLLA diblock copolymer nanofiber (V)- effect of carboxyl group on nanofiber. **M. Kasatani**, M. Fujita, Y. Takeoka, M. Rikukawa
1195. Influence of the crosslinking degree and the inner structure on the nature of the gate effect in molecularly imprinted membrane. **K. Iwami**, Y. YOSHIMI*
1196. Spectroscopic study of the aggregation of cyanine dyes with different spacers in the presence of hyaluronic acid. **H. Tobata***, T. Sagawa
1197. Controllable supramolecular polymerization: The joint strategies of self-sorting and positive cooperativity. **Z. Huang**, X. Zhang
1198. Redox responsive coassemblies between selenium/tellurium-containing molecules and lipids. **L. Wang**, H. Xu
1199. Ferritin encapsulated Prussian blue nanoparticles for targeting photothermal therapy. **H. Chen**, G. FU, L. Zhao, Q. Qu, Y. Zhao

Hawaii Convention Center
Halls I, II, III

Cyclic and Topological Polymers (#248)

Organized by: Y. Tezuka, S. Grayson, M. Monteiro
Presiding: Y. Tezuka

Poster Session
19:00 – 21:00

1200. Preparation of cyclic polymer via ring-expansion NMP with two reactive sites. **T. Makino***, M.M. Matsushita, K. Awaga
1201. Ring-expansion living cationic polymerization: precision synthesis of ring-based functional polymers. **H. Kammiyada**, M. Ouchi*, M. Sawamoto*
1202. Precise construction of ring-based block copolymers. **T. Yamamoto**, M. Ouchi*, M. Sawamoto*, H. Kammiyada
1203. Modular construction of macrocycle-based topological polymers via high-efficient thiol chemistry. **J. Zhao***, J. Lu, N. Zhou, Z. Zhang, X. Zhu
1204. Versatile cyclic 2,2'-azobenzenophane with a functional handle and its polymers: Efficient synthesis and effect of topological structure on chiroptical properties. **J. Lu***, N. Zhou, Z. Zhang, X. Zhu

*** Principle Author**

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1205. Linear-cyclic polymer structural transformation using the dynamic property of rotaxane. **K. Nakazono***, T. Ogawa, S. Valentina, T. Takata*
1206. Block copolymer capable of undergoing linear-cyclic topology transformation using rotaxane protocol. **S. Valentina***, T. Ogawa, K. Nakazono, T. Takata
1207. Effective approach to cyclic polymer synthesis via transformation of macromolecular [1]rotaxane. T. Ogawa*, **S. Valentina**, K. Nakazono, T. Takata
1208. Construction and new applications of biomass-based cyclic polylactones. **Y. Zhu**
1209. Synthesis of cyclic poly(tetrahydrofuran)s having axially chiral units and their thermally induced chiroptical responses. **S. Honda***, K. Adachi, T. Yamamoto, Y. Tezuka*
1210. Knotting probability of a cyclic DNA in solution through simulation. **E. Uehara**, T. Deguchi
1211. Separation and characterization of 4-arm star, 8-shaped, and tricyclic polystyrene. **J. Oh***, T. Chang
1212. Photo- and thermo-induced reversible transformation of cyclic and linear polymer topologies. **T. Yamamoto***, S. Yagyu, Y. Tezuka
1213. Topology effects by amphiphilic cyclic block copolymers on their vesicle and emulsion stabilization. **T. Yamamoto**, E. Baba, T. Yatsunami, Y. Tezuka
1214. Giant micelle formation from cyclic poly(oxyethylene) alkyl ether surfactants. **Y. Hirose**
1215. Synthesis and characteristic properties of sun-shaped polymer having side chains of block copolymer. **T. Kono***, K. Adachi, Y. Tsukahara
1216. ESA-CF synthesis of cyclic and linear polymer having perylene diimide as pendant group and the investigation of electrical properties. **A. Kimura**, T. Yamamoto, Y. Tezuka
1217. Synthesis of phenolic resin with ladder shaped network. **H. Shoji**, T. Ogoshi, T. Yamagishi
1218. Star-shaped PHB-PLLA block copolymers generated through immortal polymerization with dinuclear indium catalysts. **T. Ebrahimi**, I. Yu, S.G. Hatzikiriakos, P. Mehrkhodavandi*
1219. Synthesis and characterization of a star polymer having changeable arm chain number. **T. Hirose***, D. Aoki, T. Takata
1220. Star/linear polymer topology transformation facilitated by mechanical linking of polymer chains. **D. Aoki***, S. Uchida, T. Takata

Hawaii Convention Center
Halls I, II, III

Advanced Membrane Separations (#262)

Organized by: R. Wickramasinghe, K. Tung, H. Chen, S. Husson
Presiding: H. Chen, S.M. Husson, K. Tung, R. Wickramasinghe

Poster Session
19:00 – 21:00

1221. Thermoplastic polymer functional nanofiber membranes prepared by melt blending extrusion: Application in Cr(VI) adsorption. **D. Xu**, R. Xiao
1222. Permeation of 2D polymer membranes (2): Improvement of oxygen permeability through polymer membranes by in situ reactions of functional groups of the 2D surface modifiers on the membrane surface. **J. Wang**, H. Urita, S. Takeo, M. Teraguchi, T. Kaneko, T. Aoki
1223. Tough ion gel membranes with organic-inorganic hybrid network for CO_2 capture. **E. Kamio**, T. Yasui, H. Matsuyama*
1224. Immobilization of poly(biphenylylacetylene) derivatives bearing various polar groups onto silica gel and their application to chiral packing materials. **R. Ishidate**, T. Sato, K. Shimomura, T. Ikai, K. Maeda, S. Kanoh, E. Yashima
1225. High performance thin-film composite FO membrane by using polyketone support. **M. Shibuya**, S. Mishima, m. yasukawa, T. Takahashi, T. Miyoshi, H. Matsuyama*
1226. Removal of viable bacteria and bacterial cytokine-inducing substances (CIS) by electro deionization (EDI) technology. **T. Ase**
1227. Transport properties of charge mosaic membranes prepared by polymer coating method. **Y. Kakihana**, N. Shigeta, A. Jikihara, M. Higa*
1228. Influence of electroosmotic flow on the ionic current rectification in a pH-regulated, conical nanopore. **S. Tseng***, D. Lin, J. Hsu
1229. Influence of concentration gradient on the ion transport in a pH-tunable polyelectrolyte brushes functionalized conical nanopore. J. Lin, **J. Hsu***, S. Tseng
1230. Characterization of ion-exchange membranes prepared by ion irradiation graft polymerization method. **M. Goto***, T. Yamaki, H. Koshikawa, S. Sawada, A. Kitamura, M. Higa
1231. Power generation of reverse electrodialysis (RED) systems: The relationship between stack structure and performance of an RED system. **T. Sakurada***, M. Higa
1232. Ultrafiltration membrane-based osmotic heat engine with phase transition materials for enhanced power generation from low-grade heat. **T. Takahashi***, m. yasukawa*, A. Kumami, S. Osumi, H. Matsuyama*
1233. Evaluation of PRO power generation using forward osmosis membrane modules. **Y. Ikebe**, M. Higa

Hawaii Convention Center
Halls I, II, III

Fusion Materials: Functional Self-Organized Materials Consisting of Fused Organic and Inorganic Components (#294)

Organized by: T. Kato, M. Aizenberg, H. Kikuchi, S. Yu, H. Imai, C. Otsuki, C. Fraser, S. Kim

Poster Session
19:00 – 21:00

1234. Mechanical properties of bulk films of deoxyribonucleic acid solid with chemical/physical cross-linking. **Y. Morimitsu**, H. Matsuno, K. Tanaka*
1235. Hierarchical porous polymers for a hydrophobic adsorbent derived from a biomineral. **K. Sato**, Y. Oaki, H. Imai
1236. Synthesis and characterization of poly(vinyl acetate) derivative: A new candidate for blood compatible polymer. **K. Sato**, S. Kobayashi, H. Tagaya, M. Tanaka*
1237. Mechanistic study on anomalous photovoltaic effect in the ferroelectric liquid-crystalline phase of phenylterthiophene derivatives. **A. Seki**, M. Funahashi*
1238. Formation of nonwoven fiber mats from collagen-like polypeptide. **S. Yoshida**, S. Morimune-Moriya, A. Sugawara-Narutaki, C. Ohtsuki*
1239. Structural colors in the liquid crystalline nanosheet colloids of a layered clay and layered perovskites. S. Yamamoto, T. Sasaki, Y. Ebina, **N. Miyamoto***
1240. Adhesion of gels and glass substrates using covalent bond formation reactions. **T. Sekine**, Y. Takashima, A. Harada*
1241. Self-healing material able to change its color by various stimuli based on host-guest interaction between β-cyclodextrin and phenolphthalein. **K. Yonekura**, A. Harada*, Y. Takashima, M. Nakahata, H. Yamaguchi
1242. pH- and sugar-responsive gel assemblies based on boronate-catechol interactions. **S. Mori**, M. Nakahata, Y. Takashima, A. Harada*
1243. Adhesion between polymeric gels using various non-covalent interactions. **M. Nakahata**, Y. Takashima, A. Harada*
1244. Crystallization of phosphate in lyotropic liquid crystalline phases including simulated body fluid. **K. Nagaoka**, H. Higuchi, Y. Okumura, C. Ohtsuki, T. Nishimura, T. Kato, H. Kikuchi*
1245. Creation of the nanostructure of π-conjugated polythiophene in the film. **K. Azuma***, T. Hayakawa, Y. Tanaka
1246. Preparation of monodispersed SiO_2-TiO_2 core-shell particles via the layer-by-layer assembly. **Y. Tanaka**, K. Katagiri, K. Inumaru
1247. POSS-containing cylindrical polymer nanostructures for line patterning in block copolymer lithography. **F. Kato***, R. Maeda, S. Sugimoto, T. Hayakawa
1248. Self-organized chains of diblock copolymer micelles containing inorganic nanoparticles. S. Jang, K. Kim, J. Kim, **B. Sohn***
1249. Synthesis of comb-like/block copolymer possessing polyethyleneimine brush and its application in silica deposition. **S. Eguchi**, R. Jin
1250. Preparation and application of chiral SiO_2 and Ag@SiO_2 materials using linear polyethyleneimine and tartaric acid. **S. Tsunega**, H. Murata, D. Yao, R. Jin
1251. Metal oxides formed on chiral silica frame. **m. sugimoto***, H. Murata, M. Saito, R. Jin
1252. Self-assembly behavior of crosslinked poly(sodium acrylate) microparticles based on molecular recognition. **T. Itami**, A. Hashidzume, H. Yamaguchi, A. Harada*
1253. Non-simple patterned nanocomposites through the block copolymer self-assembly. **S. Kim***, J. Lee, S. Choi, J. An
1254. Characterization of recombinant glassin, a protein extracted from biosilica skeleton of the glass sponge Euplectella. **T. Amano**, J. Arima, K. Shimizu*
1255. Photochemical reactions on macroscopically organized multicomponent systems based on inorganic nanosheets. **T. Nakato***, E. Mouri
1256. Preparation of supramolecular hydrogel composed of [c2]daisy chain. **K. Iwaso**, Y. Takashima, A. Harada*
1257. Addition of enzyme-like activity into simple β-sheet peptide and its application to bio-inspired calcium carbonate mineralization. **K. Murai***, T. Kinoshita, K. Nagata, M. Matsumoto, M. Higuchi
1258. Development and functionalization of liquid-crystalline complexes transporting ionic species. **T. Onuma**, J. Sakuda, E. Hosono, M. Yoshio, T. Ichikawa, T. Matsumoto, H. Ohno, H. Zhou, T. Kato*
1259. Anisotropic calcium carbonate nanocrystals formation using acidic macromolecules. **M. Nakayama**, S. Kajiyama, T. Nishimura, T. Kato*
1260. Luminescent fusion material of a sea urchin spine treated with europium complexes. **S. Ogata***, A. Ishii, Y. Oaki, H. Imai, M. Hasegawa
1261. Morphology control of inorganic crystal in thermotropic liquid crystalline phases. **T. Nakao**, H. Higuchi, T. Sajima, S. Daiki, Y. Okumura, T. Nishimura, T. Kato, H. Kikuchi*
1262. Preparation of protein-imprinted hydrogel layers fused with gold chips for surface plasmon resonance sensor and their responsive behavior. **Y. Kuriu**, A. Kawamura, T. Miyata*
1263. Various thermoresponsive polymers with periodic carboxyl groups and higher-order structure in aqueous solution. **M. Uchiyama**, H. Sakaguchi, K. Satoh*, M. Kamigaito*
1264. Regiospecific accumlation of metal complexes at phase-segregation interface of normally oriented cylindrical nanostructure in amphiphilic liquid crystalline diblock copolymer film. **Y. Tanio**, M. Otonari, S. Asaoka*, M. Noguchi, A. Izumi, H. Maeda
1265. Metal-organic framework tethering stimuli-responsive polymers for ON-OFF controlled release in solution. **K. Kokado***, S. Nagata, K. Sada*

Hawaii Convention Center
Halls I, II, III

Polymer Materials Performance, Degradation and Optimization (#369)

Organized by: M. Celina, T. Dargaville, H. Kudo, J. Lewicki
Presiding: M.C. Celina, H. Kudo, J.P. Lewicki

Poster Session
19:00 – 21:00

1266. Resist materials using base proliferation reactions. **T. Hashima**, K. Terada, M. Furutani, K. Arimitsu*
1267. Fabrication of positive-tone photopatterns by using photocyclization-type photobase generators. **S. Yoneda**, T. Ida, M. Furutani, K. Arimitsu
1268. Radiation resistance of electrical insulator for superconducting magnet system in high intensity accelerators. **A. Idesaki***, T. Nakamoto, M. Yoshida, A. Shimada, M. Iio, K. Sasaki, M. Sugano, Y. Makida, T. Ogitsu
1269. Anionic UV curing of thick epoxy resin films by base amplifiers. **N. Shimoda**, Y. Koyama, M. Furutani, K. Arimitsu*
1270. Optimization of polymerization technique for reduction of micro pore volumes within synthetic resin adsorbents. **T. Kinoshita***, H. Fan, T. Kawakita, E. Furuya
1271. Study on storage condition of irradiated polyethylenenonwoven fabric for radiation-induced graft polymerization. **S. Saiki**, K. Okaya, H. Kudo*, N. Seko
1272. Preparation and hydrolysis of water-stable amorphous cellulose. **K. Hattori***, A. Arai
1273. Oxo-biodegradation of polystyrene under visible light irradiation. **K. Miyazaki**, H. Nakatani, T. Yoshida*
1274. Synthesis of and oxidative degradation of polystyrene-poly(diacylhydrazine) block copolymer to obtain porous material. **M. Parvez**, N. Kihara*
1275. Preparation of optical resolution substance by the condensation of cyclodextrin and polysaccharides. **Y. Kitashima***, Y. Takada, S. Osawa
1276. Low-temperature film fabrication of colorless alicyclic polyimides with high Tg. **H. Ozawa**, E. Ishiguro, M. Suzuki, T. Matsumoto*
1277. Model reaction for alicyclic polyimide synthesis: Ring-opening reaction of asymmetric dianhydrides and chemical or thermal ring-closure of the amides. **M. Nagafuji**, H. Hattori, T. Matsumoto*
1278. Development of *A. oryzae*/ porous chitosan NF composite for degradation of formaldehyde. **A. Minemura***, R. Kitamura, M. Sano, S. Osawa
1279. Development of the biocompatible polymer with color functions by using natural pigments. **S. Onishi***, S. Shimasaki, S. Osawa
1280. Synthesis of inorganic poly(sulfonylhydrazine). **S. Horike**, N. Kihara*
1281. Radiation-induced reaction of fluorinated polymers and related compounds for extreme-ultraviolet lithography. **N. Nomura***, K. Okamoto, H. Yamamoto, T. Kozawa, R. Fujiyoshi, K. Umegaki
1282. Development of antibiofilm material and its functional evaluation. **T. Sanada***, S. Osawa, O. Yoshimura, S. ODA

*** Principle Author**

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1283. Pulse radiolysis study of resist polymers with and without photoacid generator. **K. Okamoto***, H. Yamamoto, T. Kozawa, R. Fujiyoshi, K. Umegaki
1284. Development and evaluation of novel polyimide/carbon fiber composite. **Y. Ishida***, T. Ogasawara, H. Katoh, M. Miyauchi, N. Ooshiro, R. Yokota
1285. Measuring and analyzing the degradation of the epoxy resin under the high electric field by confocal Raman microprobe spectroscopy. **s. zhang***
1286. Photosensitive polyimide material containing photobase generator and fabrication of negative-tone micropatterns. **K. Okayasu**, Y. Guo, T. Miwa, M. Furutani, K. Arimitsu*
1287. Soluble aromatic polyamides from unsymmetrical diamine containing two trifluoromethyl groups. **T. Byun***, S. Kim, I. Chung, S. Kim
1288. Ionic-liquid-assisted preparation of novel epoxy/MWNT nanocomposites with high radiation resistance. **J. Peng***, J. Li, M. Zhai
1289. Selective bond scission of phenolic polymers by oxidization with hypervalent iodine. **R. Kojima**, T. Ogoshi, T. Yamagishi
1290. Application to anionic UV curing of six-membered cyclic carbonate resins. **E. Nagai**, A. Sakauchi, M. Furutani, K. Arimitsu*
1291. Micro-photopatterning of trapped cycloolefin polymer via thiol-ene reactions. **A. Kakinuma**, I. Hazeyama, M. Furutani, K. Arimitsu*
1292. Evaluation of fractionized water-soluble chitosan for algicidal effect. **C. Choi**, H. Lee, S. Choi, G. Jeong, T. Kim, W. Kim, J. Nah*
1293. Inhibition effect of harmful algae using chitosan. **J. Nah***, T. Kim, G. Jeong, S. Choi, H. Lee, W. Kim, C. Choi
1294. Boron removal by glucamine chelate adsorbent grafted on polyethylene fabric. **N. Seko***, H. Amada, H. Hoshina
1295. Synthesis of fibrous adsorbent for dysprosium by radiation-induced graft polymerization. **H. Hoshina**, N. Seko*
1296. Long-term oxidation and free volume change of electron beam irradiated polymers. **T. Oka***, K. Onodera, Y. Kino, T. Sekine

Saturday Morning

Hawaii Convention Center
324

NMR Spectroscopy of Polymers and Biobased Materials (#12)

Organized by: H. Cheng, A. English, H. Kaji, S. Kawahara, A. Whittaker, J. White, L. Madsen, K. Saalwachter, Y. Yao, J. Battiste
Presiding: J.L. Battiste, A. English

8:00 – 1297. ^{19}F DOSY diffusion-NMR spectroscopy of fluoropolymers. **P.L. Rinaldi***, B. Ameduri, D. Chen, D. Fetherston, C. Gao, E. Kupce, X. Li*, G. Lopez, E. McCord*, E. Twum, Y. Wan, F. Wyzgoski, C. Xu
8:25 – 1298. Multidimensional NMR studies of perfluoropolyether. C. Xu, H. Yin, Y. Wan, **X. Li***, P.L. Rinaldi
8:50 – 1299. Primary structural analysis of methacrylate copolymers by multivariate analysis of NMR spectra. **H. Momose***
9:15 – 1300. Analysis of chemical structures of synthetic polymers by solution NMR: SEC-NMR, DOSY, and multivariate analysis. **K. Ute***
9:40 Break
9:55 – 1301. New developments of LC-NMR for the characterization of polymers. **W. Hiller***, M. Hehn
10:20 – 1302. Application of cryoprobe technology to investigations of polymer degradation. **J.L. Battiste**
10:45 – 1303. Automation of quantitative NMR spectroscopy of polyolefins in industry. G. Hubner, L. Steiner, E. Pomakhina, **M. Parkinson***
11:10 – 1304. ^{129}Xe NMR studies of biochar made from biobased materials. **H.N. Cheng***, M. Mauri*, R. Simonutti, M. Farina, G. Patriarca, T. Klasson

Hawaii Convention Center
326A

Radical Polymerization Kinetics and Process Modeling (#92)

Organized by: R. Hutchinson, G. Russell, P. Zetterlund, E. Saldivar-Guerra

8:00 Introductory remarks
8:05 – 1305. Kinetics of radical polymerization in organic and aqueous solution studied via SP–PLP–EPR experiments. **H. Kattner***, **M. Buback**
8:35 – 1306. Influence of head-to-head addition on vinyl acetate propagation kinetics. **A.N. Nikitin**, O. Monyatsi*, R. Hutchinson
8:55 – 1307. Kinetic studies of radical polymerizations based on direct observation of radicals by various ESR techniques. **A. Kajiwara***
9:15 – 1308. Polymerization of acrylates: A world of surprise. N. Ballard, J. de la Cal, **J.M. Asua***
9:45 Break
10:00 – 1309. Kinetics and modelling of atom transfer radical polymerization. **K. Matyjaszewski***
10:30 – 1310. Limits of precision monomer placement in reversible deactivation radical polymerizations. **S. Harrisson***, S. Perrier, G. Gody, P. Zetterlund
11:00 – 1311. Template radical polymerization in nanoreactors: A novel approach towards precision polymerization. A. Tardy, K. Bullar, S. Thickett, R. O'Reilly, **P. Zetterlund***
11:20 – 1312. Engineering approach toward a universal RAFT system. A. Ilchev, L. Hlalele, R. Pfukwa, **B. Klumperman***

Hawaii Convention Center
323C

New Frontiers in Polymer Crystallization (#96)

Organized by: W. Hu, A. Toda, C. Li
Presiding: G. Ungar, Q. Xue

8:00 Thin Film and Confinement
8:00 – 1313. Crystallization of polyesters in ultrathin films (blends, polyenantiomers and stereocomplexes). **R.E. Prud'homme***
8:20 – 1314. Influence of crystallization temperature on melt-isothermal crystallization behaviors of poly(3-hydroxybutyrate) in thin films. **S. SASAKI***, J. Hoshiba, A. YASUDA, S. SAKURAI, H. Masunaga, T. Hikima, N. Ohta, M. Takata
8:40 – 1315. Integrated ultrafast scanning calorimetric and micro-Raman spectroscopic investigation of polymer crystallization. **D. Zhou**
9:00 – 1316. Morphological origins of double confined crystallization of PE-b-PS diblock copolymers within AAO nanoporous templates. **A.J. Müller***, M.T. Casas, R.M. Michell, I. Blaszczyk-Lezak, J. Puiggali, C. Mijangos, A.T. Lorenzo
9:20 – 1317. Tuning the crystal orientation of PEO confined within AAO nanochannels. **H. Chen***
9:40 – 1318. Confinement effects of nanoporous anodic alumina oxide on the crystallization of poly(vinylidene fluoride). **X. Sun**, S. Yan
9:55 Break
10:05 Rigid Chain and Copolymer
10:05 – 1319. Crystalline helical monosubstituted polyacetylene: Molecular packing and shape actuation via phase transition. J. Wang, **E. Chen***
10:25 – 1320. Crystallization behavior of poly(3-hexylthiophene). **Z. Su***
10:45 – 1321. Melt structure and self-nucleation of ethylene copolymers. **R.G. Alamo***, X. Chen, A. Mamun, M. Ren, Y. Sang
11:05 – 1322. Nucleation of different crystalline forms in butene-1/ethylene random copolymer. **Y. Men***, Y. Wang, P. Liu, Y. Lu
11:25 – 1323. Morphology and growth of propylene-ethylene random copolymer crystals in thin films. **K. Taguchi***, A. Fujikawa, A. Toda, T. Imai, K. Yamada
11:45 – 1324. AFM imaging of semi-crystalline polymers with sub-molecular resolution. **N. Mullin***, R. Savage, J.K. Hobbs

Hawaii Convention Center
325B

Current Polyurethane Science (#133)

Organized by: K. Kojio, S. Hsu, K. Wynne, Z. Ren, S. Yamasaki, G. Zhang
Presiding: S. Yamasaki

8:00 Opening remarks
8:05 – 1325. Ultra high-performance elastomers based on trans-1,4-bis(isocyanatomethyl cyclohexane). **S. Seneker***
9:05 – 1326. Aliphatic poly(carbonate)glycols with different length of methylene unit and their polyurethane elastomers. **T. Masubuchi***, K. Kojio, M. Hurukawa
9:30 – 1327. Synthesis and properties of polyurethanes crosslinked by polyrotaxanes. **N. Nonaka**, Y. Tanaka, H. Murakami
9:55 – 1328. Highly efficient intramolecular hydroamination of polyallylurethane using macrocycle catalyst: Effect of polymer structure. **S. Mizuno***, D. Aoki, H. Sogawa, T. Takata
10:20 Break
10:35 – 1329. Microbeam X-ray diffraction study on local anisotropic molecular aggregation structure of a thermoplastic polyurethane at the crack tip. **Y. Higaki**, K. Suzuki, N. Ohta, A. Takahara*
11:05 – 1330. New biobased aliphatic diisocyanate and hardener using it, STABiO™. **T. Nakagawa**, H. Morita, S. Yamasaki

Hawaii Convention Center
325A

Macromolecular Self-Assembly for Smart Biomaterials (#196)

Organized by: S. Thayumanavan, L. Dai, J. Ryu
Presiding: L. Dai

8:00 – 1331. Responsive polymer assemblies. **S. Thayumanavan***
8:25 – 1332. Biomedical applications of diblock copolymer worm gels. **S.P. Armes***
8:50 – 1333. Hierarchical assemblies of polyprodrug amphiphiles for morphology-regulated cellular transport and intracellular triggered release. **S. Liu**
9:15 – 1334. Conjugated polymer nanoparticles for in vivo molecular imaging. **J. Rao**
9:40 – 1335. Stimuli-responsive polymer gels formed by host-guest interactions. **A. Harada***
10:05 Break
10:15 – 1336. Many talents of polymeric networks: Methods for precise sizing of nano- and micronscale structures with adaptive morphologies. **E. Harth***, B. Spears, K. Gilmore, D. Beezer
10:40 – 1337. Supramolecular strategy for display of different functional groups at the inner and outer wall of synthetic vesicles and its impact on recognition of biomolecules. **S. Ghosh***
11:00 – 1338. Tricontinuous (triple-network) morphologies in soft materials. **G.E. Schröder-Turk**, S.T. Hyde, M.G. Fischer, L. de Campo, J.J. Kirkensgard
11:20 – 1339. Functional yoctowells for biological applications. **S.V. Bhosale***
11:40 – 1340. Solution structure of branched peptides and polymer-peptide complexes in terms of the theories for branched polymers. **K. Terao**

Hawaii Convention Center
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Cyclic and Topological Polymers (#248)

Organized by: Y. Tezuka, S. Grayson, M. Monteiro
Presiding: M. Monteiro

8:00 – 1341. Various polystyrene topologies built from tailored cyclic polystyrene via CuAAC reactions. **M. Monteiro***
8:30 – 1342. Synthesis of amphiphilic cyclic, figure-eight shaped, and tadpole-shaped block copolyethers. Y. Satoh, T. Isono, T. Kakuchi, **T. Satoh***
9:00 – 1343. Modular constructions of topological and functional cyclic polymers. **Z. Zhang***, J. Zhao, J. Lu, N. Zhou, X. Zhu
9:30 – 1344. Dynamics of cyclic polyethers by broadband dielectric spectroscopy. **F. Barroso-Bujans***, A. Alegria, J. Colmenero
9:50 Break
10:00 – 1345. Zwitterionic ring-opening polymerization for the synthesis of cyclic polymers. **R. Waymouth***
10:30 – 1346. Cyclic polymers from alkynes. C.D. Roland, H. Li, K.A. Abboud, K.B. Wagener, **A.S. Veige**
10:50 – 1347. Macrocyclic phenylenevinylene polymers: Synthesis and characterisation. **M.L. Turner***, B.J. Lidster, D. Kumar, Y. Tezuka, T. Yamamoto
11:20 – 1348. Cyclic REMP polymers and other advanced materials from topological macromolecules. **G. Tew**

Hawaii Convention Center
323B

Advanced Membrane Separations (#262)

Organized by: R. Wickramasinghe, K. Tung, H. Chen, S. Husson
Presiding: S.M. Husson, R. Wickramasinghe

8:00 – 1349. Reactive coating of filtration membranes with functional hydrogel layers for improved separation performance. **M. Ulbricht***, N. Alele, M. Birkner, M. Quilitzsch
8:20 – 1350. Responsive membranes for advanced separations. **R. Wickramasinghe***, X. Qian
8:40 – 1351. Thermoresponsive mesoporous block copolymer membranes with controllable response temperature. **Y. Tang***, H. Yokoyama, K. Ito, T. Ishizone
9:00 – 1352. Stimuli-responsive DNA-aptamer gating membranes. **T. Schäfer***
9:20 – 1353. Novel ultrafiltration membranes by reversible assembly of polymer brush nanoparticles. **I. Zharov**
9:40 – 1354. Asymmetric self-assembled block copolymer membranes: Bridging the gap from ultra- to nanofiltration. **K. Peinemann***, H. Yu, x. Qiu, S. Nunes
10:00 – 1355. Membrane morphology control and polymer solution rheology. **D.r. Wang***, W. Hung, S. Su
10:20 – 1356. Surface patterning of polymeric membranes for fouling mitigation in separations of colloids, proteins, and ions. **Y. Ding**, S. Maruf, A. Greenberg, J. Pellegrino

*** Principle Author**

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10:40 – 1357. Membrane surface topology vs. surface chemistry for deposition resistance. **J. Pellegrino***, J. Mersch, X. Lu, S. Maruf, Y. Ding, A. Greenberg
11:00 – 1358. Understanding the potential for nanopatterned surfaces to reduce membrane fouling. **M.S. Mauter**, S. Klara
11:20 – 1359. Protein fouling detection on ultrafiltration membranes using ultrasonic reflectometry. **A.R. Lajmi***, E. Kujundzic, A. Greenberg, X. Wu
11:40 – 1360. Polymer-brush coatings for membrane fouling resistance – toward theoretical design criteria. **G.Z. Ramon**

Hawaii Convention Center
323A

Fusion Materials: Functional Self-Organized Materials Consisting of Fused Organic and Inorganic Components (#294)

Organized by: T. Kato, M. Aizenberg, H. Kikuchi, S. Yu, H. Imai, C. Otsuki, C. Fraser, S. Kim

8:00 – 1361. Luminescent boron beta-diketonate biomaterials for oxygen sensing and imaging. C.A. DeRosa, A. Mathew, J. Samonina-Kosicka, M. Kolpaczynska, Z. Fan, C.P. Kerr, J.N. Demas, H.C. Hendargo, D. Weitzel, C.L. Hofmann, G. Hanna, M.W. Dewhirst, G.M. Palmer, **C.L. Fraser**
8:20 – 1362. Light-melt adhesive: Photomelting of flexible carbon frameworks in columnar liquid crystal phase. **S. Saito***
8:40 – 1363. Polymers containing metal-ligands in their side chains: Coupling organic macromolecules to property rich inorganic metal ions. **G. Tew**
9:00 Coffee Break
9:10 – 1364. Structure and function of metal organic frameworks in liquid/glass states. **S. Horike**
9:30 – 1365. Circularly polarized luminescence of helical self-assembled luminophores with aggregation-induced emission characteristics. **B. Tang**
10:00 – 1366. Fusion materials based on active poly(NIPAAm-co-AMPS) gels crosslinked by red-ox active Ru(II) complexes with new polymerizable bipyridine ligands: Synthesis, structure, and chemomechanical action in Belousov-Zhabotinsky reaction. **M. Aizenberg***, K. Okeyoshi, J. Aizenberg
10:20 – 1367. Preparation of carbon-based fusion materials and their applications. **H. Nishihara***, T. Kyotani
10:50 – 1368. Block copolymer lithography on chemically modified graphene. **S. Kim**
11:10 – 1369. Fusion materials of lanthanide complexes with luminescence. **M. Hasegawa***
11:40 – 1370. Coaxial nanowires having a carbon nanotube core and an inorganic shell. **Y. Takaguchi***, Y. Tango, K. Kurniawan, T. Tajima

Hawaii Convention Center
Halls I, II, III

Aggregation Induced Emission: Materials and Applications (#444)

Organized by: M. Fujiki, B. Tang, B. Liu

Poster Session
10:00 – 12:00

1371. Chiroptically enhanced luminescent π-conjugated polymer aggregates in controlled optofluidic medium. **M. Fujiki**
1372. Design of a novel detection system through a combination of dynamic covalent bond formation and aggregation-induced emission. **D. Yoshihara**, S. Shinkai*
1373. Specific light-up bioprobe with aggregation-induced emission and activatable photoactivity for targeted and image-guided photodynamic ablation of cancer cells. **B. Liu***, Y. Yuan, C. Zhang
1374. Luminescent achiral polyfluorene meets chiral surface of cellulose triacetate during co-aggregation process. **S. Guo**, N. Abdul Rahim, N. Suzuki, M. Fujiki
1375. Systematic fine-tuning of AIE and AIES in NPI (1,8-naphthalimide) based materials. **S. Mukherjee***, P. Thilagar*
1376. Near-infrared selective AIE fluorogen for lipid droplet imaging in live cells. M. Kang, **Y. Zhao**, X. Gu, C. Leung, J. W. Y. Lam, F. Li, B. Tang*
1377. Novel fluorescent "turn-on" probe with aggregation-induced emission characteristic for cell apoptosis detection. A. Leung, **Y. Zhao**, E. Zhao, J. W. Y. Lam, C. Leung, H. Deng, B. Tang*
1378. Photostable AIE fluorogen for nucleolus and mitochondrion imaging with organelle-specific emission. C. YU*, **Y. ZHANG**, W. ZHANG, R. Kwok, B. Tang
1379. Ratiometric fluorescent probe for Hg^{2+} detection based on the alteration of the AIE behavior. Y. Chen*, **Y. ZHANG**, J. W. Y. Lam, B. Tang
1380. AIE-active turn-on bioprobe mediated by hydrogen bonding for highly sensitive detection of hydrogen peroxide and glucose. Z. Song, **H. Deng**, R. Kwok, J. W. Y. Lam, B. Tang*
1381. A Dual-functional AEE fluorogen as a mitochondrion-specific bioprobe and an effective photosensitizer for photodynamic therapy. E. Zhao, **H. Deng**, J. W. Y. Lam, B. Tang*
1382. Blue aggregation-induced emission luminogens: High external quantum efficiencies up to 3.99% in LED device, and restriction of the conjugation length through rational molecular design. **Z. Li**
1383. Polyphenylbenzene as a platform for deep-blue OLEDs: Aggregation enhanced emission and high external quantum efficiency of 3.98%. **Z. Li**
1384. Synthesis and characterization of a novel near-infrared bioprobe with aggregation-induced emission characteristics. **A. Nicol***, W. Qin, J. W. Y. Lam, B. Tang
1385. Construction of efficient deep blue AIE luminogen from triphenylethene for non-doped OLED applications. W. Qin, **A. Nicol**, J. W. Y. Lam, B. Tang
1386. Development of pure organic materials with long-lived and efficient room temperature phosphorescence. W. Zhao, **A. Nicol**, R.T. Kwok, J.W. Lam, B. Tang
1387. Detection of oligomers and fibrils of α-synuclein by AIEgen with strong fluorescence. C. Leung, Y. Hong, **Z. Qiu**, J. W. Y. Lam, B. Tang*
1388. Light-emitting polycyclic aromatic hydrocarbon synthesized by regioselective photocyclization and its application in optical waveguide. X. Gu, Z. He, **Z. Qiu**, J. W. Y. Lam, B. Tang*
1389. Development of functional poly(triphenylacrylonitrite) with in situ generated AIEgen by three-component polymerization of aryl bromides, internal alkynes, and potassium ferrocyanide. **Z. Qiu**, J. W. Y. Lam, B. Tang*
1390. Construction of conjugated fluorescent polymers through transition-metal-free homocoupling polymerization of difunctional haloalkynes. **Y. ZHANG***, J. W. Y. Lam, B. Tang
1391. Optical properties of solid-emissive BODIPYs bearing aryl substituents at the boron center. **H. Yamane**, S. Ito, K. Tanaka*, Y. Chujo*
1392. Stable AIE luminogen carrying acyl chloride functionality as fluorescent visualizer for intracellular imaging. **Z. Wang**, E. Zhao, Z. Zhao, B. Tang*
1393. Synthesis and properties of pyrrole derivatives emitted red fluorescence with aggregation-enhanced emission feature. G. Liu, **J. Shi***, B. Tong, Y. Dong
1394. Bifunctional AIE luminogen as selective mitochondrial-targeting probe for cancer cell and photosensitizer for photodynamic therapy. C. Gui, E. Zhao, **Z. Wang**, J. W. Y. Lam, B. Tang*
1395. Selective staining of mitochondria by a non-leaking tetraphenylethene-based dye with red emission. J. Roose, W. ZHANG, **Z. Wang**, J. W. Y. Lam, B. Tang*
1396. Transferrin-functionalized nanoparticles with aggregation-induced emission characteristics for image-guided and targeted photodynamic cancer therapy. **X. Cai**, S. XU, B. Liu*
1397. Ultrabright organic dots with aggregation-induced emission characteristics for cell tracking. G. FENG, **X. Cai**, B. Liu*
1398. Platinum prodrug conjugated with photosensitizer with aggregation-induced emission (AIE) characteristics for drug activation monitoring and combinatorial photodynamic–chemotherapy against cisplatin resistant cancer cells. Y. Yuan, **X. Cai**, B. Liu*
1399. Self-assembly-induced fluorescence turn-on for specific protein imaging. H. Wang, **D. Ding**
1400. Self-assembly of a light-up AIE probe in targeted cancer cells for long-term fluorescent cell tracking. **D. Ding**, **G. Wang**
1401. Photoexcited chirality transfer ability from chiral binaphthyl to achiral anthracene revealed by circularly polarized luminescence study. S. Kitamura, K. Nakabayashi, N. Tajima, T. Harada, M. Fujiki, **Y. Imai**
1402. Nano graphene oxide modified aggregation-induced emission nanoparticle and Its application in in vivo bioimaging. **Z. Zhu***, W. Qin, D. Li, J. Qian*
1403. Efficient AIE-active pure blue molecule by incorporating multifunctional groups into tetraphenylsilane. **P. Lu***, X. Tang
1404. Real-time fluorescent chemosensor based on aggregation-enhanced emission for quantitative monitoring trace carbon dioxide gas. H. Wang, **P. Liu**, D. Chen, Y. Zhang, J. Shi, X. Feng, B. Tong, **Y. Dong***
1405. Preparation of optical-active polysiloxanes with aggregation-induced emission property. L. Dong, N. Jin, K. Liang, J. Zhi*, B. Tong, **Y. Dong***
1406. Aggregation-induced emission properties and self-assembly of aryl-substituted 1,2,5-triphenylpyrrole derivatives. N. Jin, Y. Zhang, J. Shi, J. Zhi*, B. Tong, **Y. Dong***
1407. Fluorescent sensing for hyaluronidase via combination of AIE and ACQ effects. H. Xie*, F. Zeng, **S. Wu**
1408. Fluorescent sensing for alkaline phosphatase via excimer/monomer conversion. F. Zheng, F. Zeng, **S. Wu**
1409. Probing sugar-lectin recognitions based on glyco-diketopyrrolopyrrole with aggregation-induced NIR emission. Y. Hang, **J. Hua**
1410. Diketopyrrolopyrrole-based NIR fluorescent biosensor for BSA detection and AIE-assisted bioimaging. Y. Hang, **J. Hua**
1411. Design and synthesis of new tetraphenylpyrazine-based AIEgens. **A. Qin***, B. Tang
1412. Aggregation-induced emission of hexaphenyl-1,3-butadiene. **Y. Zhang**, L. Kong, J. Shi, B. Tong, Y. Dong*
1413. Novel conjugative hyperbranched polymers with aggregation-induced emission characteristics: Synthesis by one-pot"A2+B4"polymerization, application as explosive chemsensors and PLEDs. **X. Chen**
1414. Conjugated hyperbranched polymer constructed from carbazole and tetraphenylethylene moieties: Convenient synthesis through one-pot "A2 + B4" Suzuki polymerization, aggregation-induced enhanced emission, and application as explosive chemosensors and PLEDs. **X. Chen**
1415. Graphene oxide-based AIE biosensor with high selectivity toward bovine serum albumin. **X. Chen**
1416. Reversible near-infrared/blue mechanofluorochromism of aminobenzopyranoxanthene. **M. Tanioka**, S. Kamino*, A. Muranaka*, Y. Ooyama, H. Ota, Y. Shirasaki, J. Horigome, M. Ueda, M. Uchiyama, D. Sawada, S. Enomoto
1417. Charge transfer properties-molecular structure of α,β-unsaturated acrylonitrile compounds experimental and computational chemistry point of view. **M.J. Percino**, M. Cerón, O. Rodriguez Meza, M. Castro, G. Soriano-Moro, V. M. Chapela, E. Pérez-Gutierrez, J. Ricardo
1418. Fabrication and stimuli-triggered disintegration of crosslinked gel networks with switchable fluorescence emissions. J. Hu, **S. Liu***
1419. Micellar nanoparticles with pH-tunable micellization mechanism and aggregation-induced emission. S. Tian, **Y. Li**, S. Liu*
1420. Amphiphilic star copolymers for bacteria detection and elimination. **Y. Li**, S. Liu*
1421. Proton-triggered hypsochromic luminescence in 1,1′-(2,5-distyryl-1,4-phenylene) dipiperidine. J. Chen, B. Xu*, **W. Tian***
1422. Reversible multistimuli-response fluorescent switch based on tetraphenylethene–spiropyran molecules. Q. Qi, B. Xu*, **W. Tian***
1423. Selective tumor cell imaging using DNA aptamer-functionalized AIE fluorophore-embedded silica nanoparticles. **A. Tong***
1424. Turn-on sensing for Ag+ based on AIE-active fluorescent probe and cytosine-rich DNA. K. Ma, H. Wang, **B. Xu***, W. Tian*
1425. Highly efficient near-infrared organic dots based on novel AEE fluorogenfor specific cancer cell imaging. Y. Zhang, **B. Xu**, W. Tian*
1426. Fluorescence behavior of single polyfluorene nanoparticles. **S. MACHIDA***, Y. Hashimoto, N. Ikeda
1427. Synthesis of silole-peptide dendrimer for targeting norovirus-3C protease. **B.D. Sandanala**, T. Furukawa, T. KOYAMA, K. MATSUOKA, K. Hatano*
1428. Amphiphilic dipolar π-conjugated systems with smart luminescence properties. **Y. Hirai**, S. Yagai
1429. Development of diagnosis tools for Alzheimer's diseases based on AIE phenomenon. **T. Murashima***, K. Kawamura, R. Nakayama, A. Matsumoto, S. Fujii*
1430. Imidazole-appended *p*-phenylene-Cu(II) ensemble as a chemoprobe for histidine in biological samples. **K. Kim**, J. Jung*
1431. Preparation and characterizaton of aniline dimer derivative with aggregation-enhanced emission properties. H. Lu, K. Wang, **J. Yang***
1432. Tuning the luminescence of metal−organic frameworks for detection of energetic heterocyclic compounds. **L. Wang**, X. Feng, B. Wang*
1433. Multiphoton absorption property of a single crystal of luminescent gold complex. **A. Ando**, S. Yamada, O. Tsutsumi*, K. Kamada
1434. Mechanofluorochromic polyurethanes with aggregation-enhanced emission feature. **K. Wang**, H. Lu, J. Yang*
1435. Syntheses of AIE dye labeled biomolecular probes aiming to the development of facile diagnosis methods for cancer and Alzheimer's disease. **K. Kawamura***, A. Matsumoto, T. Murashima

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1436. Tuning of luminescent color from a gold complex without modification of molecular structure. **R. Kawano**, S. Yamada, O. Tsutsumi*
1437. Crystallization-induced phosphorescence of Pd(PPh_3)$_4$. **M. Gao**, A. Qin*, B.Z. Tang*
1438. Multiscale simulation on excited state dynamics in amorphous organic aggregates. **H. Ma**, Q. Peng*, Z. Shuai*
1439. Construction of nanoparticles using TICT type BODIPYs. **A. Matsumoto***, K. Kawamura, T. Murashima
1440. Tetraphenylethene-based derivatives for supramolecular self-assembly. **A.S. Rananaware**, S.V. Bhosale
1441. Circular supramolecular polymers: A mechanistic study. **K. Aratsu**, S. Yagai
1442. Synthesis of fluorescence detection against pathogens based on the aggregation-induced emission effect. **K. Nakamura**, T. Furukawa, T. KOYAMA, K. Hatano
1443. Synthesis of fluorescence silole-core dendrimers carrying sugar chain as pathogen sensor. **S. Matsumura***, K. Nakamura, T. Furukawa, T. KOYAMA, K. MATSUOKA, K. Hatano
1444. Tetrathienylethene TTE and tetrafurylethene TFE: New promising AIE luminogenes. **L. Viglianti***, **N. Xie**, A. Bolzoni, C. Baldoli, P. Mussini, R. Kwok, J. W. Y. Lam, E. Licandro*, B. Tang*
1445. White-color emitting polymer materials containing liquid-crystalline gold complexes. **O. Tsutsumi***, O. Younis, S. Tamai, S. Yamada
1446. Perfluoroalkyl-substituted rod-shaped gold(I) complexes as new solid-state luminescent materials. **S. Yamada**, O. Tsutsumi*
1447. Traceable drug delivery system for next generation drugs based on aggregation-induced emission compounds and fluorescent proteins. **M. Suzuki***, K. Hatano
1448. Highly fluorescent metal-organic frameworks constructed from molecules with aggregation-induced emission properties. **Y. Zhang**, Y. Guo, X. Feng, B. Wang*
1449. Electrochemistry of heterocycle-based ethenes:Molecules displaying aggregation-Induced emission features. **L. Viglianti***, A. Bolzoni, C. Baldoli, E. Licandro*, P. Mussini*
1450. Synthesis and optical properties of aggregation induced emission dyes based on maleimide skeleton. **H. Imoto**, K. Kizaki, K. Naka*
1451. Synthesis, structure, and solid-state phosphorescence of *trans*-bis(salicylaldiminato)platinum(II) complexes bearing perpendicular aromatic units with intramolecular Pt-H interactions. **S. Iwata**, H. Takahashi, N. Komiya, T. Naota*
1452. 3,14-Diaryl-17,17-dipentyltetrabenzofluorenes: New fluorophores displaying both aggregation-induced emission and remarkable solvatochromism. **T. Kawase***
1453. Photofunctional dendrimers based on the AIE/AIEE luminogens: Light-harvesting and sensing. **Y. Li***, Y. Zeng*
1454. Aggregation induced simultaneous enhancement of luminescent efficiency and charge mobility in fluorene-based copolymer. **L. Liu**, Y. Ma*
1455. Enhanced solid-state ESIPT luminescence of imidazopyridine derivatives: Polymorph dependence and stimuli-responsive behavior. **T. Mutai***, Y. Shigemitsu, H. Shono, T. Ohkawa, H. Sawatani, K. Araki*
1456. Highly selective fluorogenic multianalyte biosensors constructed via enzyme-catalyzed coupling and aggregation-induced emission. **X. Wang**, S. Liu
1457. H2O2 and pH-responsive organogel with aggregation-induced emission and chemiluminescence constructed via thiolene click reaction. **X. Wang**, J. Hu, S. Liu
1458. Luminescent liquids crystals: Aggregation-induced emission and phase behaviors. **Z. Yu***, M. Li, J. Li, W. Li, J. W. Y. Lam, B. Tang
1459. Series of abnormal tetrahydropyrimidine-based AIE compounds: Application and AIE origin. **Q. Zhu**
1460. Through-space conjugated folded tetraphenylethene derivatives with high fluorescence efficiencies and remarkably large Stokes shifts. B. He, H. Nie, R. Hu, A. Qin, **Z. Zhao***, B.Z. Tang*
1461. Steric and conjugation effects on the aggregation-induced emission of phosphindole oxide fluorophores. F. Bu, R. Hu, A. Qin, **Z. Zhao***, B.Z. Tang*

Saturday Afternoon

Hawaii Convention Center
324

Dynamic, Reversible, and Self-healing Materials (#64)

Organized by: W. Skene, H. Otsuka, S. Rowan
Presiding: S.J. Rowan, W. Skene

13:00 – 1462. Adaptable and stimuli-responsive polymer networks. **C.N. Bowman***, G. Berg, M. McBride, N. Sowan, S. Chatani, M. Podgórski
13:30 – 1463. Compact polyelectrolyte complexes: New materials with astonishing mechanical and self-healing properties. **P. SCHAAF***, J. Schlenoff
13:45 – 1464. Reversible morphological transformation through dynamic covalent self-assembly. **K. Baek**, K. Kim*
14:00 – 1465. Adhesive materials utilizing molecular interaction of thymine-adenine and photodimerization of thymine. **N. Ishikawa***, M. Furutani, K. Arimitsu
14:15 – 1466. Ionically crosslinked polymer networks. **K. Cavicchi**, G. Deng, J. Lee
14:30 coffee
14:45 – 1467. Multiphase design of dynamic and self-healing polymer design via both noncovalent and dynamic covalent interactions. **Z.M. Guan***
15:15 – 1468. Self-healable adhesion system by immobilized polyelectrolyte brush. **A. Takahara**, M. Kobayashi
15:30 – 1469. Preparation of novel self-healing unsaturated polyester resin. **Y. Kajihara**, J. Nunoshige, T. Muraki
15:45 – 1470. Freezing-induced mechanochemistry using dynamic covalent mechanophores. **K. Imato**, A. Takahara*, H. Otsuka*
16:00 – 1471. Development and testing of intricate, amphiphilic crosslinked hyperbranched fluoropolymers as anti-icing coatings in aerospace and defense applications. **J. Summerhill**, K.A. Pollack, J.E. Raymond, K. Wooley*
16:15 – 1472. New metal-free azide-alkyne click reaction for self-healing polymer films. **S. Fukushima**, T. Michinobu
16:30 – 1473. Control of structure and chirality in dynamic and reversible supramolecular polymers. **M. Raynal***, A. Desmarchelier, V. Ayzac, P. Brocorens, N. Vanthuyne, L. Bouteiller

Hawaii Convention Center
326A

Radical Polymerization Kinetics and Process Modeling (#92)

Organized by: R. Hutchinson, G. Russell, P. Zetterlund, E. Saldivar-Guerra

13:00 Introductory remarks
13:05 – 1474. Strength of model-based design for the synthesis of well-defined macromolecular architectures via a radical mechanism. **D.R. D'hooge***, P. Van Steenberge, M. Reyniers, G. Marin
13:35 – 1475. Push monomer conversion high and understand diffusion-controlled reactions in CRP. **S. Zhu***
14:05 – 1476. Determination of copolymerization reactivity ratios on vapor-phase assisted surface copolymerization (VASP) by nonlinear least-squares method. **S. Iwakiri***, H. Nishida
14:25 – 1477. Autoacceleration in the free-radical polymerization of methyl methacrylate and vinyl acetate: A comparative study. **D. Victoria-Valenzuela**, J. Herrera-Ordonez*
14:45 Break
15:00 – 1478. Overview of Monte Carlo methods in polymer reaction engineering. **J.B. Soares***
15:30 – 1479. Modeling of VDF/HFP copolymerizations considering transfer to polymer reactions and secondary radical propagation. **S. Beuermann***
16:00 – 1480. Analytical solution of free radical polymerization: Application to the numerical modeling and simulation of polymerization reactions in coiled flow inverters. **D.K. Garg**, C.A. Serra*, D. Parida, Y. Hoarau
16:20 – 1481. Simulation of radical polymerization of methyl methacrylate at room temperature using a tertiary amine/BPO initiating system. A. Zoller, D. Gigmes, **Y. Guillaneuf***

Hawaii Convention Center
323C

New Frontiers in Polymer Crystallization (#96)

Organized by: W. Hu, A. Toda, C. Li
Presiding: M. Hikosaka, G. Strobl

13:00 Kinetics
13:00 – 1482. Melting kinetics of polymer crystals. **A. Toda***, T. Ando, K. Taguchi, K. Nozaki, M. Maruyama, Y. Mizutani, K. Tagashira, T. Fukushima, H. Kaji, M. Konishi
13:20 – 1483. Influence of entanglements on melting behavior of a semi-crystalline polymer. **S. Rastogi***, S. Ronca, D. Romano, G. Forte, K. Liu, E. Andablo-Reyes
13:40 – 1484. Role of temperature, chain length, and crystal structure in the mechanism of quiescent polymer crystal growth by chain-folding. **H. Marand***
14:00 – 1485. Elucidations of chain folding and unfolding of semicrystalline polymers by solid-state NMR. **T. Miyoshi**
14:20 – 1486. Formation and 3D-structure of shish-kebab in semi-dilute solution of ultrahigh molecular weight polyethylene. **H. Murase***, T. Hashimoto*
14:40 – 1487. Crystal nucleation and growth kinetics in polymers, studied by Tammann's development method and fast scanning calorimetry. **E. Zhuravlev***, J.W. Schmelzer, A.S. Abyzov, V.M. Fokin, R. Androsch, C. Schick
14:55 Break
15:05 Morphology and Mesomorphasic Phase
15:05 – 1488. Effect of the crystalline α-process on the morphology of semicrystalline polymers: A comparative SAXS/NMR-study on poly(ϵ-caprolactone) and polyethyleneoxide. A. Seidlitz, R. Bärenwald, K. Saalwaechter, **T. Thurn-Albrecht***
15:25 – 1489. Controlled handedness of twisted lamellae in banded spherulites of chiral polymers. **R. Ho**
15:45 – 1490. Temperature reversible structure change of semi-crystalline polymers studied with temperature modulated X-ray scattering. **Y. Saruyama***
16:05 – 1491. Vitrification, mesophase formation, and crystallization of poly(butylene-2,6-naphthalate). **K. Nishida***, E. Zhuravlev, B. Yang, C. Schick, T. Kanaya
16:25 – 1492. Some aspects of nucleation in polymorphic isotactic poly(1-butene). **D. Cavallo**, L. Gardella, G.C. Alfonso
16:45 – 1493. Interpretation of temperature dependences of spherical growth rate and lamellar thickness by polymer crystallization model through the mesophase. **T. Konishi***, D. Tadokoro, W. Sakatsuji, K. Fukao, Y. Miyamoto

Hawaii Convention Center
325B

Current Polyurethane Science (#133)

Organized by: K. Kojio, S. Hsu, K. Wynne, Z. Ren, S. Yamasaki, G. Zhang
Presiding: K. Kojio

13:00 – 1494. Novel polyhydroxyurethane thermoplastic elastomers:Critical role of the hydroxyl group and the chemical structure of the soft segment in controlling nanophase separation required for elastomeric behavior. E. Leitsch, K. Liu, K. Scheidt, **J. Torkelson***
14:00 – 1495. Thermoplastic polyhydroxyurethane as non-isocyanate polyurethane elastomer. **G. Beniah**, K. Liu, N. Wilmot, W.H. Heath, K. Scheidt, J. Torkelson
14:30 – 1496. RZETA – new amine catalyst for polyurethane with low amine emission. **Y. Sesoko**, H. Fujiwara, T. Suzuki, H. Kiso, J. Tucker
15:00 Break
15:15 – 1497. Liquid-crystalline behavior of binary systems consisting of polyurethane mesogens and polar nematic liquid crystals. **Y. Shima**, M. Nata, S. Ujiie*
15:40 – 1498. Thermotropic liquid-crystalline polyurethanes and their metal-complexed family. **S. Ujiie***, Y. Shima, G. Shimada, M. Nata
16:10 – 1499. Polyurethane-peptide hybrids: Hierarchy and mechanics inspired by nature. **L. Korley***, J. Johnson, L. Matolyak, N. Wanasekara
16:35 – 1500. High-efficient CO_2-based polyurethane hot melt adhesives. **Z. You**, Z. Liu, J. Chu

Hawaii Convention Center
325A

Macromolecular Self-Assembly for Smart Biomaterials (#196)

Organized by: S. Thayumanavan, L. Dai, J. Ryu
Presiding: J. Ryu

13:00 – 1501. Virus nanoreactors and the hierarchical assembly of coupled catalytic materials. **T. Douglas***
13:25 – 1502. Modular assembly of diagnostic nanoparticles and therapeutic stem cells. **H. Kong**
13:50 – 1503. Design and self-assembly of a polymer prodrug for tissue regeneration. J. Cheng, **P. Messersmith***
14:15 – 1504. Smart polymers for protein conjugates, protein nanoparticles and reversible nanopatterning. **H. Maynard**, M. Lorenzo, E. Lin, N. Matsumoto, E. Bat
14:40 – 1505. Adaptive peptide nanostructures through (non-) equilibriam biocatalytic self-assembly. **R.V. Ulijn***
15:05 Break
15:15 – 1506. Enzyme-instructed self-assembly (EISA) for cancer therapy. **B. Xu**
15:40 – 1507. In situcross-linking and stimuli-responsive degradation of macromolecular multilayers for cell encapsulation. **S. Yang***, I. Choi, J. Ryu
16:00 – 1508. Self-assembled dendron-polymer conjugates as drug delivery vehicles. **R. Sanyal***

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16:20 – 1509. Light-triggered drug delivery systems using a dendrimer-gold nanorod composite membrane. **M. Park***
16:40 – 1510. Trading of DNA oligomers encapsulated into self-assembled microsphere. **N. Morimoto***, R. Takei, S.M. Nomura, M. Suzuki

Hawaii Convention Center
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Cyclic and Topological Polymers (#248)

Organized by: Y. Tezuka, S. Grayson, M. Monteiro
Presiding: Y. Tezuka

13:00 – 1511. Catenated and knotty living polymerizations. **R. Advincula***
13:30 – 1512. Reversible topology transformation of linear - cyclic polymer using rotaxane protocol. **T. Takata***
14:00 – 1513. Flexibility, nesting, and stacking in cyclic porphyrin polymers. L. Perdigao, A. Esmail, A. Summerfield, S. Svatek, D. Kondratuk, A. Stannard, H. Anderson, **P. Beton***
14:20 – 1514. Application of graph theory and knot theory to polymer chemistry. **K. Shimokawa**
14:50 Break
15:00 – 1515. Racemic and quasi-racemic X-ray structures of cyclic disulfide-rich peptide drug scaffolds: Looking into the mirror for drug design. **D. Craik**, C. Wang, G. King, S. Northfield, P. Ojeda
15:30 – 1516. Using the cyclotide scaffold to target protein-protein interactions. **J.A. Camarero***
16:00 – 1517. Folding single polymer chains into defined geometries. **C. Barner-Kowollik***
16:30 – 1518. Topological polymer chemistry designing macromolecular graph geometries. **Y. Tezuka***

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323B

Advanced Membrane Separations (#262)

Organized by: R. Wickramasinghe, K. Tung, H. Chen, S. Husson
Presiding: K. Tung

13:00 – 1519. Tunable multifunctional membranes for water treatment to enzyme catalysis: An overview. **D. Bhattacharyya***
13:20 – 1520. Development of novel osmotic membranes for water and energy applications. **R. Wang***
13:40 – 1521. Developing new multilayer polyelectrolyte charge mosaic membranes. G. Vaseghi, **G. Lipscomb***
14:00 – 1522. Removal of cyanide in solution using electrodeionization. **Y. Tian***, Y. Yang, X. Wu, Z. Fan, Z. Wu
14:20 – 1523. Recovery cyanide from cyanide-containing wastewater by selective-electroconcentration. **Y. Yang***, Y. Tian, Z. Fan, X. Wu, Z. Wu
14:40 – 1524. Charged membrane separations in hydraulic fracturing. **J.A. Hestekin**
15:00 – 1525. Preparation and characterization of methylmethoxysilane derived hydrophobic polymethylsilsesquioxane aerogel membranes for membrane distillation applications. **K. Tung***, C. Yang, C. Chuang, C. Ko, C. Chen, M. Huang, F. Hu
15:20 – 1526. Effect of membrane structure on membranes performance during membrane distillation. **R. Wickramasinghe**, M. Malmali
15:40 – 1527. Forward osmosis for water purification using impregnated membranes. **H. Lin***, S. Zhao, K. Huang, A. Balachandran
16:00 – 1528. Breakthrough water purification technologies based on nanofibrous membranes. **B.S. Hsiao***, B. Chu
16:20 – 1529. New approaches to membrane-based oil/water separations. **D. Jassby***, A. Dudchenko, X. Zhu, B. Chaudhary

Hawaii Convention Center
323A

Fusion Materials: Functional Self-Organized Materials Consisting of Fused Organic and Inorganic Components (#294)

Organized by: T. Kato, M. Aizenberg, H. Kikuchi, S. Yu, H. Imai, C. Otsuki, C. Fraser, S. Kim

13:00 – 1530. Convergent evolution to engineering: Multifunctional biocomposite and biomimetic material. **D. Kisailus***
13:30 – 1531. Synthesis and characterisation of novel multidimensional fusion materials. **S. Valiyaveettil**
14:00 – 1532. Preparation of hollow capsules composed of *it*-PMMA/*st*-PMAA stereocomplex thin films by layer-by-layer assembly on macroporous silica gel. **H. Ajiro**, T. Ueyama, M. Akashi*
14:20 – 1533. Hierarchically structured assembly of inorganic nanosheets for tailored fusion materials. **M. Osada**, T. Sasaki
14:50 – 1534. Self-assembly of spherical and anisotropic polymer composite particles in bioderived cholesteric liquid crystal matrices. **C. Rosu***, J. Fu, E. Reichmanis, P.S. Russo
15:10 – 1535. Novel second order isotropic to nematic phase transition in hyperswollen lyotropic liquid crystal driven by rod-sphere transition of micelles. **J. Yamamoto***, H. Jo, C. Ida, J. Lagerwall, G. Scalia
15:30 – 1536. Self-organizing organic-inorganic hybrid materials - from metal complexes to metal nanoparticles. **H. Eichhorn***, H. Taing, J. Yu, S. Salloum
16:00 – 1537. Biochemistry-enabled synthesis of functional nanomaterials. **E. Fong**
16:20 – 1538. Multicomponent tandem polymerizations of alkynes towards functional conjugated polymers. **R. Hu**, B. Tang
16:40 – 1539. Precise syntheses of ring-based vinyl polymers via ring-expansion living cationic polymerization. **M. Ouchi**

Hawaii Convention Center
326B

Aggregation Induced Emission: Materials and Applications (#444)

Organized by: M. Fujiki, B. Tang, B. Liu
Presiding: Q. Peng, B.Z. Tang, W. Tian

13:00 – 1540. Design, synthesis, and applications of aryl-substituted pyrroles with aggregation-induced emission characteristics. **Y. Dong***, X. Feng, J. Shi, B. Tong
13:30 – 1541. Aggregation-induced emission materials: The art of conjugation and rotation. **Z. Li**
14:00 – 1542. Preparation and biomedical applications of nanoprobes with aggregation-induced emission characteristics. **D. Ding***
14:20 break
14:20 – 1543. Design and syntheses of AIEgens with new structural motif. **R. Hu**, B. Tang
14:40 – 1544. Bright AIE nanoprobes with biocompatibility and photostability for functional bioimaging. **J. Qian***, Z. Zhu, A. Qin, B.Z. Tang
15:00 – 1545. Polysilane-triggered AIE-active explosive sensor based on FRET. **H. Sohn***
15:20 break
15:20 – 1546. Efficient nonfullerene organic solar cells based on new molecules with an AIE core. **H. YAN**
15:40 – 1547. New mechanistic insight into the aggregation-induced emission phenomenon. **B. Tang***
16:00 – 1548. Emission mechanisms and applications of phenylbenzoxales based AIE compounds. **Y. Qian***, M. Cai, J. Li, W. Li, J. Ye, Z. Tu, L. XIE, G. Yang, W. Huang*
16:20 – 1549. Supramolecular engineering of metastable molecular aggregates for stimuli-responsive materials. **S. Yagai***
16:40 – 1550. AIE aggregate-amplified chemiluminescence resonance energy transfer. **C. Lyu**, **L. Zhang**, N. He, W. Guan

Saturday Evening

Hawaii Convention Center
Halls I, II, III

Dynamic, Reversible, and Self-healing Materials (#64)

Organized by: W. Skene, H. Otsuka, S. Rowan
Presiding: W. Skene

Poster Session
19:00 – 21:00

1551. Fixation and modification of dynamic covalent polymers: Insertion reactions of styrene derivatives into a disulfide-containing polyester. **Y. Nakai**, A. Takahashi, R. Goseki, H. Otsuka*
1552. Dynamic property of diselenide bond under visible light. **S. Ji**, W. Cao, Y. Yu, H. Xu*
1553. Structural reorganization of linear and cross-linked polymers using exchange reactions of diselenide bonds. **N. Suzuki***, T. Ohishi, R. Goseki, H. Xu, H. Otsuka
1554. Degradation of epoxy resins with disulfide bonds based on dynamic covalent chemistry. **A. Takahashi**, T. Ohishi, R. Goseki, H. Otsuka*
1555. Synthesis and mechanochromic property of crystalline polymers with diarylbibenzofuranone. **S. Furukawa**, H. Oka, R. Goseki, H. Otsuka*
1556. Mechanochromic property of dynamic covalent polymers with diarylbibenzofuranone functionality in the center of their structures. **H. Oka**, T. Sato, K. Imato, T. Ohishi, R. Goseki, H. Otsuka*
1557. Effect of self-healing performance based on paint system. **S. Park**
1558. Viscoelastic response of polyborosiloxanes gel triggered by reversible cross-linked networks. **M. Tang**, F. Jiang, Z. WANG*
1559. Synthesis and mechanochromic behavior of novel dynamic covalent polymers with multiaryethane units. **T. Sumi**, R. Goseki, H. Otsuka*
1560. Rapid and reversible self-healing of bioactive double-wall carbon nanotube. **Y. Jung**
1561. Rapid synthesis of *m*-phenyleneimine macrocycle via melt-polymerization and thermreversible conversion to linear oligomer based on DCC. **S. Kobayashi**, S. Hasegawa, H. Takei, Y. Nogawa, T. Matsumoto*
1562. Network reorganization of dynamic covalent polymer gels at ambient temperature. **K. Imato**, A. Takahara*, H. Otsuka*
1563. Nanodoping of amino modified molecular sieves to enhance the dielectric performance of polymeric insulation by absorbing the degradation gases of electrical aging. **Y. Yang***, L. GAO, J. He
1564. Regulation of emulsion and vesicles by CO_2-switchable surfactants. **W. Qiao***
1565. Synthesis of new functionnalized thermosensitive polymer. **F. Azemar**, D. Gomes Rodrigues, S. MONGE
1566. Synthesis and mechanoresponsivity of diarylbibenzofruranone-containing cross-linked polymers prepared by sol-gel method. **T. Kosuge**, K. Imato, R. Goseki, H. Otsuka*
1567. Dynamic component exchange of conjugated materials. M. Walesa-Chorab, **W. Skene***

Hawaii Convention Center
Halls I, II, III

Current Polyurethane Science (#133)

Organized by: K. Kojio, S. Hsu, K. Wynne, Z. Ren, S. Yamasaki, G. Zhang

Poster Session
19:00 – 21:00

1568. Intramolecular hydroamination of polyallylurethanes with Pd-tethering macrocycle catalyst. **H. Iwasaki***, D. Aoki, H. Sogawa, T. Takata
1569. Uv-curable waterborne polyurethane-acrylate containing sulfonic and carboxylic groups. **L. Wei**
1570. Comparative studies on anionic waterborne polyurethane dispersion based on salt group-containing diol as hydrophilic chain extender. **S. Fang***, L. Zhou, Z. Ren*, J. Zhang, **X. Guo**
1571. Novel polycaprolactone glycols bearing conjugated triene for biodegradable polyurethane: Structure and crystallization behavior. **G. Zhang**, X. Guo, H. Wang, Z. Ren

Hawaii Convention Center
323B

Advanced Membrane Separations (#262)

Organized by: R. Wickramasinghe, K. Tung, H. Chen, S. Husson
Presiding: H. Chen, S.M. Husson

19:00 – 1572. Multimodal membranes for protein purifications at high ionic strength. J. Wang, **S.M. Husson**
19:20 – 1573. Understanding the effect of salt ions on protein adsorption in novel responsive hydrophobic interaction membrane chromatography. **X. Qian***, Z. Liu, R. Wickramasinghe
19:40 – 1574. TiO_2 based enzymatic membranes and membrane reactors. J. Hou, Y. Wang, N.A. Lee, **V. Chen***
20:00 – 1575. Lactic acid production in a membrane bioreactor system with thermophilic *Bacillus coagulans*: Fouling analysis and process control with an innovative optical sensor. R. Fan, M. Ebrahimi, H. Quitmann, **P. Czermak**
20:20 – 1576. Selective enantiomer separation by pertraction and pervaporation with chiral polymeric membranes. **P. Izak***, J. Zitka, L. Brozova, P. Sysel, H. Vychodilova, L. Stastna-Cervenkova, S. Hovorka
20:40 – 1577. Fractionating complex protein lignin process streams by tubular ceramic membranes. N. Busse, M. Kraume, **P. Czermak**

Hawaii Convention Center
323A

Fusion Materials: Functional Self-Organized Materials Consisting of Fused Organic and Inorganic Components (#294)

Organized by: T. Kato, M. Aizenberg, H. Kikuchi, S. Yu, H. Imai, C. Otsuki, C. Fraser, S. Kim

19:00 – 1578. Fusion between microfabrication and biomaterials: Application for artificial cell membranes and biomimetic microfluidics. **R. Kawano***
19:15 – 1579. Producing coloured materials with amorphous arrays of black and white colloidal particles. **Y. Takeoka***

*** Principle Author**

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19:30 – 1580. Dye-sensitized solar cells based on self-assembled liquid-crystalline electrolytes. **D. Högberg**, B. Soberats, S. Uchida, M. Yoshio, L. Kloo, H. Segawa, T. Kato*
19:45 – 1581. Design of bicontinuous cubic liquid-crystalline assemblies using ionic liquids as building block. **T. Ichikawa**, T. Matsumoto, A. Okafuji, K. Fujimura, M. Yoshio, T. Kato, H. Ohno*
20:00 – 1582. Supramolecular nanoparticle carriers self-assembled from cyclodextrin and adamantane-functionalized polyacrylates for tumor-targeted drug delivery in both in-vitro and in-vivo model. **C. Ang**, S. Tan, X. Wang, Q. Zhang, S. Subramanium Tamil, N. Tan, Y. Zhao*
20:15 – 1583. Nanofusion materials for photodynamic therapy by near infrared irradiation. **K. Katagiri***, I. Shimizu, M. Narahara, K. Tomita, A. Ikeda, K. Inumaru
20:30 – 1584. Lineally polarized emission of lanthanide complexes with layer arrangement in the Langmuir-Blodgett film. **A. Ishii***, N. Goto, M. Hasegawa
20:45 – 1585. Silica nanoarchitectures synthesized via a block copolymer-mediated approach. **A. Sugawara-Narutaki***, S. Zhou, S. Tsuboike, T. Okubo, Y. Oda, K. Landenberger, A. Shimojima, S. Aoshima

Sunday Morning

Hawaii Convention Center
324

Dynamic, Reversible, and Self-healing Materials (#64)

Organized by: W. Skene, H. Otsuka, S. Rowan
Presiding: H. Otsuka, W. Skene

8:00 – 1586. Injectable magnetic hydrogels containing embedded thermoresponsive microgels facilitating "on-demand" drug release. S. Campbell, D. Maitland, **T. Hoare***
8:15 – 1587. Mussel-inspired, self-healing poly(dopamine methacrylate)/polyurethane blends and nanocomposites. S. Song, Y. Tang, X. Qu, Z. Yang, **J. Huang***
8:30 – 1588. Artificial spores: Cytoprotective and degradable nanocoating of mammalian cells. **J. Lee***, S. Yang, I. Choi
8:45 – 1589. Malleable and self-healing polymer networks based on dynamic imine bond exchange. **A. Chao**, D. Zhang*
9:00 – 1590. UV light triggered self-healing composites based on ZnO-graphene quantum dots. **S. Ahn***, K. Park, B. Moon
9:15 – 1591. Structurally dynamic assemblies of stimuli-responsive polymers. C. Deng, J. Cash, W. Brooks, T. Kubo, **B.S. Sumerlin***
9:45 coffee
10:00 – 1592. Glucose-Induced self-healable polyurethanes. **M.W. Urban**
10:30 – 1593. Thermoresponsive and self-healing polymers based on guest–host interactions. Y. Jia, **J.X. Zhu***
10:45 – 1594. Study on electrochemical redox responsive supramolecular self-healing hydrogels. L. Peng, H. Zhang, **J. Yuan***
11:00 – 1595. Mechanically interlocked polymer networks viaradical-radical interactions. **Z.S. Kean**, J.F. Stoddart*
11:15 – 1596. Thermostimulated reversible interconversion between a macrocycle and the linear oligomers. **T. Matsumoto***, S. Kobayashi, S. Hasegawa
11:30 – 1597. Thermotropic transformation of polyacetylene's main-chain conformation having tunable critical one-handed spiralization temperature. **I. Liu**, W. Wang, Y. Wang, C. Zhang, T. Aoki, Y. Okamoto
11:45 – 1598. Hypervalent iodine(III) compounds in the synthesis of dynamic polymers with controlled macromolecular architectures. **N.V. Tsarevsky***, H. Han

Hawaii Convention Center
326A

Radical Polymerization Kinetics and Process Modeling (#92)

Organized by: R. Hutchinson, G. Russell, P. Zetterlund, E. Saldivar-Guerra

8:00 Introductory remarks
8:05 – 1599. About the relevance of detailed elementary kinetics in modern LDPE product development. **M. Busch**
8:35 – 1600. Exploring the evolution of molecular architecture in free radicalcopolymerizations with divinyl monomers using Monte Carlo kinetic simulations with restricted polymer chain diffusion. **D.C. Sundberg***, A. Tripathi, J. Tsavalas
9:05 – 1601. Crosslinking polymerization in resins applied in laser stereolithography. **A.N. Nikitin***
9:25 – 1602. Controlled radical polymerization of dimethacrylate networks. **E.M. Redline***, G. O'Bryan, D.S. Bolintineanu, J. Lane
9:45 Break
10:00 – 1603. Kinetics and modeling of the radical polymerization of ionized monomers in aqueous solution. **P. Drawe***, M. Buback, I. Lacík
10:20 – 1604. Acrylamide copolymerization with cationic monomers in aqueous solution: Experimental and modeling study. D. Cuccato*, **G. Storti**, M. Morbidelli
10:40 – 1605. Mathematical modeling of nitroxide mediated emulsion polymerization via a robust semibatch process. **E. Saldívar-Guerra***, A. Cano-Valdez, R. González-Blanco, M. Cunningham
11:00 – 1606. Fast completion of radical polymerization by heating to ultrahigh temperature under pressure. **K. Kinoshita**, S. Deguchi

Hawaii Convention Center
323C

New Frontiers in Polymer Crystallization (#96)

Organized by: W. Hu, A. Toda, C. Li
Presiding: B.S. Hsiao, T. Kanaya

8:00 Green Polymers
8:00 – 1607. Crystallization processes of poly(L-lactic acid). **B. Lotz***
8:20 – 1608. Structure characterization of cellulose nanofibers and microfibrils. **B.S. Hsiao***, B. Chu, Y. Su
8:40 – 1609. Spherulite crystallization of cellulose from its concentrated solutions in ionic liquids. **J. Zhang**
9:00 – 1610. Crystallization process of eco-friendly polyurea. **G. Matsuba**, Y. Chonan, K. Nishida, T. Kanaya, T. Itoh, T. Akizuki
9:20 – 1611. Kinetics of strain-induced crystallization in cross-linked natural rubber. **M. Tosaka***
9:40 – 1612. Flow-induced crystallization of a long chain aliphatic polyamide in multiple flow fields: A novel anisotropic structure and formation mechanism. **X. Dong***, Y. Gao*, D. Wang
9:55 Break
10:05 Stretch- or Flow-induced
10:05 – 1613. Nano-oriented crystals (NOCs) of PET in elongational crystallization. **M. Hikosaka***, K. Okada, Y. Tanaka, H. Masunaga
10:25 – 1614. Effect of solvent size on aggregation and crystallization of polymers. **Q. Xue**
10:45 – 1615. Effects of molecular weight in flow- and deformation-induced polymer crystallization. **T. Kanaya***
11:05 – 1616. Molecular simulations of diblock copolymers performing fibril crystal growth in solutions. **W. Hu***, R. Shu, A. Eman, L. Zha
11:25 – 1617. Role of entanglement species in the formation of shish-kebab – effect of blend ratio and molecular weight in cyclic and linear polyethylene blend. **S. Yamazaki***
11:45 – 1618. Molecular simulations of shish-crystal formation in polymer shear flow. **Y. Nie**, W. Hu*

Hawaii Convention Center
325B

Current Polyurethane Science (#133)

Organized by: K. Kojio, S. Hsu, K. Wynne, Z. Ren, S. Yamasaki, G. Zhang
Presiding: Y. Higaki

8:00 – 1619. Effects of chemical structure of diisocyanae on a microdomain structure and physical property of polyurethane elastomers. **K. Kojio**, S. Nozaki, A. Takahara
8:30 – 1620. Healing behavior of a microphase-separated structure of segmented polyurethane after mechanical deformation. **S. Nozaki**, K. Kojio*, A. Takahara*
8:55 – 1621. Relationship of branched structure and conductive property of carbonate oligomer-based electrolytes. **K. Kaetsu**, T. Ohishi, T. Hirai, Y. Higaki, K. Kojio*, A. Takahara*
9:20 Break
9:35 – 1622. Cross-linkable ionic and non-ionic polyurethanes from renewable tung oil. **Z. Ren***
10:35 – 1623. Synthesis and properties of hydroxylated tung oil based waterborne anionic polyurethanes dispersion. **L. Jiang**, Z. Ren, Y. Fu, B. Ren, C. Zhu
11:05 – 1624. Crosslinkable waterborne polyurethane protective coatings. **M. Rahman***
11:30 – 1625. Force sensitive waterborne polyurethane with shape memory properties. **Q. Zhang***
11:55 Closing Remarks

Hawaii Convention Center
325A

Macromolecular Self-Assembly for Smart Biomaterials (#196)

Organized by: S. Thayumanavan, L. Dai, J. Ryu
Presiding: J. Ryu

8:00 – 1626. Supramolecular coordination assisted crosslinking of polymer networks into anisotropic assemblies. **L. Dai**, C. Yuan
8:25 – 1627. Nanoparticle-stabilized capsules as therapeutic delivery agents for treatment of breast cancer. J. Hardie, M.A. Mingroni, E. Tetrault, P. Ghazi, V.M. Rotello, **M.E. Farkas***
8:50 – 1628. ROS responsive Se/Te-containing polymers. **H. Xu**
9:15 – 1629. Self-assembly as a design principle in the development of binary antithrombotic and antimicrobial coating with exceptional properties. **J. Kizhakkedathu***, Y. Mei, K. Yu
9:40 – 1630. Direct correlation of molecular structure with self-assembled nanostructures and biological functions for a new family of dendronized peptide amphiphiles designed for safe and effective siRNA delivery. **Z.M. Guan***
10:05 Break
10:15 – 1631. Functional nanomaterials through self-assembly of reactive polymers. **A. Sanyal***
10:40 – 1632. Drug-initiated method: a convenient approach for the synthesis of efficient polymer prodrug nanoparticles. S. Harrisson, D. Bui, A. Maksimenko, P. Couvreur, **J. NICOLAS***
11:00 – 1633. Amphiphilic star block copolymer-based multifunctional micelles for synergistic photoactuated drug delivery and MR imaging. **G. Zhang**, N. Chen
11:20 – 1634. PAMAM dendron-lipid assemblies as stimuli-responsive drug delivery systems. **K. Kono***, Y. Hirai, Y. Yamamoto, E. Yuba, A. Harada

Hawaii Convention Center
327

Cyclic and Topological Polymers (#248)

Organized by: Y. Tezuka, S. Grayson, M. Monteiro
Presiding: S. Grayson

8:00 – 1635. Topology-directed diffusion and relaxation of polymers revealed by single-molecule imaging. **S. Habuchi***
8:30 – 1636. Anomalous self-diffusion in asymmetric ring-linear blends. **S. Shanbhag***
8:50 – 1637. Understanding and characterizing the effect of nanoscale confinement on glass transition temperature and film dewetting of macrocylic polystyrene. **L. Zhang**, R. Elupula, S. Grayson*, J. Torkelson*
9:10 – 1638. Diffusion coefficient and the mean-square radius of gyration for various topological polymers through the quaternion algorithm. **T. Deguchi***, E. Uehara
9:40 – 1639. Scattering function of wormlike rings. **D. Ida***, R. Tsubouchi, T. Yoshizaki
10:00 Break
10:10 – 1640. Controlled self-assembly behaviors of asymmetric ring and star polymers in bulk and solution states. **M. Ree***, Y. Kim, K. Heo, B. Ree, Y. Kitazawa, D. Kawato, Y. Satoh, T. Isono, T. Yamamoto, T. Satoh, T. Kakuchi
10:40 – 1641. Linear–cyclic topological transformation for switching the properties of polymeric materials. **T. Yamamoto***, N. Sugai, S. Asai, Y. Tezuka
11:00 – 1642. Synthesis of carbon-dioxide-derived cyclic poly(propylene carbonate)s. **S. Honda**, H. Sugimoto
11:20 Closing Remark

Hawaii Convention Center
323B

Advanced Membrane Separations (#262)

Organized by: R. Wickramasinghe, K. Tung, H. Chen, S. Husson
Presiding: K. Tung, R. Wickramasinghe

8:00 – 1643. Water vapor and CO_2 permeation through amine-containing facilitated transport membranes for H_2 purification and CO_2 capture. **W. Ho**
8:20 – 1644. Amino acid ionic liquid-based tough gel membrane for CO_2 capture. **H. Matsuyama***, E. Kamio, F. Moghadam
8:40 – 1645. Polymers of intrinsic microporosity for use as molecular sieve membranes. **N. McKeown***, M. Carta, I. Rose, C.G. Bezzu, R. Malpass-Evans, P. Paola Bernardo, J. Jansen, G. Clarizia
9:00 – 1646. Ultrapermeable polymers of intrinsic microporosity (PIMs) based on benzotriptycene. **I. Rose**, M. Carta, C.G. Bezzu, P. Paola Bernardo, J. Jansen, G. Clarizia, N. McKeown
9:20 – 1647. Ultrapermeable polymers of intrinsic microporosity based on spirobifluorenes. **C.G. Bezzu**, M. Carta, J. Jansen, P. Paola Bernardo, G. Clarizia, N. McKeown

*** Principle Author**

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9:40 – 1648. Permeation of oil-in-water emulsions through membrane: Numerical simulation using phase-field model. **Y. Mino**, Y. Kagawa, T. Ishigami, H. Matsuyama*
10:00 – 1649. Improving selectivity of polyamide composite membranes: principles and implementation. **V. Freger***
10:20 – 1650. Demonstration project of Integrated membranes process to remove organic pollutants for municipal drinking water. **H. Chen***, C. Zhang, S. Chen, X. Chen, L. Zhang
10:40 – 1651. Addressing separation challenges through industry-university collaborative research centers. **A. Greenberg***, R. Noble, K. Sirkar
11:00 – 1652. Some lateral thinking in membrane chromatograph. **R. Ghosh***, P. Madadkar, R. Sadavarte

Hawaii Convention Center
323A

Fusion Materials: Functional Self-Organized Materials Consisting of Fused Organic and Inorganic Components (#294)

Organized by: T. Kato, M. Aizenberg, H. Kikuchi, S. Yu, H. Imai, C. Otsuki, C. Fraser, S. Kim

8:00 – 1653. Luminescent fusion materials for optoelectronics devices. **T. Yasuda***
8:20 – 1654. High performance selenium-bridged V-shaped organic semiconductors exhibiting unique structural transition and high solution-processability. **T. Okamoto***, C. Mitsui, M. Yamagishi, M. Mitani, T. Kato, H. SATO, A. Yamano, J. Takeya
8:40 – 1655. Engineering nanoelectronic devices with the aid of molecular chemistry. **D. Kiriya**, A. Javey
9:05 – 1656. Photoinduced macroscopic morphological transformation of an amphiphilic diarylethene assembly: Reversible dynamic motion. **K. Higashiguchi***, G. Taira, J. Kitai, T. Hirose, K. Matsuda
9:25 – 1657. (Photo)electrochemistry as a powerful tool in the rational design of hybrid organic/inorganic semiconductor assemblies. **C. Janaky***, G. Samu, K. Rajeshwar
9:45 – 1658. Photocontrol of molecular alignment in liquid crystal systems. **A. Shishido***, J. Wang, Y. Aihara, M. Kinoshita
10:05 – 1659. Surface functionalization of polystyrene cell culture plate with biomimetic apatite for preparation of artificial bone marrow niches. **K. Iijima**, R. Suzuki, N. Kiyokawa , M. Hashizume*
10:25 – 1660. Genetic control of magnetite crystal shapes in magnetotactic bacteria. **A. Arakaki**, A. Yamagishi, M. Tanaka, T. Matsunaga
10:40 – 1661. Development of pyrazine-2-carboxylate titanium complexes using a water-soluble titanium complex. **M. Kobayashi***, T. Okuhara, H. Kato, S. Sato, M. Kakihana
10:55 – 1662. Crystallization of calcium carbonate in lyotropic hexagonal liquid crystal phases. **H. Higuchi**, K. Nagaoka, M. Shimoda, Y. Okumura, T. Nishimura, T. Kato, H. Kikuchi*
11:10 – 1663. Glassin, a silica polycondensation directing protein from the siliceous skeleton of the hexactinellid sponge *Euplectella*. **K. Shimizu***, T. Amano, J. Arima
11:25 – 1664. Development of organic/inorganic fusion materials using oriented chitin matrices as templates. **T. Nishimura***, T. Kato*
11:40 – 1665. Hydroxyapatite formation from calcium phenyl phosphate in a solution mimicking human blood plasma: Effects of alkaline phosphatase addition. **C. Ohtsuki***, A. Mio, T. Ujiyama, A. Sugawara-Narutaki, T. Yokoi
11:55 Closing Remarks

Hawaii Convention Center
326B

Aggregation Induced Emission: Materials and Applications (#444)

Presiding: C. Lyu, K. Tanaka, M. Zhu
8:00 – 1666. General synthetic approach toward geminal-substituted tetraarylethene chromophores with aggregation induced emission. **M. Zhu**
8:30 – 1667. Diketopyrrolopyrrole (DPP) dye with aggregation-induced red/NIR emission for in vivo two-photon fluorescence imaging. Y. Gao, **J. Hua**, H. TIAN
9:00 – 1668. Regulation of aggregation-induced emission properties of group 13 elements-containing compounds and their applications as optically-functional materials. **K. Tanaka***, Y. Chujo
9:30 break
9:30 – 1669. Origin of aggregation induced emission in BF_2-hydrazones (BODIHYs) - a novel class of fluorescent molecular rotors. **I. Aprahamian***, H. Qian, M. Liptack
9:50 – 1670. Development of photofunctional liquid crystals controlled by assembled structures by external stimuli. **T. Kato***
10:10 – 1671. Mechanofluorochromism and aggregation induced emission observed for 4-(diarylamino)benzaldehyde analogs. K. Mizuguchi, K. Okoshi, S. Manabe, M. Kurita, M. Momma, **H. Nakano***
10:40 break
10:40 – 1672. Mass-less spinning photon swaps hand of luminous helical polymer aggregates. **M. Fujiki***
11:00 – 1673. Theoretical insights into the mechanism of aggregation-induced emission. **Q. Peng**
11:20 – 1674. Highly photoluminescence electrospun nanofiber mats embedded with AIE-active dienyl benzene derivatives. **F. Anariba***, M. Sobhan
11:40 – 1675. Insight into the exploration of energy modulations of TPE and RhB in bichromophoric systems. **R. Singh**, A.K. Dwivedi, H. Lin*

ORGN

Area 4 – Organic

Tuesday Morning

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

Prospects for Flow Chemistry (#29)

Organized by: J. Yoshida, T. Jamison, D. Kim, M. Organ
Presiding: C. Kappe, J. Yoshida

8:00 – 1. Use of continuous flow technology to harness hazardous chemistries and process conditions. **C. Kappe***
8:25 – 2. Flowing safely: Synthesis with hazardous chemicals. **T. Wirth**
8:50 – 3. On-demand diazo reagents: In-flow generation and purification. **E. Levesque***, S.T. Laporte, S. Vanier, A.B. Charette
9:05 – 4. Generation of anhydrous diazomethane using a Teflon AF-2400 membrane. **B. Gutmann**, C. Kappe
9:20 – 5. Monophasic generation and reaction of diazomethane for in-flow cyclopropanation. **A. Evans***, C. Ayoub
9:35 – 6. Flash chemistry enables chemoselective reactions of difunctional electrophiles with functionalized aryllithiums. **A. Nagaki**, S. Ishiuchi, K. Imai, J. Yoshida*
9:50 – 7. Liquid-liquid microflow for the Beckmann rearrangement of cyclohexanone oxime. J. Zhang, K. Wang, Y. Lu, **G. Luo***
10:15 – 8. Nucleophilic addition to nitrones using flow microreactors. **Y. Arakawa**, S. Ueta, K. Minagawa, Y. Imada*
10:30 – 9. Integrated reactions based on the sequential additions to conjugated imines. **M. Shimizu***, I. Mizota
10:45 – 10. Flow synthesis of (*E*)-(*S*)-3-hydroxy-7-tritylthio-4-heptanoic acid, a key component of the natural product cyclodepsipeptide HDAC inhibitors. **M. Yoshida**, H. Otaka, K. Umeda, T. Doi*
11:00 – 11. [2+2+1] Cocylization using allenones, diketones, and bis(iodozincio-)methane. **R. Haraguchi**, S. Matsubara*
11:15 – 12. Study of scaled continuous flow production of metal-organic frameworks. **M. Rubio Martinez***, T. Hadley, K. Constanti, M. Batten, A. Polyzoz, K. Lim, M.R. Hill
11:30 – 13. Synthetic study of glycans using integrated reaction systems. **F. Koichi***, Y. Manabe
11:45 – 14. Controlling differentiation of mesenchymal stem cells with microfluidic flows. **H. Shum***, W. Lai

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

Molecular and Supramolecular Photochemistry (#71)

Organized by: J. Sivaguru, W. Chung, C. Bohne, c. Tung, M. Sakamoto, V. Ramamurthy
Presiding: V. Ramamurthy

8:00 Turro Symposium / Opening remarks
8:05 – 15. Photoinduced charge separation in DNA. **F.D. Lewis***
8:35 – 16. Photoresponsive artificial muscle model unit in microenvironment with supramolecular interaction and cooperation. **H. Inoue***
9:05 – 17. Catalysis by niobium-oxide nanostructured materials. **J. Scaiano**, G.L. Hallett-Tapley, S. Impellizzeri , C. Fasciani, S. Simoncelli, J. Netto Ferreira, M. Marin
9:35 Break
9:50 – 18. Cross-coupling hydrogen evolution reactions initiated by photoinduced electron transfer. **C. Tung***, Q. Meng, X. Li, Y. Zheng, P. Ye, K. Feng, B. Chen, L. Wu
10:20 – 19. Supramolecular organization of photoactive metal complexes in 1- and 3D. **A.A. Marti***, A. Saha, K. Huang, C. Jiang, D.M. Guldi, K. Dirian, D. Jain, Z. Panos, T. Hanna, M. Hernandez-Rivera
10:50 Break
11:05 – 20. Novel strategy of supramolecular asymmetric photochirogenesis with tailor-made biopolymers as chiral reaction media. **T. Wada***, M. OKUGI, H. SASAKI, Y. Ikeda, S. SAKAMOTO, Y. Araki*, M. NISHIJIMA, K. TSUMOTO, Y. NAGASAKI, Y. Inoue
11:35 – 21. Light harvesting vesicular scaffold reduces the rate of charge recombination in the presence of an electron donor. **M. Hariharan***

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 3

Innovative Strategies for the Synthesis of Nitrogen Heterocycles (#74)

Organized by: R. Danheiser, T. Fukuyama, M. Lautens
Presiding: R. Danheiser

8:00 Introductory Remarks
8:05 – 22. Exploiting the versatile N-O bond: Rapid synthesis of NH-aziridines and carbazoles. **L. Kurti***
8:25 – 23. Synthetic studies on lycopalhine A. **T. Fukuyama***, Y. Ochi, S. Yokoshima
9:05 – 24. Total synthesis of polycyclic alkaloids, lundurines, and grandilodine. **A. Nishida***, M. Nakajima, S. Arai
9:45 – 25. Utility of bimolecular free-radical reactions in fragment coupling. **L. Overman***
10:25 – 26. Chemical synthesis of secondary metabolites. **R.A. Shenvi**
11:05 – 27. Enabling reactivity of neutral aminyl radicals for the synthesis of complex alkaloids. **J.L. Stockdill**

Hilton Hawaiian Village
Mid-Pacific Center, Coral 2

Homogeneous Gold Catalysis: Methods, Theories and Applications (#192)

Organized by: L. Zhang, H. Ohno, R. Liu
Presiding: H. Ohno

8:00 opening remarks-highly efficient gold catalysis
8:10 – 28. Difunctional ligands open up gold reactivity: Toward new avenues in catalysis?. G. Bouhadir, A. Amgoune, **D. Bourissou***
8:30 – 29. Structure and reactivities of gold complexes synthesized from alkyne-functionalized ligands. **N. NISHINA**, H. TAKEMOTO, E. Hasegawa, F. KIMURA
8:50 – 30. Hydrogen bonding basicity and gold catalysis: A synergistic combination. **G.B. Hammond***, B. Xu
9:10 – 31. Homogeneous catalysis involving dinuclear gold species. **S. Hashmi**
9:45 break
10:00 – 32. Mechanistic study of gold mediated intramolecular alkene addition reactions. **A.C. Jones***, Y. Zhu
10:20 – 33. Development of novel gold-catalyzed migratory transformations. **V. Gevorgyan***
10:50 – 34. Accessing nitrenoid-based dipole reactivity using gold catalysis. **P. Davies***
11:10 – 35. Intermediate-based approach to new reaction discovery in gold catalysis. **S. Shin**
11:40 – 36. Gold-catalyzed ring expansion of 2-propargyl-beta-tetrahydrocarbolines. **S. Wang***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 5

Molecular Function of Natural Products: Advances towards Chemical Biology (#237)

Organized by: M. Ueda, B. Miller, K. Irie, B. Miller, B. Miller, C. Lin, T. Oishi, C. Forsyth, H. Lee
Presiding: M. Ueda

8:00 – 37. Total synthesis, stereochemical revision, and biological evaluation of lyngbyaloside B, a marine macrolide glycoside. **H. Fuwa***, Y. Okuaki, N. Yamagata, M. Sasaki
8:15 – 38. Third generation photo-cross-linked small-molecule affinity matrix enabling quantitative analysis of the photo-cross-linked small molecules and their target purification. **N. Kanoh***, T. Suzuki, T. Okamura, Y. Iwabuchi
8:30 – 39. Target-selective photodegradation of proteins in chemical biology. **K. Toshima***
8:45 – 40. Synthesis of fluorescent ligand for visualization of native ionotorpic glutamate receptors. **T. Shinada***, Y. Ohfune
9:00 – 41. Extraction of antiproliferative activity from pleiotropic debromoaplysiatoxin, a potent tumor promoter and a highly inflammatory principle isolated from sea hare. **K. Irie**, M. Kikumori, R.C. Yanagita, H. Tokuda
9:20 – 42. Turn-on fluorescent affinity labeling using a small bifunctional *O*-nitrobenzoxadiazole unit. **M. Sodeoka***

*** Principle Author**

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9:40 – 43. Identification and mechanistic analysis of novel antibiotic "Lysocin E". **K. Sekimizu**, H. Hamamoto
10:00 – 44. Discovery and target identification of pyrrolizilactone, a fungal metabolite. **H. OSADA**, Y. Futamura, T. Nogawa
10:30 – 45. Chemical biology fantasia. **D. Uemura***
11:15 – 46. Function through synthesis-informed design: New therapeutic leads for Alzheimer's disease, cancer, and HIV/AIDS eradication. **P.A. Wender***

Hilton Hawaiian Village
Tapa Tower, Iolani Suite 1 & 2

Frontiers of Chirality in Organic Chemistry (#286)

Organized by: J. Canary, N. Berova, E. Yashima, M. Hyun, T. Shibata, T. Asahi, C. Welch, S. You
Presiding: J. Canary, E. Yashima

8:00 Introduction
8:05 – 47. Reconfigurable chiral copper complexes: Ambidextrous catalysis. **J. Canary***
8:35 – 48. Double-stranded helical foldamers as unique chiral materials. **E. Yashima**
9:05 – 49. Chirality of nanoscale gold particles and clusters. **T. Bürgi***
9:35 – 50. Squeezable tubules with tunable chirality from self-assembly of macrocycle amphiphiles. **M. Lee***
10:05 Break
10:15 – 51. Chiral inorganic mesostructured films with multi-optical activity. **S. Che**
10:45 – 52. Control of the chirality and helicity of artificial duplex by sequence design. **H. Asanuma***, K. Murayama, H. Kashida
11:00 – 53. Redox-triggered chiroptical molecular switches based on the helicates of oligopyrrole-α,ω-diimines. **J. Setsune***, D. Saito, K. Imamura
11:15 – 54. Helical (supra)molecular chirality in tetrathiafulvalenes and derived materials. **N. Avarvari***
11:30 – 55. Elastic switching of chiral foldamers in response to acid/base and redox stimuli. **H. Miyake***
11:45 – 56. Construction and evaluation of planar chiral π-conjugated system based on a tetrasubstituted [2.2]paracyclophane framework. **M. Gon***, Y. Morisaki, Y. Chujo

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 2

Supramolecular Chemistry at the Interface of Materials, Biology, and Medicine (#300)

Organized by: S. Zimmerman, Z. Li, K. Kim
Presiding: K. Kim

8:00 – 57. Molecular recognition of repeating RNA and DNA sequences by small molecules. **S. Zimmerman***, L. Nguyen, L. Luu, J. Serrano, J. Lee, C. Wong
8:30 – 58. Sequence-targeted invasion of DNA and RNA G quadruplexes by peptide nucleic acid. **B. Armitage***
9:00 – 59. Stimuli-responsive synthetic ion channels. **T. Muraoka***, K. Kinbara*
9:20 – 60. Ligand binding to helix 69 of 23S rRNA. **C.S. Chow***
9:50 – 61. New isomorphic fluorescent nucleosides for studying RNA-based processes . **Y. Tor**
10:20 – 62. Smart materials from cyclodextrin polyrotaxanes. **G. Wenz**
10:40 – 63. Recent progress on fluorescent imaging probes for reactive oxygen species and GSH. **J. Yoon***
11:10 – 64. Macromolecular recognition: Interaction of cyclodextrins with polymer side chains. **A. Hashidzume**, A. Harada*
11:30 – 65. Achieving isothermal DNA self-replication by dialing in destabilization. **J. Gibbs-Davis**, B. Alladin-Mustan, A. Kausar, C.J. Mitran

Hilton Hawaiian Village
Kalia Tower, Lehua Suite

Nanomaterials as Catalysts for Green Chemistry (#313)

Organized by: A. Moores, Y. Uozumi, C. Li, R. Varma

8:00 Break
8:20 – 66. Hydrogen production by methanol steam reforming on ZnO nanowire supported Pd single atoms and nanoparticles. **J. Liu***, J. Xu, D. Yuchi
8:40 – 67. Controlling catalytic selectivity via design of the near-surface environment. **J. Medlin***
9:00 – 68. Methyltrioxorhenium supported on mesoporous Al_2O_3 promoted with $ZnCl_2$ as a green heterogeneous catalyst for methyloleate self-metathesis: Reaction kinetics. **K. Belkacemi***, S. Pillai, S. Hamoudi
9:20 – 69. Effective transformation of biomass into value-added chemicals over well-defined metal catalysts at nano and sub-nano dimensions. **N. Yan***
9:40 – 70. Hydrogen bond promoted reactions for green process innovation. **Z. Suojiang***
10:00 Break
10:20 – 71. Palladium meets gold: Peculiar activity of bimetallic gold/palladium alloy nanoclusters. **H. Sakurai**
10:40 – 72. Magnetic nanocatalysts in sustainable organic syntheses and transformations. **R.S. Varma**
11:00 – 73. "Coordinating" nanoparticle catalyst: Synthesis and application. Z. Li, P. Sun, C. Xia, **F. Li**
11:20 – 74. Nanoconfined metal complex catalysts and their application in activation of alkanes to alcohols. **A. Karkamkar***
11:40 – 75. Co-N-C: Efficient and durable noble metal-like catalysts for selective oxidative and hydrogenative transformations. L. ZHANG, W. LIU, **A. Wang***, T. Zhang*

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 3 & 4

Mechanochemistry and Solvent-free Synthesis (#322)

Organized by: T. Friscic, E. Juaristi, C. Raston

8:00 – 76. Use of D-mandelic acid as chiral additive in the Michael addition reaction organocatalyzed by (1*S*,4*S*)-2-tosyl-2,5-diazabicyclo[2.2.1]heptane under solvent-free conditions. **E. Juaristi***, C. Avila-Ortiz
8:20 – 77. Mechanochemical steps to solvent-free porphyrin synthesis. **T. Hamilton***
8:40 – 78. Mechanochemical solvent-free reaction for the synthesis of unique derivatives of fullerenes. **K. Komatsu**
9:05 – 79. High pressure accelerated/Induced organic reaction in crystalline state. **Y. Ma**, X. Meng
9:25 – 80. Mechanochemistry as a route to novel forms of multicomponent crystals. L. Loots, J.P. O'Connor, T. le Roex, **D.A. Haynes***
9:45 Coffe Break
9:50 – 81. Continuous flow vortex fluidics: High shear control of chemical reactivity and selectivity. **C. Raston***
10:10 – 82. Mechanochemical insight into organometallic synthesis: What role does the solvent play?. N. Rightmire, D.L. Bruns, **T.P. Hanusa***
10:30 – 83. How can we optimize the mechanochemical processes at the surface of organic solids for affordable materials fabrication?. **M. Senna**
10:55 – 84. Mechanochemical reactions of phosphazanes. **f. garcia**, X. Shi
11:15 – 85. Mechanochemistry and its applications: From organic synthesis of active pharmaceutical ingredients to catalysis. **E. Colacino***
11:40 – 86. Redox-promoted self-assembly of metal-organic materials in the solid state: Applications in materials synthesis and bulk-metal oxidation. M. Glavinovic, F. Qi, A. Katsenis, T. Friscic, **J. Lumb**

Hilton Hawaiian Village
Rainbow Tower, Rainbow 3

Carbenes and Carbenoids in Organic Synthesis (#362)

Organized by: K. Scheidt, M. Murakami, R. Chi
Presiding: Y. Chi, M. Murakami, K. Scheidt

8:00 – 87. Development of chemo- and stereoselective carbene-catalyzed reactions. **M. Gravel**
8:25 – 88. NHC-catalyzed resolution and desymmetrization of alcohols and beyond. **Y. Zhao***, S. Lu, S. Poh
8:50 – 89. Highly stereoselective radical cyclopropanation of alkenes with diazomalonates via cobalt(II)-based metalloradical catalysis. **J. Wang***, X. Xu, S. Zhu, X. Cui, L. Wojtas, P. Zhang*
9:15 – 90. Asymmetric synthesis using ylides generated from Rhodium carbenoids in combination with chiral Ni(II), Zn(II), and Cu(II) catalysts. **H. Suga***, T. Bandou, T. Yoshida
9:40 Break
10:00 – 91. New reactions of "Donor/Donor" carbenoids. K.N. Lamb, R.A. Squitieri, N.P. Burlow, G.P. Shearn-Nance, **J.T. Shaw***
10:25 – 92. *N*-sulfonyltriazoles as useful precursors to donor/acceptor carbenes. **H.M. Davies***
10:50 – 93. Gold-catalyzed oxidative cyclizations, cycloaddition, and 1,2-difunctionalozations of alkynes via gold carbene intermediates. **R. Liu**
11:15 – 94. Acyl anion equivalent free enantioselective catalysis with *N*-heterocyclic carbenes. **D.W. Lupton**

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 1

Cognizance of Endangered Elements for Organic Synthesis (#415)

Organized by: H. Tsuji, S. Zhu, G. Konishi, C. Luscombe, L. Campeau
Presiding: L. Campeau, S. Zhu

8:00 Introductory Remarks
8:10 – 95. Cu-, or Fe-catalyzed C-H/C-C bond oxygenation and nitrogenation reactions. **N. Jiao**
8:40 – 96. Homogeneous nickel-catalyzed asymmetric hydrogenation of olefins. **M. Shevlin**
9:00 – 97. Cobalt catalysis for C-H functionalization. **N. Yoshikai**
9:30 Break
9:45 – 98. Alternatives to rare late transition elements in C-H and C=C activation reactions. **F. Michael***
10:15 – 99. Vinylic and allylic C–F bond activation via nickel-catalyzed fluorine elimination. **T. Fujita**, T. Ichitsuka, Y. Watabe, T. Arita, J. Ichikawa*
10:35 – 100. Regioselective trifluoromethylation of 6-membered heteroaromatic compounds. **Y. Kuninobu***, T. Nishida, M. Nagase, H. Ida, M. Kanai*
10:55 – 101. Carboperoxidation of alkenes and synthetic applications. **Z. Li**

Tuesday Afternoon

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

Prospects for Flow Chemistry (#29)

Organized by: J. Yoshida, T. Jamison, D. Kim, M. Organ
Presiding: T.F. Jamison, I. Ryu

13:00 – 102. Continuous flow multistep synthesis. **T.F. Jamison***
13:25 – 103. Utilization of microflow technology for the site-selective modification of multifunctionalized molecules. **S. Fuse**, Y. Mifune, N. Tanabe, H. Nakamura, T. Takahashi
13:40 – 104. Synthesis of diisobutyl aluminum borohydride for the reduction of tertiary amides at ambient temperatures with the potential for continuous flow chemistry. **R. Snelling**, B. Singaram*
13:55 – 105. Bond expandability of the ultralong C-C bond in unsymmetrically substituted tetraarylpyracenes prepared by a flow microreactor method. **T. Suzuki***, Y. Uchimura, T. Takeda, R. Katoono, H. Kawai, K. Fujiwara, A. Nagaki, J. Yoshida
14:10 – 106. Three-component coupling of benzyne based on flash chemistry. **T. Kitamura**, D. Ichinari, A. Nagaki, J. Yoshida*
14:25 – 107. Microfluidic approach to integrated synthesis of thioquinazolinone derivatives. **H. Kim**, H. Lee, d. kim*, J. Yoshida*
14:40 – 108. Synthesis and reactions of ynolates using flow microreactors. **M. Shindo***
14:55 – 109. Synthesis and application of hexafluoropropyl methyl ether. **D. Lokhat***, K. Padayachee, A.K. Domah, N. Sunthpaul, N. Seocharan, D. Ramjugernath
15:10 – 110. Highly selective synthesis of organofluorine compounds using flow microreactors. **H. Amii***
15:25 – 111. Generation and reactions of perfluoroalkyl-substituted organolithiums using flow microreactors. **K. Hirose**, K. Akahori, S. Tokuoka, A. Nagaki, J. Yoshida*
15:40 – 112. Flow carbonylation based on reactive acyl intermediates. **I. Ryu***
16:05 – 113. Various applications of bacteriogenic iron oxide in a tube reactor and other systems for organic synthesis. **K. Mandai**, T. Fukuda, Y. Miyazaki, N. Hanata, H. Mandai, H. Hashimoto, T. Ema, J. Takada, S. Suga*
16:20 – 114. Toward development of chemo-enzymatic reactions under continuous-flow conditions. **R.M. de Souza***

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

Molecular and Supramolecular Photochemistry (#71)

Organized by: J. Sivaguru, W. Chung, C. Bohne, c. Tung, M. Sakamoto, V. Ramamurthy
Presiding: S. Jayaraman

13:00 – 115. Self-assembled *bis*-urea macrocycles as containers for oxidations, polymerizations, and photochemical reactions. **L.S. Shimizu***
13:30 – 116. Bright fluorescent nanotags for bioimaging and detection based on bottle-brush polymers with DNA-tipped bristles. **B. Armitage***
14:00 – 117. Excited singlet states of firefly light-emitter analogs in luciferase supramolecular environments. **T. Hirano***
14:30 Break
14:45 – 118. Molecular recognition and photochemistry: A match made in heaven?. **D. Bassani**

*** Principle Author**

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15:15 – 119. Supramolecular nanocarriers with photoresponsive cargo. **F.M. Raymo**
15:45 Break
16:00 – 120. Charge-transfer band excitations in donor-acceptor systems. **T. Mori**
16:30 – 121. Unique photochemical properties and reactions of clay nanosheet-organic dye complexes. **S. Takagi***, Y. Ishida, T. Shimada, V. Ramamurthy*

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 3

Innovative Strategies for the Synthesis of Nitrogen Heterocycles (#74)

Organized by: R. Danheiser, T. Fukuyama, M. Lautens
Presiding: T. Fukuyama

13:00 – 122. Synthesis of nakadomarin A and manzamine A from a single advanced intermediate. **J.S. Clark**, C. Xu, G. Meier
13:20 – 123. Total synthesis of dihydrooxepine-containing epidithiodiketopiperazine natural products. **H. Tokuyama***
14:00 – 124. Carbofunctionalization en route to heterocycles. **M. Lautens**
14:40 – 125. Necessity is the mother of invention: Development and application of new methods for the synthesis of alkaloids. **S.E. Reisman**
15:20 – 126. Intramolecular Larock reaction and applications to the synthesis of N-heterocyclic natural products. **Y. Jia**
16:00 – 127. Intramolecular dearomatizing [3+2] annulation of α-imino carbene complexes with aryl rings furnishing 3,4-fused indole skeletons. **T. Miura***, Y. Funakoshi, M. Murakami*
16:20 – 128. Stereoselective functionalizations of alkenes: The power of chiral hypervalent iodine reagents. **T. Wirth***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 2

Homogeneous Gold Catalysis: Methods, Theories and Applications (#192)

Organized by: L. Zhang, H. Ohno, R. Liu
Presiding: L. Zhang

13:00 – 129. Gold/Lewis acid combined catalysis for domino cycloaddition reactions. **Z. Xu***
13:20 – 130. Gold-catalyzed cascade cyclizations of alkynes for construction of nitrogen heterocycles. **H. Ohno***
13:50 – 131. Gold-catalyzed tandem cyclopropanation/Cope rearrangement/C–H activation of dienediynes for the construction of seven-membered ring-containing polycycles. **Z. Yu**
14:10 – 132. Gold-catalyzed cascade reactions. **A.M. Echavarren***
14:45 break
15:00 – 133. Gold-catalyzed synthesis of new spiroacetals. **N. Krause***
15:20 – 134. Gold-catalyzed cycloadditions of alkynes with small molecules with alkynes serving as two- or four-carbon building blocks. **R. Liu**
15:50 – 135. Sustainable gold-catalyzed strategies for complex molecule synthesis. **P. Chan**
16:10 – 136. Gold-catalyzed hydride and nitrene transfer reactions. **F. Gagosz***
16:40 – 137. Construction of medium-sized rings through gold(I)-catalyzed alkyne cyclizations with hollow-shaped phosphine ligands. **T. Iwai**, M. Ueno, H. Okochi, M. Sawamura*

Hilton Hawaiian Village
Mid-Pacific Center, Coral 5

Molecular Function of Natural Products: Advances towards Chemical Biology (#237)

Organized by: M. Ueda, B. Miller, K. Irie, B. Miller, B. Miller, C. Lin, T. Oishi, C. Forsyth, H. Lee
Presiding: K. Irie

13:00 – 138. MPlase (membrane protein integrase), a glycolipozyme involved in protein integration into and protein translocation across the cytoplasmic membrane of *E. coli*. **K. Nishiyama***, M. Moser, S. Kusumoto, K. Shimamoto
13:15 – 139. Mechanism of cancer-selective pro-apoptotic effect by acyclic retinoid and structurally related compounds derived from foods. **S. Kojima***, X. Qin
13:30 – 140. Theoretical study on the mutual influence of water and biomolecules. **M. Aida**
13:45 – 141. Fluorine containing *C*-linked gangliosides GM3 analogs: Synthesis, conformational analysis, and biological activities. **G. Hirai***, M. Kato, K. Oonuma, E. Nishizawa, H. Koshino, M. Sodeoka*
14:00 – 142. Unified total synthesis of oxygenated cardenolides. **D. Urabe**, M. Inoue*
14:15 – 143. Synthesis and biological activities of guanidine-containing natural products. **T. Nishikawa***, Y. Nakane, A. Nakazaki, T. Imazu, S. Tokoro, R. Sakakibara, M. Adachi, K. Konoki, M. Yotsu-Yamashita
14:30 – 144. Scopadulciol, a diterpenoid isolated from *Scoparia dulcis* by screening for Wnt signal inhibitors, exhibits TRAIL resistance overcoming activity. R.G. Fuentes, K. Toume, M.A. Arai, S.K. Sadhu, F. Ahmed, **M. Ishibashi***
14:45 – 145. Synthetic and biological studies of meayamycins, inhibitors of splicing factor 3B subunit 1. **K. Koide***, Y. Gao, U. Basu, R. Bressin, S. Osman
15:00 – 146. Natural products-prompted chemical biology: Phenotypic screening and target identification. **H. Kakeya***
15:20 – 147. Design and synthesis of carbohydrate-based probes for labeling interacting proteins. **C. Lin**
15:40 – 148. Natural products-inspired approach to RNA recognition. **B. Miller***
16:00 – 149. Strategies to create diverse collections of natural products. **S.A. Snyder**
16:30 – 150. Recent progress in the synthesis of complex natural products. **J.L. Wood***

Hilton Hawaiian Village
Tapa Tower, Iolani Suite 1 & 2

Frontiers of Chirality in Organic Chemistry (#286)

Organized by: J. Canary, N. Berova, E. Yashima, M. Hyun, T. Shibata, T. Asahi, C. Welch, S. You
Presiding: N. Berova

13:00 Introduction
13:05 – 151. Computation of electronic optical activity from first principles. **J. Autschbach**
13:35 – 152. Application of vibrational and electronic CD in structural analysis of natural products: Reliability assessment on a quantitative level. **A.G. Petrovic***, M. Evidente, N. Berova
13:50 – 153. Chirality sensing with stereodynamic chemosensors. **C. Wolf***
14:05 – 154. Theoretical models for the calculation of resonance Raman optical activity spectra of complex systems. **C. Cappelli**
14:20 – 155. Optimization and validation of the measurement of VCD. **L.A. Nafie***
14:50 Break
15:00 – 156. VCD exciton chirality method: Stereochemical determination of small-medium- and large sized molecules without theoretical calculation. **K. Monde***, T. Hongen, D. Manai, T. Taniguchi
15:30 – 157. VCD spectroscopy: A powerful new tool for probing solvent-induced helicity inversion and intermolecular interactions in solution. **Y. Xu***
16:00 – 158. Chiroptical signal enhancement and intrinsic limitations. **M. Cho**, H. Rhee
16:30 – 159. Chiroptical response in porphyrin Soret band region - a powerful and diagnostic structural probe. **N. Berova***, R. Purrello

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 2

Supramolecular Chemistry at the Interface of Materials, Biology, and Medicine (#300)

Organized by: S. Zimmerman, Z. Li, K. Kim
Presiding: Z. Li

13:00 – 160. Applications of cucurbiturils in chemistry, biology, and materials. **K. Kim***
13:30 – 161. From self-assembly to antimicrobial properties: Depolarization and weakening of the bacterial membrane by synthetic anion transporters. **A.R. Schmitzer***
14:00 – 162. Development of pseudorotaxane formation methods targeting on nucleic acids. **K. Onizuka***, Y. Ito, H. Abe, F. Nagatsugi
14:20 – 163. Trehalose glycopolymer hydrogels and nanoparticles for stabilization and delivery of proteins. **H. Maynard***, J. Ko, J. Lee
14:50 – 164. Construction of 2D supramolecular polymers through self-assembly: Design, characterization, and properties. **X. Zhao***
15:10 – 165. Sugar-coated polyplexes: Designed glycopolymers for nucleic acid delivery. **T.M. Reineke***
15:40 – 166. Supra-amphiphiles: From molecular architectures and functions. **X. Zhang**
16:10 – 167. Synthesis, recognition properties, and applications of macrocycic cucurbit[n]urils and their derivatives. **L. Isaacs***

Hilton Hawaiian Village
Kalia Tower, Lehua Suite

Nanomaterials as Catalysts for Green Chemistry (#313)

Organized by: A. Moores, Y. Uozumi, C. Li, R. Varma

13:00 – 168. Nanostructured materials for catalytic applications. **J.Y. Ying***
13:20 – 169. Development of a silicon nanowire array-stabilized palladium nanoparticle catalyst and its application to organic reactions. **Y.M. Yamada***, Y. Yuyama, T. Sato, S. Fujikawa, Y. Uozumi
13:40 – 170. Easy synthesis of metal nanoparticle catalysts for organic reactions under mild conditions. **J. Park***
14:00 – 171. Recyclable "boomerang" linear polystyrene-stabilized Pd nanoparticles for a series of C-C coupling reactions in water. **A. Ohtaka***, E. Sakaguchi, T. Okagaki, G. Hamasaka, Y. Uozumi, O. Shimomura, R. Nomura
14:20 – 172. Phosphine-cross-linked polystyrenes as platforms for producing highly active heterogeneous transition metal catalysts. **M. Sawamura***
14:40 Break
15:00 – 173. Photochemical reactions on plasmonic metal nanostructures. **S. Linic**
15:20 – 174. Redox-selective conversion of alcohols using metal-loaded photocatalysts. **H. Naka***, J. Caner, Z. Liu, Y. Takada, A. Matsuoka, A. Kudo, S. Saito*
15:40 – 175. Defect site control in nanostructured metal oxides toward efficient heterogeneous catalysts. **F. Wang***
16:00 – 176. Tuning the thermodynamic activities of reactive oxygen on dispersed metal clusters for oxidation catalysis. W. Tu, P. Lachkov, **Y. Chin**
16:20 – 177. Enhanced catalysis of alkanethiolate-self-assembled-monolayer-capped gold nanoparticles towards silane alcoholysis. **K. Isozaki***, T. Taguchi, K. Ishibashi, H.R. Takaya, M. Nakamura, K. Miki*

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 3 & 4

Mechanochemistry and Solvent-free Synthesis (#322)

Organized by: T. Friscic, E. Juaristi, C. Raston

13:00 – 178. Mechanochemistry and supramolecular catalysis in templated solid-state reactions. **L.R. MacGillivray***
13:25 – 179. Grinding assisted metal free organic transformations. **S.S. Chimni***
13:50 – 180. Recent advances in mechanochemical organic synthesis. **G. Wang**
14:15 – 181. (Dis)Advantages of mechanochemical methods in the discovery of novel organic materials. **D. Bucar***
14:35 – 182. Don't throw it away, recycle for another day: The development of recyclable reactions under mechanochemical conditions. **J. Mack***, L. Chen, K. Leahy, R.A. Haley
15:00 – 183. Mechanochemical, solvent-free synthesis of metal and metal sulfide nanoparticles. **A. Moores***, M.J. Rak, T. Friscic, J.M. Kinsella, M. Malca, T. Bastaille
15:20 Coffee Break
15:30 – 184. Mechanochemical ligand exchange to control the surface properties of superparamagnetic iron oxide nanoparticles. **A.S. Blum***, K.V. Korpany, J. Bachelder, P. Dong, S. Trudel, C. Mottillo, T. Friscic
15:50 – 185. Explorations of mechanochemical Friedel-Crafts acylations. M. Djud, V. Strukil, **D. Margetic***
16:15 – 186. Fundamental studies of extrusion and other novel approaches to mechanochemical synthesis. **D.E. Crawford***, J. Casaban, N. Giri, R. Haydon, T. McNally, A. Michalchuk, L. Wright, A. Abbott, C. Pulham, S. James
16:35 – 187. Mechanochemistry as an excellent and clean approach for chemical synthesis and discovery. **T. Friscic**

Hilton Hawaiian Village
Rainbow Tower, Rainbow 3

Carbenes and Carbenoids in Organic Synthesis (#362)

Organized by: K. Scheidt, M. Murakami, R. Chi

13:00 – 188. Catalytic synthesis with azavinyl carbenes. **V. Fokin**
13:25 – 189. Toward carbene organocatalyst-enabled new activation modes. **Y. Chi**
13:50 – 190. Carbene-catalyzed asymmetric benzoin cyclization: Total synthesis of highly oxygenated natural products derived from polyketide-II biosynthesis. **K. Suzuki***, H. Takikawa
14:15 – 191. N-heterocyclic carbene catalyzed carbon-carbon and carbon-heteroatom bond formation via vinylogous enolates and allenolates. **J. Sun***
14:40 PM Break
15:00 – 192. Intramolecular formal C-H insertion reaction of photochemically-generated siloxycarbenes leading to benzo-fused heterocycles. T. Nakada, S. Ishii, K. Ishida, N. Iwasawa, **H. Kusama***

*** Principle Author**

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15:25 – 193. Cross-coupling reactions through migratory insertion of metal carbene. **J. Wang**
15:50 – 194. New planar chiral cabenes for catalysis. **K. Scheidt**
16:15 – 195. Reactions of alpha-imino metal carbene complexes generated from *N*-sulfonyl-1,2,3-triazoles with sulfur compounds. **M. Murakami**

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 1

Cognizance of Endangered Elements for Organic Synthesis (#415)

Organized by: H. Tsuji, S. Zhu, G. Konishi, C. Luscombe, L. Campeau
Presiding: L. Ilies, H. Tsuji

13:00 – 196. Base metal catalysis an enabling tool for organic chemistry. **P.J. Chirik**
13:30 – 197. Copper or iron-catalyzed organic reactions involving hydrogen transfer processes. **S. Zhu***
14:00 – 198. Iron-catalyzed hydro- and carbometalation of alkynes. **L. Ilies***, T. Yoshida, E. Nakamura*
14:20 – 199. Synthesis, structure, and reactivity of aryliron intermediates in iron-catalyzed cross-coupling reaction. **S. Nakajima**, K. Isozaki, N. Nakagawa, R. Imayoshi, T. Hashimoto, N.J. Gower, L. Adak, T. Honma, M. Takagaki, Y. Sunada, H. Nagashima, D. Hashizume, O. Takahashi, T. Iwamoto, T. Hatakeyama, H.R. Takaya*, M. Nakamura*
14:40 Break
14:55 – 200. Searching for new reactivity: Iron-catalyzed stereoselective olefin aminohydroxylation and aminofluorination reactions. **H. Xu**
15:25 – 201. Hydrosilylation of alkenes by common metal catalyst systems. **H. Nagashima***, D. Noda, Y. Sunada, A. Tahara
15:55 – 202. Molybdenum-catalyzed stereospecific deoxygenation of epoxides. **S. Asako***, T. Sakae, T. Nakagiri, K. Takai*
16:15 – 203. Catalyst design of Vaska-type iridium complexes for efficient synthesis of π-conjugated enamines. **A. Tahara**, Y. Sunada, Y. Motoyama, H. Nagashima*

Wednesday Morning

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 2

Reactive Intermediates and Unusual Molecules (#7)

Organized by: R. Sheridan, M. Abe, W. Leigh

8:00 – 204. Benzoin condensation and related reactions: Gas phase experimental and computational studies. Y. Tian, Y. Niu, **J.K. Lee***
8:25 – 205. Experimental studies of quinonimides and benzaldimides. **P. Wenthold***
8:50 – 206. Falling solid flash vacuum pyrolysis. **C. Wentrup***
9:15 – 207. Controlling the selectivity of photo-Michael "click" reaction with pH. **V. Popik**
9:40 – 208. Bimolecular reactions of silicon (Si) and silylidyne (SiH) with small unsaturated hydrocarbon molecules. **T. Yang***, B. Dangi, P. Maksyutenko, R. Kaiser, L. Bertels, M. Head-Gordon
10:00 – 209. New materials for singlet fission. J. Wen, S. Nedungadi, A. Younes, J. Kaleta, J. Plutnar, Z. Havlas, J. Johnson, **J. Michl***
10:25 – 210. Cage-type radical cations with the nature of "One-Electron C–C σ Bond". **H. Ikeda***
10:50 – 211. Interfacial photochemistry for materials modification. **M. Workentin**, P. Gobbo, W. Luo, V. Popik, D. Sutton, C. McNitt
11:15 – 212. Synthesis and properties of a stable germabenzenylpotassium. **N. Tokitoh***, S. Fujimori, Y. Mizuhata, T. Sasamori
11:40 – 213. Direct detection of transient stannylenes in solution by laser flash photolysis. **W.J. Leigh***, I.R. Duffy

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

Prospects for Flow Chemistry (#29)

Organized by: J. Yoshida, T. Jamison, D. Kim, M. Organ
Presiding: A.A. Kulkarni, M.G. Organ

8:00 – 214. New advances in flow chemistry. D. Mallik, M. Tilley, G. Li, A. Khadra, K. Somerville, M. McGuire, **M.G. Organ**
8:25 – 215. Solid phase catalysts confined in multiwalled carbon nanotubes: Catalytic asymmetric nitroaldol and Mannich-type reactions in a continuous-flow platform. **N. Kumagai***, K. Hashimoto, M. Shibasaki*
8:40 – 216. Heterogeneous metal nanoparticle catalysts for multiphase flow processes. **H. Miyamura**, S. Kobayashi*
8:55 – 217. Selective transformation of alkynes with nanoporous gold catalyst. **Y. Ishikawa**, T. Jin, Y. Yamamoto, N. Asao*
9:10 – 218. Dual role flow reaction system containing an amphiphilic polymer-dispersion of platinum nanoparticles for oxidation and reduction. **T. Osako**, K. Torii, A. Tazawa, Y. Uozumi*
9:25 – 219. Microfluidics and carbon dioxide. **E. Kumacheva**
9:50 – 220. Intensification of flow ATRP polymer syntheses by microreaction technologies. D. Parida, **C.A. Serra***, D.K. Garg, Y. Hoarau
10:15 – 221. Multistep flow synthesis: Synchronizing the synthesis and work-up time scales. **A.A. Kulkarni***, Y. Sharma, M. Sharma, R.A. Joshi
10:40 – 222. Precision polymer synthesis in continuous microflow: Challenges and perspectives. **T. Junkers***
10:55 – 223. Synthesis of multifunctional polymers by RAFT method and droplet microfluidic approach for cancer cells imaging. **L. Qi***
11:10 – 224. On the generation of butyl rubber in a microflow device. **Y. Lu***, S. Zhu, K. Wang, G. Luo
11:25 – 225. Rhodium-catalyzed arylation of vinyl ethers with Grignard reagents and its mechanistic studies using a flow micro reactor. **T. Iwasaki**, R. Akimoto, Y. Miyata, H. Kuniyasu, N. Kambe
11:40 – 226. Direct manipulation of particle size and morphology of ordered mesoporous silica by flow synthesis. **K. Yeung**

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

Molecular and Supramolecular Photochemistry (#71)

Organized by: J. Sivaguru, W. Chung, C. Bohne, c. Tung, M. Sakamoto, V. Ramamurthy
Presiding: C. Bohne

8:00 Zimmerman symposium Remarks
8:05 – 227. One and two photon release of new bioactive initiators/substrates from *p*-hydroxyphenacyl cages. **R.S. Givens***
8:35 – 228. Photochemical cyclizations of enynes and enediynes: Optimizing electronic and stereoelectronic factors. **I. Alabugin***, R. Mohamed
9:05 – 229. Development of photolabile protecting groups . **P. Wang**
9:35 Break
9:50 – 230. Topological activation of fluorophores for imaging and sensors. **L.M. Tolbert***, K. Solntsev
10:20 – 231. Photochemistry and spectroscopy of thiophene carbenes. **R.J. McMahon***, C.R. Pharr, L.A. Kopff
10:50 Break
11:05 – 232. Intramolecular cycloadditions of photogenerated azaxylylenes and quinomethanes. **A.G. Kutateladze***, O.A. Mukhina, N. Kumar
11:35 – 233. Decarboxylative radical reactions of aliphatic carboxylic acids via photoinduced electron transfer. **Y. Yoshimi**

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 3

Innovative Strategies for the Synthesis of Nitrogen Heterocycles (#74)

Organized by: R. Danheiser, T. Fukuyama, M. Lautens
Presiding: M. Lautens

8:00 – 234. Photoassisted synthesis of complex nitrogen polyheterocycles. **A.G. Kutateladze***, O.A. Mukhina, N. Kumar, W.C. Cronk, W.J. Umstead, D.M. Kuznetsov
8:20 – 235. New methods for the construction of biologically relevant nitrogen heterocycles. **M.G. Banwell***
9:00 – 236. New cycloaddtion strategies based on strained and unusual molecules. **R. Danheiser***
9:40 – 237. New methods for N-C bond formation. **P.S. Baran**
10:20 – 238. New annulative routes to heterocycles from donor-acceptor cyclopropanes. **M.A. Kerr**
11:00 – 239. Aiming divergent syntheses of polycyclic natural products. **J. Shimokawa***, M. Kitamura*, T. Fukuyama*

Hilton Hawaiian Village
Rainbow Tower, Rainbow 3

Practical Application of Basic Research on Molecular Recognition (#136)

Organized by: C. Tran, K. Kano, C. Easton
Presiding: C.D. Tran, M.W. Urban

8:00 Opening Remarks
8:05 – 240. Tunable solid-state fluorescent materials for supramolecular encryption. **J.F. Stoddart***, X. Hou, C. Ke
8:30 – 241. Evolution of chiral recognition and separations: New selectors and ultrafast analyses. **D.W. Armstrong***
8:55 – 242. From stimuli-responsive polymers to self-repairing materials. **M.W. Urban***
9:20 Break
10:00 – 243. Differential sensing, theory, and applications. **E.V. Anslyn***
10:25 – 244. Molecular fibres and wires in solid-state and solution self-assemblies of cyclodextrin [2]-rotaxanes. **C.J. Easton***
10:50 – 245. Chemical tools to isolate a desired fragment from human genome. **M. Komiyama**
11:15 – 246. Analyses for recognition function of glycolipids using planar lipid membranes. **T. Sato**

Hilton Hawaiian Village
Mid-Pacific Center, Coral 2

Homogeneous Gold Catalysis: Methods, Theories and Applications (#192)

Organized by: L. Zhang, H. Ohno, R. Liu
Presiding: R. Liu

8:00 – 247. Gold and copper-catalyzed skeletal rearrangement of *O*-propargylic oximes. **I. Nakamura***, S. Gima, Y. Kudo, M. Terada
8:20 – 248. Selectivity control in gold-catalyzed reactions. **J. Zhang**
8:50 – 249. Selective synthesis of complex carbocycles via a one-pot gold(I)-catalyzed cyclization. **L. Barriault**, G. Revol, F. Barabé, P. Levesque
9:10 – 250. Reactivity driven discovery of gold-catalyzed reaction for organic synthesis. **F. Toste**
9:45 break
10:00 – 251. One-pot synthesis of enantioenriched fluorinated cyclopentenones and 4,9-dihydro-1*H*-carbazoles by the combination of gold catalysis and asymmetric Lewis acid catalysis. **L. Ye***, A. Zhou
10:20 – 252. Gold and its combination with chiral Brønsted acids for asymmetric catalysis. **L. Gong***
10:50 – 253. Gold-catalyzed post-Ugi heteroannulations and domino reactions. **E. Van der Eycken***
11:10 – 254. Gold-catalyzed enanntioselective synthesis of azahelicenes. **K. Tanaka***
11:40 – 255. Reinventing cycloaromatization reactions with Au-catalysis: Switch from diradical to zwitterionic pathways. **I. Alabugin**, G. dos Passos Gomes

Hilton Hawaiian Village
Mid-Pacific Center, Coral 5

Molecular Function of Natural Products: Advances towards Chemical Biology (#237)

Organized by: M. Ueda, B. Miller, K. Irie, B. Miller, B. Miller, C. Lin, T. Oishi, C. Forsyth, H. Lee
Presiding: C. Forsyth

8:00 – 256. Mechanistic evaluation of the inhibition of polyaromatic mutagens by endogenous bile pigments. **J.T. Blanchfield***, H.T. Hung, A. Bulmer, K. Wagner , J. De Voss, A. Abu Bakar
8:15 – 257. Nitrimine coupling reactions in the synthesis of biologically active molecules. **V.V. Angeles-Dunham**, A.E. Mattson*
8:30 – 258. Tyrosine-selective chemical modification using single-electron-transfer catalyst. **S. Sato**, K. Nakamura, H. Nakamura*
8:45 – 259. One-pot sequential palladium-catalyzed cross-coupling reaction of cyclic boron compounds. R. Suzuki, K. Sato, S. Fuse, **H. Tanaka**
9:00 – 260. Studies on synthesis and structure-activity relationships of neuroactive glutamate analogs. **M. Oikawa**, M. Chiba, K. Fukushima, K. Kawamura, Y. Ishikawa
9:30 – 261. Development of artificial assembly line for skeletally diverse natural products and its variants. **H. Oguri***
10:00 – 262. New directions in the Fischer indole synthesis. **C. Cho***
10:30 – 263. Structure-activity relationship studies of maitotoxin based on chemical synthesis of partial structures. **T. Oishi***
11:00 – 264. Privileged structures as efficient chemical navigators toward unexplored biologically relevant chemical spaces. **S. Park***
11:30 – 265. Discovery, characterization, and synthesis of natural products with activity against Gram-negative pathogens. **J.B. MacMillan***

*** Principle Author**

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Hilton Hawaiian Village
Tapa Tower, Iolani Suite 1 & 2

Frontiers of Chirality in Organic Chemistry (#286)

Organized by: J. Canary, N. Berova, E. Yashima, M. Hyun, T. Shibata, T. Asahi, C. Welch, S. You
Presiding: M. Hyun

8:00 Introduction
8:05 – 266. Synthesis and enantioseparation ability of immobilized polysaccharide-based chiral stationary phases for HPLC. **Y. Okamoto**
8:35 – 267. Development of crown ether-based chiral stationary phases based on (+)-(18-crown-6)-2,3,11,12-tetracarboxylic acid and their applications. **M. Hyun***
9:05 – 268. Recent applications of chiral chromatography for pharmaceutical discovery and development. **C. Welch**
9:35 – 269. Controlled synthesis and chiral recognition ability of polysaccharide derivatives bearing regioselective substituents. **J. Shen**
10:05 Break
10:15 – 270. Endogenous D-amino acids in the nervous and endocrine systems: From formation and release to function. **S.S. Rubakhin**, A.V. Patel, N. Ota, J.V. Sweedler
10:30 – 271. Ultrafast chiral separations: Praxis, performance, and peculiarities. **D.W. Armstrong***
11:00 – 272. Pushing the speed limits in chiral supercritical fluid chromatography. **E.L. Regalado***
11:15 – 273. Supramolecular methods for the rapid determination of enantiomeric excess. **E.V. Anslyn**

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 2

Supramolecular Chemistry at the Interface of Materials, Biology, and Medicine (#300)

Organized by: S. Zimmerman, Z. Li, K. Kim
Presiding: S. Zimmerman

8:00 – 274. Helical aromatic amide foldamers: Some new advances. **Z. Li***
8:30 – 275. Triptycene-derived macrocyclic hosts for molecular recognition and self-assembly. **C. Chen**
9:00 – 276. Helical polymers and oligomers as unique chiral materials. **E. Yashima**
9:30 – 277. New materials from the supramolecular assembly of cellulose nanocrystals. **M. MacLachlan**
10:00 – 278. Fluorescent RNA labeling using self-alkylating ribozymes. **J. Heemstra**
10:20 – 279. Application of self-assembled nanostructures to organic electronic devices. **J. Hong***
10:50 – 280. One-pot synthesis and self-assembly of P3HT-containing block copolymers. **Z. Wu**, N. Liu
11:10 – 281. Conjugated radical cation dimerization (CRCD) as noncovalent driving force for supermolecular self-assembly. **D. Zhang***, L. Chen, Y. Zhang, J. Tian, L. Zhang, W. Wang, H. Wang, Z. Li
11:30 – 282. Correlation of molecular properties and supramolecular morphology of cationic lipoplexes with transfection efficiency. P. Parvizi, L. Radu, N. Abdul Khalique, E. Jubeli, D. Nicholson, H. Larsen, M. Pungente, **T. Fyles**

Hilton Hawaiian Village
Kalia Tower, Lehua Suite

Nanomaterials as Catalysts for Green Chemistry (#313)

Organized by: A. Moores, Y. Uozumi, C. Li, R. Varma

8:00 Break
8:40 – 283. Cellulose nanocrystals as catalysts supports and chiral inducers. **A. Moores**, M. Kaushik, C. Cirtiu, C. Benoit
9:00 – 284. Unsupported palladium nanoparticles for mono- and bi-phasic hydrogenation and redox isomerization of alkenes in water: Structurally stable and reusable micelle catalysts. M.S. Manung, T. . Dinh, **Y. Shon***
9:20 – 285. Naked iron and cobalt: The case of homogeneous vs. heterogeneous. **A. Jacobi von Wangelin***
9:40 Break
10:00 – 286. Polymer-incarcerated metals: Highly reactive, recoverable, and multifunctional nanoparticles catalysts for green sustainable chemistry. **S. Kobayashi**
10:20 – 287. Mag(net)ic catalysts - synthesis and applications. **O. Reiser***
10:40 – 288. Development of dinuclear copper complex catalyst using interlayer nanospace of magadiite for efficient bond formation reactions. **Z. Maeno**, T. Mitsudome, T. Mizugaki, K. Jitsukawa, K. Kaneda*
11:00 – 289. Hyperbranched polystyrenes bearing ammonium salts as the support of nanometal particles: Applications to biphasic catalyst systems. **H. Nagashima***, L. Gao, K. Kojima
11:20 – 290. Engineering the catalyst performance of bimetallic nanoparticles for glycerol upgrading. Z. Zhao*, R. Gonzalez, J. Miller, **M.S. Wong**

Hawaii Convention Center
Halls I, II, III

Mechanochemistry and Solvent-free Synthesis (#322)

Organized by: T. Friscic, E. Juaristi, C. Raston

Poster Session
10:00 – 12:00

291. Mechanochemistry: Fundamental questions and commercialisation. **S. James***
292. Solvent-free solid-phase direct reduction of benzaldehydes to benzyl alcohols. Y. Mitoma*, **Y. Matsumoto**, N. Egashira, C. Simion, M. Tanaka
293. Mechanochemistry as a tool for reaction discovery: New copper catalyzed mechanochemical C-N coupling reactions. **D. Tan**, T. Friscic
294. Thermal effects in mechanochemical milling reactions. **K. Uzarevic**, I. Halasz, C. Mottillo, P. Julien, A. Puskaric, V. Strukil, T. Friscic*
295. Mechanochemical synthesis of MOF-74 family of metal-organic frameworks. **K. Uzarevic**, P. Julien, A. Katsenis, I. Halasz, T. Friscic*
296. Templation effects and novel ZIF structures by solid state synthesis. **I. Brekalo***, J.R. Ramirez, C.M. Kane, K.T. Holman
297. Mechanochemical synthesis of a series of *meso*-tetrasubstituted porphyrins. **Q. Su**, T. Hamilton*
298. Atom economic and environmentally benign synthesis of oxindoles by metal-catalyzed cyclization under solvent-free and aerobic condition. **H. Shin**, **S. Kim**, W. Lee*, J. Choi, H. Ha*
299. JEDI analysis of the distribution of mechanical stress in polymer knots. **T. Stauch***, A. Dreuw
300. Mechanochemistry as a greener route to biological porphyrin targets. **D. Cordero**, T. Hamilton*
301. Mechanochemistry for the green preparation of bioactive hydantoins. **E. Colacino***
302. Ball-milling as solventless green technology for revisiting the *N*- and *C*-protection of amino acids and esters. **E. Colacino***
303. Solvent-free mechanochemical synthesis of hierarchical ZIF-8 MOF. **S. Tanaka**, A. Yasuyoshi, Y. Miyake, G.V. Baron, J.F. Denayer
304. Development of the new versatile reaction field for various organic reactions. M. Ohmura, Y. Ishimura, Y. Ikeda, S. Kamino, **D. Sawada***
305. Effect of high pressure on the Raman spectra of some solid mechanochemically-produced halogen-bonded Co-crystals. **I.S. Butler***, Y. Desjardins-Langlais, J. Poisson, C. Nickels, T. Friscic

Hawaii Convention Center
Halls I, II, III

Carbenes and Carbenoids in Organic Synthesis (#362)

Organized by: K. Scheidt, M. Murakami, R. Chi

Poster Session
10:00 – 12:00

306. Ring-expansion reaction of vinylsulfonium ylides generated by the reaction of vinylcarbenoids with 2-aryl-1,3-dithiolanes. **T. Koizumi***, Y. Ichinose, K. Oshima, Y. Nakata, H. Takahashi, K. Goto, I. Shibata
307. Ruthenium-catalyzed cycloisomerization of alkynes containing a heteroatom-heteroatom bond: From repulsive to resonance interactions. **S. Roh***, I. Kim, S. Kim, C. Kim, C. Lee*
308. Highly enantioselective synthesis of cyclopropane ring fused γ-lactones via intramolecular carbene transfer reactions. **Y. Nakagawa**, S. Chanthamath, N. Nakayama, H. Goto, K. Shibatomi, S. Iwasa
309. Highly enantioselective C−H insertion reaction of N-alkyldiazoacetamides by using Ru(II)-pheox complex. **T. DoanThi**, S. Chanthamath, K. Shibatomi, S. Iwasa*
310. Carbohydrate-based N-heterocyclic carbenes (NHCs) for asymmetric catalysis. **A.S. Henderson**, J. Bower, M. Galan*
311. Ionic liquids as precatalysts in the highly stereoselective synthesis of 1,6-ketoesters. **L. Ta**, A. Axelsson, J. Bijl, H. Sundén*
312. Kinetic study on rhodium(II)-catalyzed cyclopropanation of sulfonyl-1,2,3-triazoles. **S. Kwok**, V. Fokin*
313. Ruthenium porphyrin catalyzed three-component reaction for the synthesis of multifunctionalized isoxazolidines and aziridines. A. Reddy, **C. Zhou**, C. Che
314. Asymmetric synthesis in green solvents: Homoenolate reactions of N-heterocyclic carbenes. **J.J. Kiddle**, D. Kidd
315. Regioselective functionalization of 1,4-dicarbonyls through the rhodium(II)-carbenoid promoted sigmatrofpic rearrangement. **J. Lee**, D. Jung, S. Lee*
316. Synthetic study of termicalcicolanone B using NHC-catalysis. **Y. Kitahara**, A. Tsunoi, T. Utsunomiya, K. Tazawa, K. Manabe, Y. Suzuki
317. Total synthesis of (+)-tanikolide and its analogs by traceless stereoinduction method using Rh(II)-catalyzed oxonium ylide formation−[2,3]-sigmatropic rearrangement. **H. Jinnouchi**, H. Nambu, T. Fujiwara, T. Yakura
318. Tandem rhodium/Lewis acid-catalyzed reaction of *N*-sulfonyl-1,2,3-triazoles and 2,3-epoxy alcohol: A new route to oxazine derivatives. **Y. Ko**, S. Lee*
319. Catalyst design for chemoselectivity in the NHC-catalyzed cross-benzoin reaction. **S. Langdon**, C.Y. Legault, M. Gravel*
320. Robust pocket recognizing the chirality of amines and showing chiral switching in acetone. **Y. Jin**, Y. Choi, S. Park, k. kim
321. Highly stereoselective cyclopropanations of Weinreb amide derivatives using novel Ru(II)-pheox catalysts. **H.S. Mandour**, S. Chanthamath, K. Shibatomi, S. Iwasa*
322. Stereoselective synthesis of α,β-disubstituted γ-lactones promoted by binaphthyl Rh carboxylate catalyst. **W. Lu**, P. Xu, T. Furuta*, T. Kawabata
323. *N*-heterocyclic carbenes for nucleophilic acylation. **K. Dobashi**, Y. Suzuki, e. ishithubo, H. Tokiwa
324. Ru(II)-Pheox catalyzed carbene transfer reactions of diethyldiazomethylphosphonate. **S. Ozaki**, S. Iwasa*, S. Chanthamath, K. Shibatomi
325. Enantio- and diastereoselective intramolecular C–H insertion of α-diazoesters catalyzed by chiral dirhodium(II) carboxylates. **T. Miyazawa**, K. Minami, K. Imai, K. Takeda, M. Anada, S. Matsunaga, S. Hashimoto*
326. Synthesis of planar chiral [2.2]paracyclophane-based bisoxazoline ligands bearing no central chirality and application to Cu-catalyzed asymmetric O-H insertion reaction. s. kitagaki*, K. Sugisaka, K. Asaoka, **S. Murata**, N. Takenaga, C. Mukai
327. Exploration of an ester alternative and application as a pronucleophile for direct catalytic asymmetric Mannich reaction catalyzed by *N*-heterocyclic carbene. **A. Takahashi**, S. Handa, H. Sugimoto*
328. Synthesis and characterization of multinuclear Au complexes bridged by two 1,2,3-triazolylidene carbene-phosphine hybrid ligands. **M. Nishimura**, K. Amaike, T. Ooi*, K. Itami*, K. Ohmatsu, J. Yamaguchi

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 1

Cognizance of Endangered Elements for Organic Synthesis (#415)

Organized by: H. Tsuji, S. Zhu, G. Konishi, C. Luscombe, L. Campeau
Presiding: G. Konishi, C. Luscombe

8:00 – 329. Potential of carbon: Can it be an alternative to rare and precious elements?. **H. Tsuji***
8:20 – 330. Pyrene-based D–π–A dyes with pyridyl carboxamide substituent as a novel acceptor exhibit high quantum yield and perfect solvatochromic fluorescence in apolar and polar solvents. **C. Chen**, G. Konishi
8:40 – 331. Bright and colour-tunable aggregation induced emission of sterically congested D-π-D quadrupolar dyes and their excited-state dynamics. **S. Sasaki***, G. Konishi
9:00 – 332. Molecular recognition of doubly phosphorus-containing molecular host. **M. Yamamura**, T. Nabeshima
9:20 – 333. Triplet-energy control of PAHs by heteroatom incorporation for development of OLED materials. **T. Hatakeyama***, T. Ikuta, K. Shiren, S. Hashimoto, S. Nakatsuka, H. Hirai, K. Nakajima, J. Ni, M. Nakamura
9:40 Break
9:55 – 334. Short syntheses of polycyclic aromatic hydrocarbons by catalytic arylation of C-H and C-O bonds in aromatic ketones. **F. Kakiuchi**
10:25 – 335. Facile synthesis of ethene-bridged terthiophenes and their physical properties. **K. Mitsudo***, H. Sato, J. Goto, A. Yamasaki, S. Suga*
10:45 – 336. Facile synthesis of fluorene-based conjugated polymers via direct arylation polycondensation. **T. Kanbara***, H. Saito, J. Kuwabara
11:15 Closing Remarks

*** Principle Author**

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Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 1

Photoredox Catalysis in Organic Synthesis (#440)

Organized by: D. Nicewicz, S. Fukuzumi, W. Xiao
Presiding: D. Nicewicz

8:00 Opening Remarks
8:05 – 337. Enantioselective photochemistry via tandem photoredox and Lewis acid catalysis. **T.P. Yoon***
8:40 – 338. Controlled perfluoroalkylations of alkynes and alkenes. **E. Cho***
9:10 – 339. Proton-coupled electron transfer in organic synthesis and asymmetric catalysis. **R.R. Knowles**
9:30 – 340. Regioselective difunctionalization of olefins by photoredox catalysis. **T. Koike***, M. Akita
10:00 Break
10:15 – 341. Synthetic control of photoinduced electron transfer of cyclometalated Ir(III) and Pt(II) complexes and applications to photoredox catalysis. **Y. You***
10:45 – 342. Photoinduced electron transfer mechanism for β-carbonyl Mannich functionalization. **J. Jeffrey***
11:05 – 343. Photoredox catalysis for azide anion activation. **A.G. Griesbeck**
11:25 – 344. Visible light mediated free radical chemistry. **C. Stephenson**

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 3 & 4

Catalytic Multicomponent, Tandem and Cascade Reactions (#455)

Organized by: B. Arndtsen, J. Montgomery, K. Nozaki
Presiding: B. Arndtsen, J. Montgomery, K. Nozaki

8:00 – 345. Chain walking as a strategy for catalytic organic synthesis. **T. Kochi***
8:30 – 346. Alkyl-alkyl bond formation by cascade cyclization-coupling reactions catalyzed by first-row transition metal complexes. **D.J. Cárdenas***, M.E. Buñuel, M. Guisan-Ceinos, F. Tato, R. Soler-Yanes, D. Collado
8:50 – 347. Cascade reactions enabled by nickel and copper catalysis. **J. Montgomery***
9:20 – 348. Diversity-oriented asymmetric catalysis (DOAC) for spirooxindoles. **T. Arai**
9:40 – 349. Sequential catalysis via the combination of Ru/chiral phosphoric acid. **S. You**
10:10 Break
10:20 – 350. Multistep, multicatalytic processes for organic synthesis. **J.F. Hartwig**
10:50 – 351. Tandem applications of process analytical technology to accelerate reaction discovery and optimization. **J. Hein**
11:10 – 352. Bifunctional acid-base mixed oxide catalysts for cascade reactions in ethanol conversions. **K. Ramasamy***, c. Smith, M. Gray, H. Job, y. wang

Hawaii Convention Center
Halls I, II, III

Organic General Posters
10:00 – 12:00

Asymmetric Synthesis
353. Synthesis of tetracyanocyclopentadienide salts featuring a chiral BINOL auxiliary. **J. Matsuoka**, T. Sakai*, Y. Mori*
354. Hydrolysis and stereoconversion of amino acid esters by ARCA and its reaction mechanism. K. chun, **T. Kim**
355. Enantioselective 1,2-addition of aryl Grignard reagents to ketones. **K. Osakama**, M. Nakajima*
356. Chiral *N*-(*tert*-butyl)-*N*-methylaniline type ligands: Synthesis and application to palladium-catalyzed asymmetric allylic alkylation. **T. Mino***, M. Asakawa, Y. Shima, M. Sakamoto
357. Catalytic enantioselective amidation of α-amino acid derivatives by a chiral *tert*-amine catalyst. **K. Masaki**, M. Kitamura, S. Sasaki, M. Kunishima*
358. Chiral lithium binaphtholate catalyzed enantioselective Michael additions of acyclic α-alkyl-β-keto esters. **M. Moritani**, S. Kotani*, M. Nakajima
359. Synthesis and structure of macrocyclic pybox complexes. **S. Komagawa**, T. Hiuke, M. Ueno, K. Yamaguchi*
360. Enantioselectie α-arylation of esters: Redesign of a ligand to solve a classical synthetic challenge. **P. Zhang**
361. Axially chiral biaryl dials: A chiral shift reagent for primary amines. **S. Kim**, **G. Lee**, **S. Lee**, **H. Han**
362. Highly resio- and enantioselective hydrostannation of alkynes. **J. Park**, S. Gupta, Y. Do, J. Lee, M. Lee, J. Han, Y. Rhee*, J. Park*
363. Regiochemistry-directed syntheses of polyhydroxylated alkaloids from chiral aziridine. **J. Choi**, H. Eum*, H. Ha, C. Cho
364. Highly regio- and stereoselective ring expansion of chiral aziridines: Application toward the asymmetric synthesis of nitrogen containing heterocycles. **J. Choi***, N.N. Yadav, H. Ha
365. Enantio- and diastereoselective conjugate addition of 1-pyrroline 5-carboxylate esters to nitroalkenes catalyzed by silver and copper complexes with chiral ferrocenyl ligands. **M. Kimura***
366. Asymmetric Favorskii rearrangement of α-chloro-β-keto esters. **N. Sasaki**, M. Kotozaki, K. Shibatomi*, S. Iwasa
367. Investigation of *tert*-butylsulfinylmethyl substituted aryl compounds for stereocontrolled condensation with an electrophile. J. Wei, **Z. Sun***
368. Optical resolution of 1,2-diphenylethylenediamine using diastereomeric salt formation method. **S. Kishimoto**, T. Kijima, W. Fujiwara, S. Murakami, S. Matsuba, B. Hatano
369. Stereoselective synthesis of 3-hydroxy-4-arylcyclopentanones through a Heck-Matsuda desymmetrization. **R.C. Carmona***, C.D. Correia

Catalysis
370. Formation of cyclic carbonates from CO_2 and epoxides catalyzed by a new type of Lewis acid-base bifunctional M(salphen) (M=Zn, Cu and Ni). **Y. Ren***, H. Jiang*
371. Synthesis of cyclopentadienyl rhodium complexes bearing a cyclodextrin and their application to catalytic reactions. **H. Yamauchi**, S. TSUDA, T. Iwasaki, S. Fujiwara, H. Kuniyasu, N. Kambe
372. Imidazopyridine-palladium catalyzed Mizoroki-Heck reaction. **N. Kozai**, F. Yagishita*, K. Nomura, T. Mino, Y. Kawamura, M. Sakamoto
373. Indium-catalyzed formal N-arylation and N-alkylation of pyrroles with amines. **K. Yonekura**, O. Kenji, T. Tsuchimoto*
374. Rhenium-catalyzed isomerization of *N*-alkylpropargylamines to *N*-alkylideneallylamines. Y. Fukumoto*, **N. Okazaki**, N. Chatani
375. Pd-catalyzed asymmetirc intermolecular hydroalkoxylation of alkoxyallene. **S. Kang**, J. Lee, K. Seo, Y. Rhee*
376. Nickel-catalyzed stannylation of organohalides. **K. Komeyama***
377. Mn-catalyzed alkyl-Heck-type reaction via oxidative decarbonylation of aldehydes. **Z. Zong**
378. Transition metal-catalyzed oxygenative α-addition and β-alkylation of terminal alkynes. **H. Yun**, H. UM, C. Lee*
379. Tris(pentafluorophenyl)borane-catalyzed organofunctionalization of various materials with derivatized-polymethylhydrosiloxanes. **Y. Masui**, S. Ichii, K. Iwaida, K. Kanamori, T. Kamei, K. Nakanishi*, T. Shimada*
380. Rhodium-catalyzed reaction of terminal alkynes with t-butylhydrazine leading to nitriles. **Y. Tamura**, Y. Fukumoto*, N. Chatani
381. Nickel-catalyzed reaction of perfluoroarenes with 1,3-butadiene through dimerization of 1,3-butadiene. **X. Min**, T. Iwasaki, H. Kuniyasu, N. Kambe*
382. Mechanistic studies on the organic reactions catalyzed by Pd–Fe_3O_4 heterodimeric nanoparticles. **S. Byun***, **B. Kim***
383. Synthesis of anilines from aryl halides-via copper-catalyzed amination in aqueous ammonia. **Y. Cho**, H. Jung, H. Jeon*
384. Synthesis and applications of electron deficient triazinylphosphine ligands. **K. Abe**, M. Kitamura, M. Kunishima*
385. Cu-catalyzed hydro- and alkylperfluoroarylation of 1,3-butadiene. **K. Okamoto**, T. Iwasaki, H. Kuniyasu, N. Kambe*
386. Rhodium-catalyzed tandem addition–cyclization of alkynylimines. **K. Choi**, J. Joo*, C. Lee*
387. Direct catalytic conversion of ammonia and allylic alcohols to primary allylamines at room temperature. **R. Shibuya**, L. Lin, T. Ohshima
388. Selective role of zeolites in the electrophilic substitution reactions . **M.H. alotaibi***, K. Smith, G. El-Hiti
389. One-pot preparation of α-aminonitriles by indium-catalyzed three-component coupling reaction of alkynes, amines, and trimethylsilyl cyanide. **Y. Hamachi**, Y. Ogiwara, N. Sakai
390. Direct condensation between phthalide and primary amine in the presence of literally catalytic amount of the Lewis acid catalyst. **I. Takahashi**, S. Hosoi
391. Mechanistic study on the generation of carbon monoxide from phenyl formate and its application to the development of Pd-catalyzed carbonylation at room temperature. **H. Konishi**, M. Matsubara, K. Mori, Y. Ishikawa, H. Hashimoto, H. Tokiwa, K. Manabe*
392. BICMAP-rhodium catalyzed 1,4-addition of arylboronic acids to coumarin derivatives. **K. Watanabe**, T. Mino*, K. Miura, Y. Mizutani, M. Sakamoto
393. Transition metal catalyzed allylation of trifluorotoluene derivatives using allylsilane. **T. Umi**, T. Yamada, K. Saito, T. Akiyama*
394. Effective catalyst (cobalt salt/Lewis acid) for Beckmann rearrangement of cycloalkanone oximes. H. Yamamoto*, **A. Ishikawa**, M. Sumimoto, K. Hori

Macromolecues, Host-guest Chemistry and Sensors
395. Synthesis of crystal mimicking 1,3-diphenylisobenzofuran. **F. Johansson**, J. Mårtensson*
396. One-pot synthesis of novel polysubstituted 1,1'-phenylene-bipyrrole via the double 1,3-dipolar cycloaddition reaction. **C. Nii**, H. Liu, S. Ueta, F. Yagishita, Y. Kawamura*
397. Development of a new set of quinazolines: Strong fluorophores for solution and solid state. **M. Motoyama**, M. Lukarska, T. Doan, B. Witulski, Y. Suzuki*
398. Synthesis and controlled flapping motion of clothespin-shaped binuclear palladium complexes bearing alkyl amide linkers. **R. Inoue***, S. Kawamorita, T. Naota
399. Thermochromic behavior of tetraarylporphyrin zinc complexes bearing amino groups. **S. Nakajima***, T. Enomoto, H. Shinohara
400. Synthesis and application of cyclic polyglycerol derivatives. **M. Hamada***, H. Tannaka, S. Kawabata, T. Kishimoto, N. Nakajima
401. Biphasic CuAAC reaction using a phase transfer agent. **J. Kim**, S. Lee, Y. Kwon, S. Kim*
402. Novel fast and clean syntheses of cyclotriveratrylene (CTV). **H. Beynek***
403. Development of a fluorescent probe based on the coumarin unit to detect urease. **A. Hasegawa**, T. MURAFUJI, S. Kamijo, K. Ishiguro
404. Highly efficient synthesis and monofunctionalization of monodisperse poly(ethylene glycols). **Z. Jiang***, H. Zhang, X. Li, Y. Li
405. Synthesis and structure of one-handed M_2L-type helicates made of open-chain hexapyrrole. **T.T. Nguyen**, C. Eerdon, J. Setsune*
406. Membrane fusion triggered by pseudoceramide formation. **S. Lee**, Y. Lee, H. Lee, J. Kim, H. Jeon, S. Kim*
407. Preparation of polymethylhydrosiloxane having ATRP initiator moieties and the application in living polymerization of styrene on glass surfaces. **K. Iwaida**, S. Ichii, Y. Masui, K. Kanamori, T. Kamei, K. Nakanishi*, T. Shimada*
408. Synthesis and anion binding behaviors of pyrrole-based receptors with extended π-*conjugation*. **Z. Zhang**, K. Nishinaka, J. Setsune*
409. Synthesis, X-ray structure, and metal extraction abilities of new diethylphate modified thiacalix[4]arene. **T. Kimuro**, K.U. Maheswara, M. Yamada, Y. Kondo, F. Hamada*
410. Dynamic helical structure of dinuclear metal complexes of tetrapyriocthaphyrin (1.0.0.0.1.0.0.0). **T. Ito**, J. Setsune*
411. Cesium extraction capability based on hybrid polymers consisting of β-cyclodextrin and diatomite. **Y. Kondo***, M. Ulzii, M. Yamada, F. Hamada
412. Kinetic studies of poly(vinyl alcohol)/Na^+-montmorillonite nanocomposites. J. Lee*, **G. Shin**, **K. Choi**, **S. Lee**
413. Uni-directional movement by active transport on rotaxane. **N. Junya**, N. Kihara*
414. Conversion of pisiferic acid and pisiferanol into catechol-type icetexanes. **E. Nishigaki**, Y. Matsushita, K. Sugamoto

Medicinal & Bioorganic Chemistry
415. Synthesis and investigation of enzyme-triggered CO-releasing molecules for biological and pharmaceutical applications. **A. Göderz**, H. Schmalz*
416. Antioxidant capacity evaluation in polysaccharides derived from seaweed. **K. Hirao**, A. Nakamura, M. Moto, K. Katsuraya, K. Iwasaki, K. Tanaka, A. Murota
417. Practical remediation of the PCB-contaminated soils. **A. Ido**, M. Niikawa, S. Ishihara, Y. Sawama, T. Nakanishi, Y. Monguchi, H. Sajiki, H. Nagase*
418. Discovery and development of a new commercial route for a key regulatory starting material in the synthesis of PI3k β-sparing inhibitor GDC-0032 (Taselisib). **D.R. Beaudry***
419. Cembranoids with antifouling activity: Isolation, analogs production, synthesis, and working model. **E. Tello***, **l. castellanos**, M. Puyana, **C. Arévalo-Ferro**, C. Jiménez, J. Rodríguez, **C. Duque**
420. Solvent-dependent conformational studies of the *E. coli* siderophore enterobactin and derivatives: The role of solvent donor and acceptor numbers. **C.E. Godinez**, C.G. Gutierrez*, A. Oganesyan
421. Chemical and genetic diversity of *Ligularia virgaurea*. **Y. Saito**, Y. Takashima, A. Kamada, S. Iga, M. Taniguchi, K. Hoshiyama, C. Hayami, K. Nakashima, Y. Okamoto, M. Tori, R. Hanai, X. Gong, C. Kuroda
422. Chemical lineages of *Ligularia fischeri* and *L. veitchiana*. **C. Kuroda***, C. Shibayama, K. Inoue, Y. Okamoto, M. Tori, Y. Saito, R. Hanai, X. Gong
423. Intra-specific diversity in cytotoxic sesquiterpene lactone constituents of *Eupatorium heterophyllum* collected in P. R. China. **M. Ogata**, Y. Saito, K. Nakashima, Y. Okamoto, M. Tori, T. Kawahara, R. Hanai, Y. Matsuo, T. Tanaka, X. Gong, C. Kuroda

*** Principle Author**

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424. Antifungal bismuth heterocycles possessing a fluorophore to study the mechanism of its action. **M. Wada**, T. MURAFUJI, S. Kamijo, I. Miyakawa, H. Kotoh
425. Potent inhibitors for hepatitis C virus NS5A: SAR studies on the benzidine and diaminofluorene cores. **I. Bae***, **B. Kim***
426. Development of a commerical manufacturing process for the PI3K beta-sparing inhibitor Taselisib. **F. St-Jean**, T. Remarchuk, D. Carrera, A. McClory, D. Beaudry, R. Angelaud
427. Synthesis and biological evaluation of quinolines analogs through cycloaddition imino Diels-Alder reaction. **L.J. Prent**, Y. Duarte*, M. Gutierrez
428. Synthesis of furoxan derivatives and study on their nitric oxide-releasing ability. **A. Ando**, R. Matsubara, S. Takazawa, T. Shimada, M. Hayashi
429. Efficient synthesis of arylnaphthalene lactones with potent anticancer activities . D. Shin*, **C. Lee**, S. Park, J. Lee
430. Improved anticancer effect of the microwave-irradiation processing ginseng extract increased Rg3, Rk1, and Rg5 ginsenosides. **J. Ham***, K. Kang, P. Choi, J. Park, T. Kim, S. Park, H. Kim
431. Volatile compositions of Cherokee aromatic medicinal plants. **C.D. Stewart***, W.N. Setzer
432. Conversion of marine biomass to adipic acid . **N. Shin**, S. Kwon, C. Hong, S. Jeon, Y. Kim*
433. Invention of useful reactions for medicinal chemistry. **R.L. Gianatassio***, J. Lopchuk, P.S. Baran
434. Dependency of alcohol concentrations on extraction efficiency of sphingolipids from natural sources. **J. Kurisu***, H. Furuya, C.J. Rosser, T. Kawakita, E. Furuya
435. Chemical assay-guided natural product isolation using solid-supported chemodosimetric fluorescent probe. **H. Jeon**, C. Lim, J. Lee, Y. Kwon, S. Lee, S. Kim*
436. Fluorinated heterocyclic bismuthane: Synthesis, structure, and antifungal activities. **M. OOJI**, T. MURAFUJI, K. Ishiguro, S. Kamijo
437. Functionalized fluorinated molecules with applications in biology. **R.S. Jwad***, L. Hunter*, R. Read*
438. Structure elucidation of thitsiol oxide compound having a carbonyl group. **K. Ito**, T. HONDA
439. Analysis of linseed oil with the addition of pigments. **D. Yamada**

Organometallic Chemistry, C-H Activation and Cycloaddition

440. Development of Hiyama-Hatanaka cross-coupling reaction using allylsilane as a silanol precursor. T. Kamei*, **S. Kimura**, A. Matsuura, T. Shimada*
441. Catalytic epoxidation of olefinic terpenes using organotellurium compounds. **M. Oba***
442. Anthracene-promoted facile synthesis of organo-calcium. **Z. Yang**, H. Minami, C. WANG*, M. Uchiyama*
443. Unprecedented formation of 2-aryl-3-oxocyclobut-1-en-1-yl ligand from 3-arylpropargyl chloride, carbon monoxide, and Pd(0) or Pt(0) complex. **M. Iwasaki***, **H. Azami**
444. Palladium catalyzed selective cage boron olefination of carborane via direct cage B–H activation. **H. Lyu**
445. Development of cross-coupling reaction between organoaluminrum reagents and phenol/alcohol derivatives. **H. Ogawa**, T. Saito, C. WANG, M. Uchiyama
446. Straightforward synthesis of HOMSi reagents via Ir-catalyzed C–H bond silylation with hydrosilanes. **T. Komiyama***, Y. Minami, T. Hiyama
447. C-H alkylation of heterocycles. **J.T. Edwards**, P.S. Baran*
448. Development of a universal directing group for phenol C-H activation. **M. Farmer**, P. Shen, P.S. Baran*, J. Yu*
449. Scalable copper mediated C-H hydroxylation: Synthesis of polyhydroxylated steroids. **Y. See**, A.T. Herrmann, P.S. Baran*
450. Synthesis of isoquinolines from C-H bond activation of ketimines and consequent annulation with alkynes. **Y. Kwon**, S. Gupta, J. Han, Y. Kim, S. Lee, Y. Rhee*, J. Park*
451. Lewis acid-promoted stereo- and regioselective intramolecular cycloaddition of nitronates leading to tricyclic isoxazolidines. **D. Morito**, M. Nishiuchi, F. Yagishita, Y. Kawamura
452. Synthesis of phosphabenzenes by iron-catalyzed [2+2+2] cycloaddition of diynes with phosphaalkyne. **K. Nakajima**, S. Takata, K. Sakata*, Y. Nishibayashi*
453. Novel [3+2] cycloaddition reaction of allenoate and isoquinoline. **X. Jia***
454. Cross [2+2+2] cycloaddition reaction using iridium complex catalyst. **T. Shioi**
455. Pd-catalyzed oxidopyrylium ylide generation and [5+2] cycloaddition reaction with several olefinic dipolarophiles. **M. Kimura**, K. Takahasi, H. Suga*

Physical Organic, Radical, Photo- & Material-related Chemistry

456. Processing of organic compounds processing in reactive oxygen atmosphere produced by Radical Vapor Reactor (RVR). **N. Miyori**, M. Kitamura, T. Haruyama
457. Hydrogenation of tetraphenylcyclopentadienone. **B.W. Baldwin***, K. Kodama, S. Cooke, T. Hirose
458. Hydrogenation of tetraphenylcyclopentadienone. **S. Price**
459. Thermal cyclotrimerization of tetraphenyl[5]cumulene to a tricyclodecadiene derivative. **T. Kinouchi**, N. Islam, F. Yagishita, Y. Kawamura*
460. Development of new type lacquer coatings by the blend kneading on mechanical stirring method. **T. Fumiiwa***, T. HONDA, T. Miyakoshi
461. Developing new identification methods of film-coated drying oils used by ATR-FT/IR, Py-GC/MS and on-line-UV-GC/MS. **H. Horii***, T. HONDA
462. Nanodetoxification of organophosphate agents by PAMAM derivatives. **E.F. Durán***
463. Synthessis, structure, and magnetic properties of novel nitroxide radicals bearing an amide group. **M. Akita***, A. Hanai
464. Synthesis of the unsymmetrically substituted [4]radialene and its photochemical conversion to the light emissive pentacyclic compound. **K. Omotani**, H. Hashizume, S. Ueta, F. Yagishita, Y. Kawamura
465. Emission properties of phosphorescent iridium complexes bearing glutamide moiety in gel phase. **S. Kawamorita**, K. Otsuki, T. Naota*
466. Axial coordination of acetylenes and polyynes to gallium porphyrins as an approach for molecular wires and synthesis of mixed metaloporphyrin dimers. **V. Walter**, N. Grzegorzek, N. Jux, F. Hampel, R.R. Tykwinski*
467. Kinetic studies on dehydration process of D-fructose. **T. Ishikawa***, N. Suzuki, T. Kawakita, E. Furuya
468. Photothermal isomerization of a core-modified tetrathiaoctaphyrin containing dithienylethene moieties. **M. Yamano***, A. Tsuda*
469. Development of new calix[4]arene derivatives for platinum group metals separation. **M. Yamada***, R. Muniyappan, Y. Kondo, A. Shibayama, F. Hamada
470. Bisdiarylethene-fused quinone capable of changing the redox by photochromism. **E. Saito**, A. Tsuda*
471. One-handed single helicates of oligopyrroles embedded with a pyridinium spacer showing chiroptical property dependent on solvent and redox state. **D. Saito**, J. Setsune*
472. Synthesis of low band gap molecules derived from azulene. **M. Shirane**, T. MURAFUJI*, S. Kamijo
473. Synthesis of azapentacene and its properties. **Y. Jahng***, M. Karim
474. Synthesis of cyclic organophosphorus compounds, 6H-dibenz[c, e][1, 2]oxaphosphorin derivatives, and its applications. **T. Ito**, T. Iwai, T. Nakai, M. Mihara, T. Mizuno, T. Ohno
475. Synthesis of thiophene derivative bearing donor and acceptor units on the aromatic rings linked by carbon-carbon triple bonds. K. Matsumoto*, **Y. Yamada**, S. Kashimura, T. Okubo, Y. Yamaguchi
476. Synthesis, structure, and mechanochromic properties of binuclear *trans*-bis(salicylaldiminato) platinum (II) complexes. **T. Maeda**, N. Komiya, S. Kawamorita, T. Naota
477. About the challenge to synthesize allyl diazirines. **T. Bohlmann***, T. Lindel
478. Preparation and crystal structures of 9-arylethynyl-9*H*-carbazoles. **T. Okuno***, **T. Kawashima**
479. Efficient synthesis of carbazole derivatives by using Ullmann cross coupling and Tauber carbazole synthesis. **J. Baek**, S. Shabbir, J. Ban, H. Rhee*
480. Aerobic photo oxidative radical cyclization reaction catalyzed by calcium iodide for the synthesis of lactones. **E. Yamaguchi***, M. Osuka, N. Tada, A. Itoh
481. Expeditious, radical pathway for sonication assisted Mitsunobu reaction of hindered secondary alcohols. **R. Heckler**, R. Florre, P. Cohn*, S. Rajaraman*
482. Alcohol oxidation reaction using nitroxyl radical as catalyst. **Y. Takino**, B. Hatano, T. Kijima, W. Fujiwara, S. Murakami, S. Matsuba
483. Synthesis and structure of hypervalent pentacoordinated nitrogen radical cations. **M. Takeshita***, K. Sato, J. Nakatsuji, A. Kurosaki, R. Shang, Y. Yamamoto
484. Rhodium-catalyzed hydroformylation of butadiene to adipaldehyde. **T. Maji***, C.H. Mendis, W.H. Thompson, J.A. Tunge
485. Studies on the radical scavenging ability and antimicrobial activity of ferulic acid and glycoside. Y. Uruma, **P. Yoong**
486. Development of synthetic method toward polycyclic heteroarenes by means of visible light mediated radical cyclization. **Y. Sudo***, E. Yamaguchi, N. Tada, A. Itoh
487. Synthesis and application of *C2*-symmetric chiral pyrrolidine ligand. **H. Tanno**, B. Hatano, T. Kijima, W. Fujiwara, S. Murakami
488. Synthesis and properties of nitroxyl radical based on isoindole derivative. **B. Hatano***, Y. Saito, T. Kijima, W. Fujiwara, S. Murakami, S. Matsuba
489. Synthesis of hypervalent sulfur anion bearing the tridentate ligand and their application. **T. Kukita**, Y. Imada, H. Nakano, Y. Yamamoto

Synthetic Methods

490. Electrophilic arylation with triarylbismuthanes promoted by Lewis acid. **H. Murohka**, T. MURAFUJI*, S. Kamijo
491. NSERC CREATE Program in Continuous Flow Science. **V. Kairouz**, S. Collins, A.B. Charette
492. Triflate catalyzed allylation of *N, S*-acetals using allylsilane reagent. **X. Sun**, T. Kijima, W. Fujiwara, S. Murakami, S. Matsuba, B. Hatano*
493. Environmentally benign synthesis of benzoylated benzoin in the presence of thiazolium salt. **S. Shimokawa**, K. Mifune, F. Yagishita, Y. Kawamura*
494. Synthesis and application of new bulky metal-amide bases. **S. Morisako***, R. Shang, Y. Yamamoto
495. C–C Bond forming reaction via the in situ generation of *N*-silyl ketene imine intermediates from nitriles: Nucleophilic addition to nitrones and intramolecular 6π electrocyclization. **T. Abe**, F. YOSHIMURA, K. Tanino
496. Synthesis of *O*-alkyl oximes using N-H imines as key intermediates. **Y. Kim**, M. Jeon, S. Gupta, Y. Im, Y. Rhee*, J. Park*
497. Carboxylic acid free novel isocyanide-based reactions. **T. Soeta***, Y. Ukaji
498. Synthesis of indoles from 2-aminochalcone using hypervalent iodine reagent via acetal intermediate. **T. Maegawa**, A. Nakamura, Y. Miki*
499. Study on the nucleophilicity of N-H imines: Synthesis of enamides from alkyl azides and acid anhydrides. **H. Pak**, J. Han, M. Jeon, Y. Rhee*, J. Park*
500. Oxidation of benzylamine by ClO_2. **D. Ito**, N. Kihara*
501. Sulfonylcarbamate as a unique hydroxy protecting group: Protecting group stable under severe conditions yet labile under mild conditions. **S. Manabe***, Y. Ito
502. Lewis acid-promoted regioselective fragmentations of bicyclic isoxazolidines to 2-isoxazolines. **T. Kume**, F. Yagishita, Y. Kawamura, M. Nishiuchi*
503. Bromine addition to ynamine compounds incorporated with phenothiazines. **S. Umezono**, T. Okuno*
504. Efficient and transition-metal free synthesis of diaryl and dialkyl sulfides using Grignard reagents and $SOCl_2$. **T. Yoon**, H. Jung, H. Jeon*
505. Domino approach to dibenzopentafulvalenes by carbopalladation sequence. **J. Wallbaum**, D. Werz
506. Cleavage of unactivated amide bonds by ammonium salt-accelerated hydrazinolysis. **y. shimizu**, M. Noshita, y. mukai, T. Ohshima
507. Aldehyde-selective Wacker oxidations of allylic fluorides. **C. Chu**, R.H. Grubbs
508. Esterification of vanillin with succinic anhydride. **R. Hayes**, B.W. Baldwin
509. Stereoselective epoxidation of aziridine-2-yl acrylaldehyde. **J. Yang***, H. Mao, H. Ha, J. Yang
510. Transition metal-mediated synthesis of substituted phenanthrenes. **Y. Kwon**, I. Kim, H. Cho, H. Jeon, J. Kim, **S. Kim***
511. Synthesis of diiodinated biphenyls and iodinated *meta*-erphenyls via regioselective Suzuki-Miyaura cross-coupling reactions of 5-substituted-1,2,3-triiodbenzene. **R.M. Al-Zoubi***, W. Al-Jammal, M. El-Kateeb, R. McDonaled
512. Olefins as progenitors for C–C and C–N bond formation. **J.C. Lo***, J. Gui, Y. Yabe, C. Pan, Y. Jin, T. Qin, P.S. Baran
513. Metal-free reductive dehalogenations using a simple and versatile photocatalyst. **S.O. Poelma***, K. Mattson, N.J. Treat, E.H. Discekici, Z.M. Hudson, P.G. Clark, B.E. Barton, S. Mukhopadhyay, C.J. Hawker, J. Read de Alaniz
514. Efficient approach to fluorinated 8-membered heterocyclic compound via 8-*endo-trig* cyclization. **E. Yoshimoto**, T. Konno*
515. Highly stereoselective synthesis of multisubstituted fluorine-containing alkenes based on sequential double Heck reactions. **Y. Sakaguchi**, T. Konno*
516. Effect of carbon substituents on the reactivity of triazine-based dehydrocondensing reagents. **S. Komine**, M. Kitamura, M. Kunishima*
517. Quick and mild methods for cleavage of amide-bonds by using a triazine-based benzylating reagent. **Y. Karuo**, K. Yamada, M. Kunishima*
518. Study of the reactivity of benzyloxytriazine derivatives (BOTs) for acid catalyzed *O*-benzylation. **H. Fujita**, M. Kunishima*
519. Concise synthesis of indole-fused medium-sized cyclic amines through iminium cation. **M. Imai***

*** Principle Author**

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520. New partial reduction method of carboxylic acid derivatives to aldehydes. **W. Shin**, D. An*
521. Boronic acid mediated regioselective sulfation of unprotected carbohydrates. **N. Shimada**, K. Fukuhara, K. Makino
522. Synthesis of azulenyl amino acids using Petasis reaction. **Y. Tasaki**, T. MURAFUJI*, K. Ishiguro, S. Kamijo
523. Efficient and selective *N*-formylation to primary amines. **S. Kim**, H. Jung, H. Jeon*
524. Simple, mild and efficient method for amidation of 2-aminothiazole. **M. Choi**, J. Lee, J. Jo, H. Lee, Y. Kwak*, J. Jung*
525. Synthesis of dihydroisoquinoline derivatives containing quaternary carbon center by the nucleophilic addition reaction of organolithium to isoquinolinium salt. **S. Iizuka**, K. Saito, T. Akiyama*
526. Regioselective bromination of acetoacetanilide by a simple choice of brominating agent. H. Yamamoto*, **S. Yamamoto**, M. Sumimoto, K. Hori, Y. Matsumoto, S. Soga
527. Development of umpolung functionalizations using nitrogen functional groups. **Y. Mizutani**, H. Tanimoto*, K. Kakiuchi
528. Highly regioselective hydrosilylation of tetrafluorocyclohexadiene derivatives. **Y. Nishi**, K. Nagai, T. Konno*
529. Novel synthesis of 1-substituted cyclopropyl silyl ketones. **M. Honda***, K. Nakae, T. Nishimoto, K. Kunimoto, M. Segi

Total Synthesis

530. Synthetic studies towards CJ-12,950 for the stereochemical assignment and structure activity relationship studies. **Y. Oguma**, T. Yamagishi, S. Shinoda, N. Yamamoto, K. Sugimoto, N. Toyooka, D. Minato, Y. Matsuya*
531. Synthetic study of new polyketide indoxamycin F: Stereocontrolled construction of tricyclic framework using Claisen rearrangement. **T. Kobayashi***, S. Yamashita, S. Aoyama, H. Abe, H. Ito
532. Stereoselective construction of bridged polycyclic systems via a polyene cyclization reaction. **K. Suzuki**, H. Yamakoshi, S. Nakamura*
533. Progress towards the synthesis of lesquerella- and castor-based bisphosphonates. **D.M. Cermak***, S.M. Henry, E.T. Rosen, E.L. Fayer, C.L. Coley, S.C. Cermak*
534. Efficient synthesis of D-*erythro*-sphingosine via Pd-catalyzed cross-coupling of a serine derivative with 1-alkenylzirconocene. **T. Murakami***, M. Tanaka
535. Total synthesis of pallambins A-D. **L.P. Martinez**, S. Wengryniuk, P.S. Baran
536. Studies toward the total synthesis of pactamycin. **T. Kim***, S. Matsudaira, S. Hirota, S. Matsushita, T. Doi, Y. Saikawa, J. Ham, M. Nakata
537. Total synthesis of verruculogen. D. Holte, Y. Feng, **L.R. Simke**, P.S. Baran*
538. Total synthesis of diprenylated chalcone derivatives. **T. Yoshifuji***, K. Sugamoto, Y. Matsushita
539. Studies toward a sustainable total synthesis of schischkiniin. **J.N. deGruyter**, P.S. Baran
540. Enantioselective, 5-step, gram-scale total synthesis of antroquinonol a. **M.T. Villaume**, E. Sella, G. Saul, P.S. Baran
541. Short and enantioselective synthesis of marine diterpenoids derived from the Caribbean Sea whip *Pseudopterogorgia elisabethae* exploiting catalytic chemistry. **S. Movahhed***, H. Schmalz
542. Enantioselective total synthesis of albaflavenone utilizing sequential intramolecular aldol condensation. **H. Ito***, T. Kobayashi, Y. Kon, H. Abe
543. Formal total synthesis of brevisamide using an oxiranyl anion strategy. **A. Fukuta**, K. Nakamura, M. Nakano, K. Kuroyanagi, T. Sakai, Y. Mori*
544. Total synthetic studies of keronopsin. Y. Uruma*, **Y. Yoshida**, T. Matsumoto, P. Yoong, W. Sasatani, H. Iio
545. Electrochemically promoted divergent synthesis of diterpene. **R. Merchant**, K. Oberg, P.S. Baran
546. Total syntheses of araiosamines A–D. **M. Yan***, M. Tian, J. Shaw, P.S. Baran
547. Efficient total synthesis and biological activity of (-)-bassianolide. **B. Mun**, K. Kim, Y. Lee*
548. Concise total synthesis of broussonone A. **H. Jo**, J. Sim, B. Park, **S. Kim**, H. Lee, J. Jung*
549. Synthetic study of antibacterial natural product citreamicin δ. **R. Sugimura**, E. Takeuchi, Y. Suzuki*
550. Synthetic study of the ABCD fragment of gymnocin-B. **H. Sakakibara**, K. Hata, A. Kawai, R. ishibashi, T. Sakai, Y. Mori*
551. Synthesis of the GHI-fragment of gymnocin-B. **M. Yamamoto**, Y. Hadano, S. Kato, T. Sakai, Y. Mori*
552. Esterification of 2,2-dimethyl-1-propanol compared to banana flavorine. **E. Sowers***, B.W. Baldwin
553. Synthetic study toward polycatenane. **M. Sakurai**
554. De novo synthetic method toward apiose. **M. Kim**, S. Jang, Y. Rhee*
555. Studies on the synthesis of spirolide D. A. Toita, K. Takeda, **H. Yamakoshi**, S. Nakamura
556. Studies toward the synthesis of oxygenated terpenoids utilizing an Ireland–Claisen rearrangement of tetrahydrofuran-2-carboxylate derivatives. H. Yamakoshi, Y. Akahori, **Y. Sawayama**, S. Hashimoto, S. Nakamura*
557. Scalable enantioselective synthesis of Maoecrystal V. **A. Cernijenko**, R. Risgaard , P.S. Baran
558. Two phase synthesis of the *tigliane* natural products. **H. Chu**, S. Kawamura*, P.S. Baran
559. Chemical conversions of fragmented lignin into lubricant oils. **Q. YE**, Z. Png, M. Chan, X. Wang, C. Wang, P.S. Ludger, J. Xu*
560. Synthesis of glycine phthalimide using a heat gun. **E.A. Brueggeman**, B.W. Baldwin
561. Direct hydroalkylation of unactivated olefins. **H.T. Dao**, C. Li, Q. Michaudel, B. Maxwell, P.S. Baran*
562. Electrochemical functionalization of terpenoid compounds. **B. Rosen***, E.J. Horn*, P.S. Baran

Wednesday Afternoon

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 2

Reactive Intermediates and Unusual Molecules (#7)

Organized by: R. Sheridan, M. Abe, W. Leigh

13:00 – 563. Development of new physiologically useful azanone (HNO) donors. **J.P. Toscano***
13:25 – 564. Role of nitroxides in the mechanisms of diarylamine radical-trapping antioxidants and hindered amine light stabilizers. **D. Pratt**
13:50 – 565. Reactivation of aged acetylcholinesterase after exposure to organophosphorus chemical nerve agents: A progress report. **C.M. Hadad***
14:15 – 566. Intermediates in the cleavage of endoperoxides. **T. Linker***
14:40 – 567. Mechanism and scope of non-emissive *meso*-unsaturated BODIPY dyes. **G. Cosa***
15:00 – 568. Series of persistent neutral heavy group-15 element radicals with bulky alkyl substituents. **T. Iwamoto**
15:25 – 569. Synthesis of a stable selenoaldehyde by unprecedented C=Se double bond formation through β-dehydration. **K. Goto***, R. Kakimoto, R. Kimura, S. Sase
15:50 – 570. Effect of the substitution of oxygen for CH_2 on the singlet-triplet energy differences (ΔE_{ST}) in trimethylenemethane → oxyallyl, *meta*-benzoquinodimethane → *meta*-benzoquinone and 1,2,4,5-tetramethylenebenzene → 1,2,4,5-tetraoxatetramethylenebenzene. X. Wang, B. Chen, D.A. Hrovat, **W.T. Borden***
16:15 – 571. Spectroscopy and kinetics of radical pairs in crystalline ketones. **M.A. Garcia-Garibay***, J. Park, A.J. Ayitou
16:40 – 572. Mechanistic study on the stereoselective photodenitrogenation of 2,3-diazabicyclo[2.2.1]heptanes. **M. Abe**

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

Prospects for Flow Chemistry (#29)

Organized by: J. Yoshida, T. Jamison, D. Kim, M. Organ
Presiding: d. kim, M. Oelgemöller

13:00 – 573. Continuous flow synthesis of functional nanomaterials by microreactors and their applications. **d. kim***
13:25 – 574. Continuous flow reactions in synthesis and medicinal chemistry. **A.B. Beeler***, R. Telmesani, T. Lynch-Colameta, A. Courtney-Young
13:50 – 575. Highly efficient organic photoreactions in flow microreactors under slug-flow conditions. **Y. Nishiyama***, K. Terao, K. Kakiuchi
14:05 – 576. Photochemical transformations using alternative sensitizers in continuous flow. **S. Collins***
14:20 – 577. Enabling scalable photochemical reactions using continuous flow chemistry. **D. Cantillo***, C. Kappe
14:35 – 578. Continuous flow photochemistry: From multistep synthesis to solar chemistry in concentrated sunlight. **M. Oelgemöller**
15:00 – 579. Photochemical transformations accelerated in continuous-flow microreactors. **T. Noel***
15:25 – 580. Development of a novel electrocarboxylation system using a flow microreactor. **H. Tateno**, K. Nakabayashi, M. Atobe*
15:40 – 581. ContiNMR - monitoring and controlling continuous synthesis reactors with benchtop NMR. **S. Riegel**, T. Rehm, J. Barten
15:55 – 582. Vortex fluidic flow chemistry – putting a spin on conventional flow chemistry. **J. Britton**, J.M. Chalker, C. Raston
16:10 – 583. Integrated liquid-liquid separator and its uses in flow chemistry. **a. adamo**
16:25 – 584. Bench-top resistively heated reactor for flow chemistry. **J. Rydfjord**, J. Sävmarker, M. Larhed*
16:40 – 585. Flow reactors: A paradigm shift. **D. Ager***

Hilton Hawaiian Village
Kalia Tower, Lehua Suite

Chemistry of Nanocarbons: Fullerenes, Carbon Nanotubes, Nanographenes and Related Materials (#41)

Organized by: T. Akasaka, F. Wudl, L. Echegoyen, X. Lu, C. Wang
Presiding: A. Hirsch, N. Martín

13:00 – 586. Single-molecule and real-time TEM imaging of single organic molecules. **E. Nakamura***
13:40 – 587. Functionalization of synthetic carbon allotropes. **A. Hirsch***
14:10 – 588. New mechanistic insight on top-down vs. bottom-up formationof fullerenes and metallofullerenes. **H.C. Dorn**, J. Zhang, X. Liu, T. Fuhrer
14:40 – 589. N@C_{60}: What does the future hold?. **K. Porfyrakis***
15:00 – 590. Co-assembly-directed fabrication of an exfoliated form of alternating multilayers composed of self-assembled organoplatinum(II) complex–fullerene dyad. **K. Tashiro***
15:20 – 591. Carbon-rich porphyrins. **N. Jux***
15:40 – 592. Carbonaceous molecular bearings. **H. Isobe**
16:00 – 593. Functionalization of [60]fullerene initiated by palladium-catalyzed C-H activation. **G. Wang***
16:20 – 594. Giant glycofullerenes for biological applications. **N. Martín***

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

Molecular and Supramolecular Photochemistry (#71)

Organized by: J. Sivaguru, W. Chung, C. Bohne, c. Tung, M. Sakamoto, V. Ramamurthy
Presiding: W. Chung

13:00 – 595. Photochemistry of the 1,4-diphenyl-1,3-butadienes in ethanol - trapping conical intersections. **J. Saltiel***, C.E. Redwood
13:30 – 596. Photochemistry of cyclopropenones: From generation or reactive acetylenes to the development of CORMs. **V. Popik**
14:00 – 597. High contrast reversible solid-state mechano- and thermoresponsive fluorescent materials. **S. Sun***
14:30 Break
14:45 – 598. Turning on the fluorescence of GFP chromophore with meta-amino substituents. **J. Yang***, G. Huang
15:15 – 599. Artificial photosynthetic systems for hydrogen evolution. **L. Wu***
15:45 Break
16:00 – 600. Photochemistry and fluorescence properties of photoresponsive dendrimers and hydrogen bonded compounds. **T. Arai**
16:30 – 601. Take aggregates with a grain of salt. S. Mooi, S. Keller, J. Oake, C. Bohne, **B. Heyne***

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 3

Innovative Strategies for the Synthesis of Nitrogen Heterocycles (#74)

Organized by: R. Danheiser, T. Fukuyama, M. Lautens
Presiding: R. Danheiser

13:00 – 602. Gold-catalyzed efficient formation of *N*-heterocycles. **L. Zhang***
13:20 – 603. Selective installation of a sp^3 C-Si bond *beta* to nitrogen via catalytic silylative reduction of *N*-heteroaromatics. **S. Chang**
14:00 – 604. Cycloadditions of strained alkynes and allenes . **N. Garg***
14:40 – 605. Total synthesis of indoline alkaloids via intramolecular dearomative oxidative coupling. **D. Ma**, M. Teng, Y. Wei
15:20 – 606. Design and development of bioactive heterocycles: A synergy between synthesis and structural biology. **A.K. Yudin***
16:00 – 607. Efficient synthetic route toward benzofuro[2,3-*b*]pyrroles. **O. Miyata***, M. Ueda, Y. Ito, N. Takeda
16:20 – 608. Direct azidation of phenols with azidoimidazolinium salt. **M. Kitamura***, T. Koga, K. Murakami

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 1

Organoboron Chemistry: Applications in Organic Synthesis, Biology, and Materials (#100)

Organized by: D. Hall, B. Wang, P. Duggan, M. Suginome
Presiding: B. Wang

*** Principle Author**

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13:00 Opening remarks
13:05 – 609. Boronic acid–DMAPO cooperative catalysis for dehydrative condensation of carboxylic acids with amines. **K. Ishihara***, Y. Lu
13:35 – 610. Boronic acid catalysis: An emerging atom-economical platform for direct activation of alcohols in Friedel-Crafts alkylations and other reactions. **D. Hall***, X. Mo, J. Dansereau, J. Yakiwchuk, A. McCubbin
13:55 – 611. Synthetic discoveries from polycyclic natural products. **J.A. May***, J. Shih, T. Nguyen, P. Le, R. Vallakati, C. Huynh, t. Tran, S. Jansone-Popova, B. Lundy
14:15 – 612. Copper-catalyzed stereoselective synthesis of organoboron compounds. **J. Yun**
14:45 – 613. Synthesis of chiral tertiary boronic esters via oxime-directed catalytic asymmetric hydroboration. V. Shoba, N.C. Thacker, A. Bochat, **J. Takacs***
15:05 Break
15:15 – 614. Anomalous reactivity of silylborane: Boryl substitution of organic halides with silylborane/alkoxy base systems. **H. Ito***
15:45 – 615. Masked boronyl group as a convertible directing group for transition-metal-catalyzed ortho-C-H functionalization. A. Ishibashi, T. Yamamoto, **M. Suginome***
16:05 – 616. Borenium cations: Versatile reagents for the formation of boronate esters. **M.J. Ingleson**
16:25 – 617. Small molecule synthesizer. **M. Burke***

Hilton Hawaiian Village
Rainbow Tower, Rainbow 3

Practical Application of Basic Research on Molecular Recognition (#136)

Organized by: C. Tran, K. Kano, C. Easton
Presiding: C.J. Easton, M. Komiyama

13:00 – 618. Detection and destruction of nerve agents. **J. Rebek**
13:25 – 619. QCM sensor arrays as electronic noses for odor recognition . **I.M. Warner**, N.C. Speller, N. Siraj
13:50 – 620. Supramolecular tools that enable research on post-translational modifications. **F. Hof***, G. Garnett, A. Shaurya, B. Meagan, K. Daze
14:15 – 621. Supramolecular composite materials: Recyclable synthesis and application. **C.D. Tran***
14:40 Break
14:55 – 622. Direct measurement of interactions involved in biological functions. **K. Kurihara**
15:20 – 623. Photochemistry in a capsule: Spin, energy, and electron transfer across a molecular wall. **V. Ramamurthy***
15:45 – 624. Intracellular delivery of the porphyrin-cyclodextrin supramolecular complexes by an octaarginine carrier peptide. **H. Kitagishi***, K. Kano
16:10 – 625. Synthesis and chiral recognition of novel helical poly(phenylacetylene)s having two chiral centers at a pendant. **C. Zhang***, R. Ma , Y. Qiu, Y. Zhou, Y. Okamoto
16:20 – 626. Polyrotaxane synthesizer. **C. Cheng**, J. Stoddart*
16:30 – 627. Phospholipid and curvature recognition by designed peptides: A paradigm shift in sensing and capture of extracellular vesicles. B.M. Cook, D.S. Dalisay, **J.P. Saludes***
16:40 – 628. Amphiphilic cyclodextrin thioethers for recognition of hydrophobic drugs. **G. Wenz***, L. Becker
16:50 Closing Remarks

Hilton Hawaiian Village
Mid-Pacific Center, Coral 5

Molecular Function of Natural Products: Advances towards Chemical Biology (#237)

Organized by: M. Ueda, B. Miller, K. Irie, B. Miller, B. Miller, C. Lin, T. Oishi, C. Forsyth, H. Lee
Presiding: T. Oishi

13:00 – 629. Rational design and discovery of potent siderophore-drug conjugates effective in treating drug-resistant *Acinetobacter baumannii*. **H. Kim***, J. Kim, W. Song, D. Jeong
13:15 – 630. Biochemical analyses of CRBN, the target protein for immunomodulatory drugs (IMiDs). **S. Sakamoto**, T. Ito, Y. Yamaguchi, H. Ando, H. Handa*
13:30 – 631. Development of chemical probes for studying mechanism of action of an antitumor saponin OSW-1. **K. Sakurai***, R. Yamada, T. Takeshita, M. Hiraizumi
13:45 – 632. Depiction of 3D structure of membrane proteins and assignment of functional subunits using a transmission electron microscopy. M. Mio, M. Tsunoda, **K. Mio**
14:00 – 633. Total synthesis of cyclodepsipeptide natural products and their biological evaluation. **T. Doi***
14:30 – 634. Natural products possessing stereodefined *N*,*O*-acetals: New synthetic method and molecular function. **Y. Rhee***, S. Kang, w. Lim
15:00 – 635. Marine-derived eterocyclic Ca^{2+} channel agonists: Synthesis, SAR, and chemical biology. **T.F. Molinski***
15:30 – 636. Chemical biology in natural G-quadruplex ligand of telomestatin and its derivatives. **K. Nagasawa***
16:00 – 637. Total synthesis and biological activities of phorbaketals and their analogs. **H. Lee***, S. Joung
16:30 – 638. Total synthesis of natural and non-natural products to probe molecular function. **C. Forsyth***

Hilton Hawaiian Village
Tapa Tower, Iolani Suite 1 & 2

Frontiers of Chirality in Organic Chemistry (#286)

Organized by: J. Canary, N. Berova, E. Yashima, M. Hyun, T. Shibata, T. Asahi, C. Welch, S. You
Presiding: T. ASAHI, T. Shibata, C. Welch, S. You

13:00 Introduction
13:05 – 639. Origin of homochirality on prebiotic earth. **R. Breslow***
13:35 – 640. Abundance and distribution of enatiomeric excesses in meteoritic soluble organic compounds. **S. Pizzarello***
14:05 – 641. Asymmetric autocatalysis with amplification of enantiomeric excess and the origin of homochirality. **K. Soai**
14:35 – 642. Cooperative catalysis in asymmetric synthesis: Case studies of catalyst design and process innovation. **K. Ding**
15:05 Break
15:15 – 643. Chirality mechanisms at the nanoscale. **H. Chen***
15:45 – 644. Nonthermal effect of microwave assisted catalytic enantioselective reactions. **T. Yamada***
16:00 – 645. Novel chiral helical triazole-based C−H − chloride anion-binding catalysts for the enantioselective dearomatization of heteroarenes. **O. Garcia Mancheno**
16:15 – 646. Dynamic mirror-symmetry breaking in bicontinuous cubic liquid crystal phases of non-chiral mesogens. X. Zeng, C. Dressel, M. Prehm, F. Liu, **G. Ungar***, C. Tschierske
16:30 – 647. Vibrational optical activity of cyclic β-helical peptides with opposite chirality: A computational study. **J.R. Cheeseman***, L.A. Nafie
16:45 – 648. Enantioselective synthesis of planar-chiral transition-metal complexes by molybdenum catalyzed asymmetric ring-closing metathesis. **M. Ogasawara***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 2

Fluorinations and Fluoroalkylations (#310)

Organized by: S. Prakash, T. Ritter, K. Mikami, S. Fustero, J. Hu
Presiding: S. Prakash

13:00 Opening Remarks
13:05 – 649. Fluorination and fluoroalkylation of arynes. **J. Hu***, Y. Zeng
13:30 – 650. Selective fluorination strategies. **G. Sandford***
13:55 – 651. Enabling selective fluorinations using designer HF-based reagents. **G.B. Hammond**, B. Xu, O.E. Okoromobe
14:20 – 652. Sandmeyer-type fluoroalkylations and fluoroalkylthiolations. **L.J. Goossen**
14:45 Break
14:55 – 653. Aliphatic C(sp^3)-H fluorination. **P. Tang**
15:20 – 654. Copper-catalyzed fluorination of arylhalides. **G. Liu***, X. Mu, D. Wang
15:45 – 655. Regio- and enantioselective formation of allylic and benzylic fluorides via transition-metal-catalyzed reactions of trichloroacetimidates and vinyl epoxides with triethylamine trihydrofluoride reagent. **H.M. Nguyen***
16:10 – 656. New advances in F-18 chemistry. **T. Ritter**

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 2

Organic Solid-State Chemistry: Structure, Property & Reactivity (#398)

Organized by: M. Sakamoto, L. MacGillivray, J. Vittal
Presiding: R. Bishop, L.R. MacGillivray

13:00 – 657. Generation and amplification of chirality using organic crystals. **M. Sakamoto***, T. Mino
13:30 – 658. Role of sulphur in crystal engineering. **R. Bishop***, M.M. Bhadbhade
14:00 – 659. Explosive cocrystals. **A.J. Matzger**
14:30 – 660. Photoresponsive materials for reversibly controlling the properties of surfaces and interfaces. A. Asadirad, P. Tannouri, **N. Branda***
15:00 break
15:10 – 661. Mechanoluminescence of anthracene-based organic salts and cocrystals. **S. Kohmoto***, T. Chuko, Y. Okuda, S. Kosugi, M. Takahashi, H. Masu, K. Kishikawa
15:30 – 662. Monocrystalline polymeric networks. **J. Wuest**, D. Beaudoin, O. Levasseur-Grenon, T. Maris
16:00 – 663. Improving the physicochemical properties of solid-state drugs via pharmaceutical cocrystals. **T. Lu**
16:30 – 664. Structural studies of hydration/dehydration mechanism of pharmaceutical crystals by ab initio structure determination from powder diffraction data. **H. Uekusa***, K. Fujii, R. Toyoshima

Hilton Hawaiian Village
Tapa Tower, Honolulu Suite 1

Photoredox Catalysis in Organic Synthesis (#440)

Organized by: D. Nicewicz, S. Fukuzumi, W. Xiao

13:00 – 665. Photocatalytic hydroxylation of benzene by the excited state of *p*-benzoquinone derivatives. **K. Ohkubo***, S. Fukuzumi
13:30 – 666. Natural product synthesis using photoredox catalysis. **A. Li**
13:50 – 667. Robust platform for photocatalytic organic syntheses using glass-milled microchip. **K. Katayama**, S. Kuwahara, K. Yoshida, A. Nakamura
14:10 – 668. New avenues in synthesis via organic photoredox catalysis. **D. Nicewicz**
14:40 Break
14:50 – 669. High-throughput photocatalysis in the development of green manufacturing processes. **D. DiRocco**
15:20 – 670. Synthesis of aza-arenes using visible light-promoted radical isocyanide insertions. **S. Yu***
15:50 – 671. Visible light-driven photoredox catalysis in the construction of heterocyclic ring systems. **W. Xiao**
16:20 – 672. Discovery and invention of new chemical reactions using photoredox catalysis. **D. MacMillan**

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 3 & 4

Catalytic Multicomponent, Tandem and Cascade Reactions (#455)

Organized by: B. Arndtsen, J. Montgomery, K. Nozaki
Presiding: B. Arndtsen, J. Montgomery, K. Nozaki

13:00 – 673. Arylation of weakly acidic C-H's with heterobimetallic catalysts. **P.J. Walsh***
13:30 – 674. Copper-catalyzed oxidative decarboxylation of phenyl acetic acids under O_2 atmosphere. **Q. Song**
13:50 – 675. Tandem reactions mediated by visible light photoredox catalysis. **C. Stephenson***
14:20 – 676. Synthesis of 3-diazoindolin-2-imines through cascade copper catalysis and their utility as cyclized α-imino rhodium carbene precursors. **P. Lyu***, Y. Wang
14:40 – 677. Multicomponent multicatalyst reactions: (MC)2R. **M. Lautens**
15:10 Break
15:20 – 678. Rhodium-catalyzed chemo-, regio-, and enantioselctive cross-trimerization reactions of three different unsaturated compounds. **K. Tanaka**
15:50 – 679. Sequentially Pd- and Pd-Cu-catalyzed one-pot syntheses of heterocycles. **T.J. Müller***
16:10 – 680. Diversity-oriented synthesis of chiral heterocycles via enantioselective multicomponent reactions and postcyclizations. M. Tang, L. Qiu, **S. Liu**, **W. Hu***
16:30 – 681. Merging palladium catalyzed tandem and multicomponent coupling reactions. **B. Arndtsen***

Wednesday Evening

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 2

Reactive Intermediates and Unusual Molecules (#7)

Organized by: R. Sheridan, M. Abe, W. Leigh

19:00 – 682. Structure and reactivity of cyclophanes derived from reactive bis(isobenzofuran)s. **P.W. Dibble***, R. Wells, C. Kurtz, C. Willoughby, K. Fischer, R. Boeré
19:20 – 683. Properties of unusual anomeric amides, amides bearing two heteroatoms at nitrogen. **S.A. Glover***, A. Rosser
19:40 – 684. Asymmetric open-shell molecular systems: Remarkable nonlinear optical responses and their spin state dependences. **M. NAKANO***, K. Fukuda, S. Ito, Y. Minamida

*** Principle Author**

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20:00 – 685. Selectivities in nucleophilic additions to a *p*-benzyne and in the quenching of the resulting aryl anion. **C.L. Perrin***, G.J. Reyes-Rodriguez
20:20 – 686. Novel annelated semibullvalenes: Strain dynamics and homoaromaticity. **R.V. Williams***, A.J. Aring, M.C. Bonifacio

Hawaii Convention Center
Halls I, II, III

Prospects for Flow Chemistry (#29)

Organized by: J. Yoshida, T. Jamison, D. Kim, M. Organ

Poster Session
19:00 – 21:00

687. Porous polymer monolith applied to reactor for organic synthesis. **N. Ishizuka***, K. Mitamura, S. Watase, K. Matsukawa
688. Polyfunctional carotenoid synthesis via one-pot strategy: Toward elucidation of highly efficient energy transfer by marine photosynthetic organisms. **K. Sakaguchi***, T. Kajikawa, S. Hananoki, N. Kinashi, D. Kosumi, H. Hashimoto, H. Frank, T. Shinada, S. Katsumura*
689. Dehydration of alcohols in a flow system using acid-functionalized silica gel: Application to the synthesis of pristane. **Y. Hirobe**, A. Furuta, T. Fukuyama, I. Ryu*, Y. Manabe, F. Koichi
690. Metal-catalyzed amination processes in continuous flow synthesis. **H. Piras**, H. Lebel*
691. Highly efficient asymmetric photoreactions by flow microreactors. **Y. Nishiyama***, K. Terao, K. Kakiuchi
692. Applying flow chemistry for hydrogenation of four N_4-tetradentate ligands. **A. Bjelosevic**, M.R. Kriss, C. Gordon, J. Aldrich-Wright*
693. Integration of aerobic oxidation of alcohols and unsaturated bond formation catalyzed by polymer-incarcerated metal nanoparticle catalysts. **A. Suzuki**, H. Miyamura, T. Yasukawa, S. Kobayashi*
694. Flash generation and borylation of trifluoromethylvinyllithium and its application to cross-coupling. **T. Fujita**, N. Konno, Y. Watabe, T. Ichitsuka, A. Nagaki, J. Yoshida, J. Ichikawa*
695. Flow chemistry: Developments and applications. **G. Tranmer***
696. One-shot double amination of Sondheimer-Wong diynes. **A. Orita***, F. Xu, K. Shinohara, T. Nishida, S. Ohta, K. Tomiyama, J. Otera
697. Dirhodium(II) complex-catalyzed enantioselective carbonyl ylide cycloaddition reactions under continuous flow conditions. **K. Takeda**, A. Hirota, M. Anada, S. Hashimoto*
698. Kinetically controlled Fischer glycosylation using acidic silica-gel under fluidic conditions. **S. Masui**, Y. Manabe, A. Shimoyama, T. Fukuyama, I. Ryu*, K. Fukase*
699. Soft ruthenium and hard Brønstead acid combined catalyst for efficient cleavage of allyloxy bonds toward protecting chemistry. **S. Tanaka**, Y. Suzuki, H. Saburi, M. Kitamura*

Hawaii Convention Center
Halls I, II, III

Chemistry of Nanocarbons: Fullerenes, Carbon Nanotubes, Nanographenes and Related Materials (#41)

Organized by: T. Akasaka, F. Wudl, L. Echegoyen, X. Lu, C. Wang
Presiding: X. Lu, C. Wang

Poster Session
19:00 – 21:00

700. Novel metal-carbon hybrid molecules: Endohedral metallofullerenes. **X. Lu***
701. Light scattering characterizations of mesoscale aggregation properties of C_{60} in aromatic solvents. **R. Guo***, C. Hua*, S. Chen
702. Carbon nanotubes: Biopolymers composite materials. **A. Aldalbahi***
703. Regioselective syntheses and crystal structures of fullerene-pentacene monoadducts. **H. Shirai**, T. Tajima, T. Inui, T. Nishihama, Y. Takaguchi*
704. Designing and guiding the synthesis of inherently nanostructured carbon-based thin films. **G. Gueorguiev**
705. Synthesis of novel pyridine/pyridinium-type fullerene derivatives with human immunodeficiency virus-reverse transcriptase inhibition activity. **T. Yasuno**, K. Takahashi, T. Ohe, S. Nakamura, T. Mashino*
706. Synthesis of multitarget fullerene derivatives with both HCV RNA polymerase inhibitory and antioxidant activities for the treatment of HCV-related disease. **H. Kataoka**, K. Takahashi, T. Ohe, S. Nakamura, T. Mashino*
707. [2+2] Cycloaddition of coumarin derivatives with fullerene under photo-irradiated conditions. **M. Hayama**, M. Ueda, S. Yoshida, H. Yasuda, I. Ryu*
708. Far UV absorption spectroscopy of linear polyyne molecules in solutions. **Y. Wada***, Y. Morisawa, T. Wakabayashi, Y. Ozaki
709. Hydrogen evolution using a supramolecular photosensitizing system based on the (6,5)single-walled carbon nanotubes. **Y. Tango**, Y. Takaguchi*, K. Kurniawan, T. Tajima
710. [2+2] Cycloaddition of aromatic allenes with C_{60}. **M. Ueda***, S. Yoshida, H. Yasuda, I. Ryu
711. New functionalization approaches for trimetallic nitride metallofullerenes. **T. Li**, L. Bai, H.C. Dorn*
712. Ortho and para water encapsulated in C_{60}: Infrared spectroscopy study. **T. Room***, A. Shugai, U. Nagel, S. Mamone, M.H. Levitt, A. Krachmalnicoff, R.J. Whitby, Y. Murata, J. Li, N.J. Turro
713. Synthesis, properties, and structure of functionalized cycloparaphenylene. **Y. Miyauchi**, K. Tanaka*
714. Regioselectivity of sp^3 defects and brightening of carbon nanotube photoluminescence: Theoretical perspective. **G. Juhasz***, N. Nakashima
715. Enantiospecific formation of fulleropyrrolidines. **M. Garcia Borràs***, S. Osuna, K.N. Houk, M. Solà
716. Surface modification of HOPG and graphene by rod-shaped mixed-valence Ru complexes. **N. Katori**, T. Kita, H. Ozawa, M. Haga
717. Chemical reduction of metallofullerene La@C_{82} by electron donors. **Y. Sato***, K. Akiyama, S. Kubuki
718. Regioselective synthesis of novel multifunctionalized fullerenes by a substitution reaction of halogenofullerenes. **K. Watanabe**, K. Uchiyama, H. Takahashi, K. Yoza, H. Moriyama*
719. Coronene-based supramolecular rotors. **Y. Yoshida***, Y. Kumagai, M. Mizuno, K. Isomura, H. Kishida, G. Saito
720. Synthesis and evaluation of new type of water-soluble fullerne materials. **T. Endo***, Y. Yamaoka, E. Kwon
721. Noncovalent functionalization of multiwalled carbon nanotubes with hydroxyl group containing pyrene derivatives: Molecular structure effects of pyrene derivatives on the properties of polycarbonate composites. **E. Choi***, J. Kim, Y. Jo, c. Kim
722. Regioselective Diels-Alder reaction of ketolactam open-cage fullerenes. **T. TANAKA***
723. Multidimensional NMR studies of fullerene bisadduct regioisomers. Y. Wan, G. Liu, T. Yang, N. Chen*, **X. Li***
724. Synthesis and NMR properties of H_2- and H_2O-encapsulating aza[60]fullerenes. **Y. Hashikawa**, M. Murata, A. Wakamiya, Y. Murata*
725. Properties and dynamics in fullerenol based-composites studied by solid-state NMR. **Y. Sano**, H. Ogata
726. Radical spin interaction of graphene flake embedded into h-BN sheet. **M. Maruyama***, S. Okada
727. Structural dependence of electronic properties of graphene nanoribbons on an electric field. **A. Yamanaka***, S. Okada
728. Geometric and energetics structures of corannulene polymers. **K. Narita**, S. Okada
729. Gate voltage variation for carrier accumulation by the defects in carbon nanotubes. **U. Ishiyama***, S. Okada
730. Viologen embedded polyaromatic hydrocarbons: Synthesis and characterization. **E.L. Clennan***, X. Zhang, T. Bakupog
731. Structural properties of 1D fullerene polymer studied by Raman spectroscopy and density functional theory calculation. **A. Takashima***, T. Nishii, J. Onoe
732. Host-guest complexation and TEM imaging of cyclodextrins on nanocarbon surface. **J. Yamada***, A. Kumamoto, N. Shibata, K. Harano, E. Nakamura
733. Theoretical investigation of small molecule adsorption on graphitic surfaces. **C. Squire**, J.D. Head

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 2

Molecular and Supramolecular Photochemistry (#71)

Organized by: J. Sivaguru, W. Chung, C. Bohne, c. Tung, M. Sakamoto, V. Ramamurthy
Presiding: M. Sakamoto

19:00 – 734. Photochemical and photophysical processes in aqueous dendritic media. **N. Jayaraman***, B. Natarajan, S. Gupta, B.M. Kiran, J. Nithyanandhan, V. Ramamurthy*
19:30 – 735. Singlet oxygen and antioxidant model substrates. **A.G. Griesbeck***
20:00 – 736. Studying mechanism in photoredox catalysis. **T.P. Yoon***
20:30 – 737. Structure effect of organic dyes for sensitized solar cells. **T.J. Chow***

Hawaii Convention Center
Halls I, II, III

Innovative Strategies for the Synthesis of Nitrogen Heterocycles (#74)

Organized by: R. Danheiser, T. Fukuyama, M. Lautens
Presiding: M. Lautens

Poster Session
19:00 – 21:00

738. Asymmetric synthesis of crambescin B carboxylic acid, a potent inhibitor of voltage-gated sodium channels, and its analogs. **Y. Nakane**, Y. Ishikawa, A. Nakazaki, T. Nishikawa
739. Synthetic studies of carbazole alkaloids. **H. Yokoyama***, M. Miyazawa
740. Oxidative cyclization of 1-(pyridin-2-yl-)guanidine derivatives: A synthesis of [1,2,4]triazolo[1,5-a]pyridin-2-amines and an unexpected synthesis of [1,2,4]triazolo[4,3-a]pyridin-3-amines. **K. Ishimoto***, T. Nagata, M. Murabayashi, T. Ikemoto
741. Transition metal-free amination using bench stable N-linchpin reagents. **P.V. Kattamuri**, L. Kurti*
742. Transition metal-free direct primary amination of aryl halides with renewable aminating reagents. **H. Gao**, L. Kurti*
743. Synthetic studies towards the total synthesis of daphlongeranine B. **Y. Ogura***, D.J. Dixon*
744. Inverse regioselective 1,3-dipolar cycloaddition by means of carbonyl *umpolung*. **Y. Hashimoto**, H. Ishiwata, M. Katoh, S. Tachikawa, M. Sekino, S. Ban, N. Morita, O. Tamura*
745. Library construction for thiazole fused-diazepine derivatives using traceless solid-phase synthesis. **D. Lee**, D. Baek, T. Kim, J. Kim, W. Lee, S. Kwak, **J. Bae**, **T. Lee**
746. Solid-phase synthesis 2,4-disubstituted 5-carbamoyl-thiazole derivatives. **J. Kim**, D. Kim, D. Lee, S. Kim, Y. Gong*, T. Lee*
747. Solid-phase synthesis of multi-substituted xanthine derivatives. **T. Kim**, S. Lee, D. Lee, S. Kim, S. Lee*, T. Lee*
748. Synthesis of 2-aminobenzoselenazoles from bis(2-aminodiphenyl) diselenides and isothiocyanates. **H. Ichikawa***, N. Miyashi, S. Shimizu
749. Copper-catalyzed one-pot synthesis of indoles from anilines and propargylic acetates. **K. Enomoto**, M. Takayanagi, T. Konakahara, Y. Ogiwara, N. Sakai
750. Exploiting weak N-N bonds: New synthetic approaches to functionalized biaryls and an acid-free Fischer indole synthesis. **C. Keene**, L. Kurti*
751. Novel rare earth metal-catalyzed synthesis of benzoazoles. **S. Naito**, T. Yoshimura, Y. Kimura, A. Toshimitsu, T. Kondo*
752. Efficient solution-phase synthesis of 1,3,4-oxadiazole and 1,3,4-thiadiazole derivatives through reagent-based cyclization process of thiosemicarbazide intermediate. **s. yang***, H. Yoo*, Y. Gong*
753. Suzuki-Miyaura reactions of 2,6-dihalopyridines with alkyl boronic esters. **J.L. Roizen**
754. Reductive synthesis of indolinone derivatives using carbon dioxide. **I. Kurata**, T. Amaya, T. Hirao
755. Synthesis of 4(3*H*)-quinazolinones by $Yb(OTf)_3$-catalyzed heterocyclization reactions of 2-aminobenzamides with 1,3-dicarbonyl compounds. **T. Yoshimura***, Y. Kimura, A. Toshimitsu, T. Kondo
756. Iron-catalyzed enantioselective carbometalation of azabicyclic alkenes with arylzinc reagents. **S. Saito***, K. Isozaki, L. Adak, N.J. Gower, P. Cogswell, T. Kawabata, M. Jin, T. Itoh, S. Ito, M. Nakamura
757. Reaction of 2-pentene-1,4-dione with heterocyclic compounds in the presence of BF_3-OEt_2 and the related reaction. **S. Kawabata***, H. Nishino
758. Total synthesis of grandilodine C and related *Kopsia* alkaloids. **M. Nakajima**, S. Arai, A. Nishida*
759. Synthesis of functionalized 2-oxindoles by Friedel-Crafts reactions. **M. Gasonoo**, D.A. Klumpp*
760. Cascade reactions of amido-acetals in superacid: A synthetic route to indolizidines and quinolizidines. **A. Qarah**, A. Tracy, A. Kethe, D.A. Klumpp*
761. Palladium-catalyzed oxidative cyclization of alkenes/alkynes to construct nitrogen heterocycles. J. Zheng, **W. Wu***, H. Jiang*
762. Modified synthesis of quinine and quinidine. **Y. Kobayashi***, Y. Kaneko, N. OGAWA
763. Diversity-oriented syntheses of indolizine-based novel heterocycles. Y. Jung, **I. Kim***
764. Synthesis of isoxazoles from conjugated silyl nitronates. A.J. Doue, **I.R. Pottie***
765. Synthesis of *1H*-1,2,3-triazolecarboxylates. **C. Butler**, r. henry, A.M. Schoffstall
766. Selective synthesis of 2,3-disubstituted indoles via a dimetallic intermediate. **M. Isomura**, L. Ilies, M. Nakamura, E. Nakamura*
767. Copper-catalyzed [4+2] cycloaddition of *N*-(2-pyridyl)ketimines and alkynes. **K. Tatsumi**, T. Fujihara, J. Terao, Y. Tsuji*

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768. Fluorinated and trifluoromethylated disubstituted *1H*-1,2,3-triazoles. **A.M. Schoffstall**, D.A. Clarke, L.F. George, W.A. Robertson, K.A. Knobbe
769. Direct and catalytic guanidination of amino groups by $Sc(OTf)_3$ in water. **K. Tsubokura***, T. Iwata*, Y. Nakao, K. Tanaka*
770. Synthesis of multisubstituted pyrroles via copper-catalyzed condensation of imines and diazocarbonyl compounds. **S.W. Tan**, N. Yoshikai
771. Rapid synthesis of tri/tetraaryl-substituted pyrazoles via [3+2] cycloadditon and C-H direct arylation approaches. **T. Morita**, S. Fuse*, K. Matsumura, H. Sugiyama, D. Kobayashi, H. Tanaka, H. Nakamura, T. Takahashi
772. Total syntheses of T988 B and C. **S. Sato**, A. Hirayama, H. Ueda, H. Tokuyama*
773. Indium-catalyzed reductive annulation of keto acids with primary amines leading to *N*-substituted lactams. **T. Uchiyama**, Y. Ogiwara, N. Sakai
774. One-pot approach to 2-arylbenzoxazinone derivatives using copper-mediated oxidative tandem reactions. **M. Yamashita***, Y. Nishizono, A. Iida
775. Novel 3-substituted-1,10-phenanthrolines via high yielding microwave assisted Friedländer condensation using aldehydes. **G.H. Dennison***, M.R. Johnston*
776. Experimental and computational mechanistic evaluation of a palladium-catalyzed ring expansion of spirocyclic δ-lactams and piperidines. **O. Rene***, I.A. Stepek, A. Gobbi, B.P. Fauber, S. Gaines
777. Asymmetric synthesis of quinolizidine, indolizidine, and pyrrolizidine azabicycles. **I. Houlsby***, S. Davies, A. Fletcher, E. Foster, P. Roberts, T. Schofield, J. Thomson
778. Nitrosoallenes: New reactive species for umpolung functionalization and heterocycles synthesis. **H. Tanimoto***, K. Yokoyama, T. Shitaoka, Y. Mizutani, K. Kakiuchi
779. Asymmetric synthesis of chiral diamines by formal imino cyclization. **A.R. Pradipta**, K. Tanaka*
780. Chiral holmium complex-catalyzed asymmetric Diels-Alder reaction of siloxybutadienes and enantioselective total synthesis of (–)-minovincine. **T. Morikawa**, S. Harada, A. Nishida*
781. Stereodivergent synthesis of chiral β-lactams through the enantioselective reduction of iminocyclobutenones and the subsequent thermal rearrangement of aminocyclobutenones. **I. Hachiya***, M. Shimizu
782. Dehydrosulfurative C-N cross-coupling and concomitant oxidative dehydrogenation of 3,4-dihydropyrimidin-*1H*-2-thiones for general synthesis of 2-aminopyrimidine derivatives. **J. Sohn***, N. Phan
783. Towards dephospho form A. **A. Klewe**, T. Lindel*
784. Conversion of alcohols into valued-added nitrogen containing heterocycles via ruthenium-catalyzed hydrogen transfer coupling strategy. **M. Zhang**
785. Rapid access to 3-aminoindazoles from tertiary amides. **W.S. Bechara***, S. Régnier, P. Cyr, A.B. Charette
786. Progress towards the total synthesis of callosine. **M. Vriesen***, M.A. Kerr
787. Negishi approach to 1,5-disubstituted 3-amino-1H-1,2,4-triazoles. **H. Zhang**
788. Base- and additive-free approach of the *Tsuji-Trost* reaction for the synthesis ofnitrogen heterocycles. **M. Kljajic**, R. Breinbauer
789. Rh-catalysed carbonylation of non-activated aziridines to β-lactams at low CO pressure mediated by an unusual electron rich phosphine ligand. **C. Buxton***, D. Blakemore, J. Bower
790. U.V. light mediated synthesis of carbazoles using flow chemistry. **A. Caron**, A. Hernandez-Perez, S. Collins*
791. Enantioselective, catalytic anhydride-Mannich reaction: Efforts toward the synthesis of 7-deoxypancratistatin. **M.J. Di Maso**, S. Laws, J.T. Shaw
792. Synthesis of polyring-fused amines via stereoselective seleno-Claisen rearrangement. **F. Shibahara***, M. Suzuki, S. Kubota, T. Murai
793. Development and application of Pd-catalyzed cross-coupling methods for the parallel synthesis of nitrogen heterocycles. **A. Capretta***
794. Ring-opening cyclization of spirocyclopropanes with amines: rapid access to 2-substituted 4-hydroxyindoles. **H. Nambu**, M. Fukumoto, W. Hirota, T. Yakura
795. Studies toward the synthesis of pyrroloindole natural products. **J.E. Curiel Tejeda**, M.A. Kerr*
796. Enantioselective synthesis and functionalization of nitrogen heterocycles through olefin hydroacylation reactions. **L.M. Stanley**
797. Highly efficient one-pot double cyclisations in the asymmetric syntheses of polyfunctionalised azabicycles. **M. Brambilla***, S. Davies, A. Fletcher, P. Roberts, J. Thomson
798. Enantioselective dearomative [3+2] cycloadditions of azomethine ylides and electron-deficient arenes and heteroarenes. **A. Gerten**, L.M. Stanley*
799. Synthesis of tricyclic benzazonines by aza-Prins reaction. **T. Katamura***, T. Shimizu, Y. Mutoh, S. Saito
800. Development of a hypervalent iodine mediated ring contraction of lactams and its application towards the synthesis of alkaloids. **S. Aubert-Nicol**, C. Spino*, J. Lessard

Hawaii Convention Center
Halls I, II, III

Organoboron Chemistry: Applications in Organic Synthesis, Biology, and Materials (#100)

Organized by: D. Hall, B. Wang, P. Duggan, M. Suginome
Presiding: D. Hall

Poster Session
19:00 – 21:00

801. Conversion of potassium organotrifluoroborates to organoborohydrides. **E.R. Abbey***, C. Bateman, H. Beal, J. Arakawa, D. Donovan
802. Unprecedented catalytic use of gallium(0) in organic synthesis. **B. Qin**, U. Schneider
803. "Super activated" lithium cation based on carborane anions and its novel reactivity. **Y. Kitazawa***, R. Takita, S. Matsubara, M. Uchiyama
804. Byproduct free synthesis: Radical cyanation of NHC-boranes and decyanation of malononitriles. **T. Kawamoto**, D.P. Curran*
805. Hydrazone-palladium catalyzed one-molecular allylic arylation. **K. Watanabe**, T. Mino*, M. Sakamoto
806. Copper salt catalyzed addition of arylboronates to azodicarboxylate. T. Uemura, **M. Yamaguchi**, N. Chatani*
807. Complementary synthesis of borylated N-heterocycles. **C. Merlic***, R. Tobolowsky
808. Ruthenium/Me-BIPAM catalyzed asymmetric addition of arylboronic acids to synthesis of chiral benzofuranone derivatives. **M. Yohda**, Y. Yamamoto*
809. Cyclic ketones synthesis by intramolecular acylation of organocobalt with esters. **T. Ueno**, Y. Suyama, M. Ueda*, I. Ryu*
810. Facile $Me_3SiNR'R''$-catalyzed enolate isomerization enables a general method for stereoselective synthesis of enol borinates by borylation of lithium enolates. **D. Kundu**, D. Ward*
811. Synthesis of 1,4-enynes by catalyst-free coupling reaction of alkenylboronic acids with secondary propargylic acetates. **D. Nakakoji**
812. Base catalysed bora-Brook rearrangement: The effects of solvent polarity, the backbone of boryl group, and counter cation of base toward reaction rate. **H. Kisu**, M. Yamashita*, K. Nozaki*, H. Sakaino, F. Ito
813. Azaborines: Novel core isosteres for heteroaromatic systems. **G.H. Davies**, G.A. Molander
814. Regioselective diboration using unsymmetrical diborane(4) in the absence of transition metal catalyst. **C. Kojima**, M. Yamashita*
815. Diastereoselective allylation of imines and hydrazones using allylboronic acids: Scope and mechanistic investigation. **R. Alam***, A. Das, K.J. Szabo
816. Two-photon induced photobleaching in conjugated organoboron compounds. **H. Haruno**, Y. Kurakami, M. Kato, S. Fukushima, H. Ito, M. Fujino*
817. Copper-catalyzed C-N bond formation between boronic acids and organic azides at room temperature. **W. Kim***
818. Nickel-catalyzed borylation of aryl 2-pyridyl ethers through the cleavage of a carbon-oxygen bond. M. Tobisu*, **J. Zhao**, H. Kinuta, N. Chatani
819. Rhodium-catalyzed cross-coupling of aryl carbamates with organoboron reagents. **K. Yasui**
820. Nickel-catalyzed transformation involving the cleavage of a carbon-nitrogen bond in aniline derivatives. M. Tobisu*, **K. Nakamura**, N. Chatani
821. Catalytic arene borylation based on in situ-generated borenium species. **F. Kitani***, T. Imahori, R. Takita, M. Uchiyama

Hawaii Convention Center
Halls I, II, III

Practical Application of Basic Research on Molecular Recognition (#136)

Organized by: C. Tran, K. Kano, C. Easton

Poster Session
19:00 – 21:00

822. Formose reaction in the presence of water soluble polymers. **T. MICHITAKA***, A. Hashidzume, T. Sato
823. Highly active bifunctional triporphyrin catalysts for CO_2 fixation. **K. Ogawa**, C. Maeda, T. Taniguchi, T. Ema
824. Chiral recognition of sympathetic β-blocking agent propranolol using (-)-epigallocatechin-3-*O*-gallate. **H. Tsutsumi**, E. Yokoyama, T. Ishizu*
825. Control of formose reaction using phenylboronic acid residue. **T. Imai**, A. Hashidzume, T. Sato*
826. Tunable solid-state fluorescent materials for supramolecular encryption. **X. Hou**, C. Ke, J.F. Stoddart*
827. Molecular tetrahedron. **J. Sun**, Y. Wu, J.F. Stoddart*
828. Synthesis of cyclophane oligomers by RAFT polymerization and their host-guest properties. **K. Nakamura**
829. Selective DNA-binding small-molecule fluorescent probes for live cell imaging. **V. Thangavel**, G. NAMASIVAYAM, T. Bando, H. Sugiyama
830. Developing surface imprinted polymers for selective recognition of pharmaceutical targets. **A. Mujahid***, S. Roshan, S. Bajwa, A. Afzal, N. Iqbal, T. Hussain
831. Synthesis and evaluation of naphthyridine derivatives having amino sugar. **H. Aikawa**, Y. OKADA, H. Ito, K. NAKATANI*
832. New Cu^{2+}-selective fluorescent probe based upon dansyl derivative and its applications. **M. Choi**, J. Hong, I. CHANG, S. Chang*
833. Shape-persistent cavities of a rigid dendrimer. **Y. Kato**, T. Kambe, T. Imaoka, K. Yamamoto*
834. Syntheses and developments of polydiacetylene-based chemosensors. **S. Lee**, J. Yoon*
835. Structural optimization of bifunctional metalloporphyrin catalysts for CO_2 fixation. **C. Maeda**, J. Shimonishi, K. Ogawa, T. Ema
836. Cyanine based near-infrared fluorescent sensor and its bioimaging application. **Y. Hu**, J. Yoon*
837. Biological imaging of mitochondria in various way by using a cyanine derivative probe. **Y. BAEK**, k. kim, J. Yoon*

Hawaii Convention Center
Halls I, II, III

Homogeneous Gold Catalysis: Methods, Theories and Applications (#192)

Organized by: L. Zhang, H. Ohno, R. Liu
Presiding: L. Zhang

Poster Session
19:00 – 21:00

Natural product synthesis
838. Gold(I)-catalyzed cascade cyclization of enediynes to 6H-dibenzo[c,h]chromen-6-ones. **M. Wu***
839. Gold alkene pi-complexes: Ligand effects on structure, formation and reactivity. **A.C. Jones**, C. Griebel, J. Piedad, W. Zhou
840. Gold-catalyzed sequential [3+2]/retro-[3+2]/[3+2] cycloadditions cascade of *N*-alkoxyazomethine ylide. **M. Ueda***, S. Sugita, N. Takeda, O. Miyata*
841. Total syntheses of hyperforin, papuaforin A-C and formal synthesis of nemorosone: Toward the the total synthesis of ginkgolides. **G. Bellavance**, L. Barriault*
842. Catalytic reaction with AuNPs/π-conjugated diblock copolymers (II) - oxidation reactions of benzhydrol. **H. Furukawa**, M. Fujita, Y. Takeoka, M. Rikukawa
843. Silver-Ccatalyzed C-C bond formation with carbon dioxide. **T. Yamada**
844. Synthesis and reactivities of pyridylgold complexes bearing alkyne moiety. **H. TAKEMOTO**, N. NISHINA*
845. Three-component domino process for the pyrrolizine skeleton via [3+2]-cycloaddition of azomethine ylide and enamine cyclization triggered by a gold catalyst. **K. Sugimoto**, N. Yamamoto, D. Tominaga, Y. Matsuya*
846. Gold-catalyzed cyclization-rearrangement reaction for the synthesis of 3-hydroxyisoxazoles. **S. Sugita**, M. Ueda*, K. Noguchi, N. Takeda, O. Miyata*
847. Regioselective cis insertion of DMAD into Au-P bonds: Effect of auxiliary ligands on reaction mechanism. **T. NAKAJIMA**, H. Kuniyasu, T. TAMAKi, T. Iwasaki, N. Kambe
848. Synthesis of angular and fused polycyclic compounds with Au(I) catalyst. **P. Mcgee**, L. Barriault*
849. Light initiated cascade reaction for the synthesis of polycyclic compounds. **M.A. Morin**, L. Barriault*
850. Au(I)-catalyzed cyclization: Its application to the synthesis of polyethers. **M. Matsuo**, M. Miyazawa, H. Yokoyama*
851. Gold-catalyzed cycloisomerization of medium-sized cyclic ethers. **M. Kubota***, T. Saito, M. Uchiyama
852. Pd-catalyzed asymmetric intermolecular addition of homopropargylic alcohol to alkoxyallene: Development and application. **J. Kim**, W. Lee, Y. Rhee*
853. Synthesis and structure of phosphine-gold complexes bearing alkynyl moiety. **F. KIMURA**, N. NISHINA*
854. Liquid phase benzene hydroxylation over copper binuclear complex catalysts. **K. Kato**, A. OKEMOTO, K. Taniya, Y. ICHIHASHI, S. NISHIYAMA
855. Gold-catalyzed cascade reaction of 1,7-diynes: Applications in collective synthesis of cladiellins . G. Yue, **J. Gong**, T. Luo*, Z. Yang*

*** Principle Author**

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856. Gold catalyzed allene's cycloaddition and cyclization reaction. **Z. Chen**

Hilton Hawaiian Village
Mid-Pacific Center, Coral 5

Molecular Function of Natural Products: Advances towards Chemical Biology (#237)

Organized by: M. Ueda, B. Miller, K. Irie, B. Miller, B. Miller, C. Lin, T. Oishi, C. Forsyth, H. Lee

19:00 – 857. New prespore-cell-promoting factor of cellular slime molds, *Dictyostelium discoideum*. **Y. Takaya***, R. Hotta, K. Fujiwara, M. Niwa, K. Inouye, A. Oohata
19:12 – 858. Isolation and evaluation of an ability to bind to protein kinase C of (20*S*)-bryostatin 19 from Japanese bryozoan: Elucidation of the role of the side-chain at C-20. **R.C. Yanagita**, K. Muraki, M. Takata, Y. Kawanami, K. Irie
19:24 – 859. Hepatitis C virus cell culture system identifies fungi-derived NeoB (SF30) as a liver X receptor inhibitor. **K. Watashi***
19:36 – 860. Sterol degradation pathway in *Mycobacterium tuberculosis* is a target of secondary metabolites from Philippine plants. **A.P. Tolones**, S. FRANZBLAU, M.J. Garson, A. Aguinaldo*, J.P. Saludes*
19:48 – 861. Total synthesis and 3D structural analysis of apratoxin C. **Y. Masuda**, J. Suzuki, Y. Onda, M. Yoshida, T. Doi*
20:00 – 862. Synthesis and biological evaluation of hibiscone C. **B.C. Goess***
20:12 – 863. Structure–activity studies on the PKC-recognition domain of aplysiatoxin, a potent tumor-promoter isolated from a sea hare. **Y. Ashida**, R.C. Yanagita, C. Takahashi, M. Fujii, Y. Kawanami, K. Irie
20:24 – 864. 5-Alkyl-1,2,3,4-tetrahydroquinolines (5aTHQs), new membrane-interacting lipophilic metabolites, produced by combined-culture of *Streptomyces nigrescens* and *Tsukamurella pulmonis*. **R. Sugiyama***, S. Nishimura, T. Ozaki, S. Asamizu, H. Onaka, H. Kakeya
20:36 – 865. Total synthesis and structure-activity relationship of omaezallene toward the development of molecular probe for antifouling substance. **T. Umezawa***, E. Yoshimura, Y. Nogata, T. Okino, F. Matsuda

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Frontiers of Chirality in Organic Chemistry (#286)

Organized by: J. Canary, N. Berova, E. Yashima, M. Hyun, T. Shibata, T. Asahi, C. Welch, S. You
Presiding: J. Canary, C. Welch

19:00 – 866. Practical catalytic hydrogenation. **X. Zhang***
19:15 – 867. Enantioselective and diastereoselective silylation. **S. Wiskur***
19:30 – 868. Iridium-catalyzed asymmetric hydrogenation of pyridinium salts for constructing multiple stereogenic centers on piperidines. **A. Iimuro**, S. Hida, Y. Kita, K. Mashima*
19:45 – 869. Studies on the asymmetric Meinwald rearrangement of spiro-epoxides: Enantioselective and memory of chirality (MOC) strategies. N. Jeedimalla, **S.P. Roche***
20:00 – 870. Catalytic asymmetric hydrogenation of carbocyclic arenes. **R. Kuwano***
20:15 – 871. Ethano-strapped Tröger's base analogs for materials chemistry applications. **A.C. Try***, M. Hashemi Karouei

Hawaii Convention Center
Halls I, II, III

Supramolecular Chemistry at the Interface of Materials, Biology, and Medicine (#300)

Organized by: S. Zimmerman, Z. Li, K. Kim
Presiding: S. Zimmerman

Poster Session
19:00 – 21:00

872. Catch and release of small molecules with porous nanocapsules. **E. Pinkhassik***, S. Dergunov
873. Dendritic single-molecule fluorescent probe that is photostable and minimally blinking. **S. Yang**, S. Zimmerman*
874. Targeting methylated peptides using highly functionalized p-sulfonato calix[4]arenes as a biomimic. **A. Shaurya**, K. Daze, G. Garnett, J. Li, T. Henderson, M. Starke, L. Voss, F. Hof*
875. Synthesis, liquid crystal formation, and double helix-random coil transition in bulk of ethynylhelicene oligomers possessing dendric mesogenic moieties. **N. Saito**, M. Yamaguchi*
876. Engineering of redox metallocenyl nanomaterials . **A. Rapakousiou***, D. Astruc
877. Anti-quorum sensing properties of inclusion complex of *N*-acylhomoserine lactone with alkylamine-modified cyclodextrin. **A. Kamimoto**, S. Ito, N. Kato, T. Ikeda, T. Morohoshi
878. Quorum quenching techniques using modified cyclodextrins. **T. Ikeda**, T. Morohoshi, N. Kato, S. Ito
879. Antibiofilm properties of inclusion complex of *N*-acylhomoserine lactone with cyclodextrin and its derivatives. **T. Azuma***, S. Ochiai, T. Ikeda, T. Morohoshi
880. Influence of molecular weight of humic substances on redox activities. **Z. Yang**, J. Jiang*
881. Cyclodextrin-based switchable DNA condenser. **Y. Chen**, P. Hu, Y. Liu
882. Self-assembly behavior of the stimuli-responsive helical polysaccharide derivatives. **S. Tamaru***, S. Shinkai
883. Supramolecular polymer of metal accumulating dendrimer. **S. Mendori***, K. Albrecht, K. Yamamoto
884. Diphenylacetylenes: A versatile platform for molecular switching. **P.C. Knipe***, S. Thompson, A.D. Hamilton
885. Capture and release of guest molecules by reduction-responsive cyclophane oligomers having disulfide linkage. **O. Hayashida***, Y. Nakamura, K. Kojima, K. Nishino, S. Kusano
886. Quartz crystal microbalance analysis of the complex formation of bacterial intercellular signaling molecules with receptors. **H. Sasa**, Y. Takayama, E. Nasuno, K. Iimura, N. Kato*
887. Autoinducer trapping polymers that inhibit bacterial cell-to-cell communication. **N. Kato***, R. Kawakami, C. Okano, Y. Takayama, H. Ozone, K. Iimura, E. Nasuno
888. Supramolecular assembly based on porphyrin and dithienylethene-modified permethyl-β-cyclodextrin. **Y. Zhang**, G. Liu, X. Xu, Y. Liu
889. Rapid access to phospholipid analogs using thiol-yne chemistry. **C. ZHOU***, N.K. Devaraj
890. Synthesis of bis(terpyridyl)anthracene-bridged-di[24]-crown-8 europium(III) complex and its assembly behavior with ferrocene derivative. **H. Zhang**, D. Guo, J. Wang, Y. Liu
891. CB[8]-based fluorescent supramolecular assembly with polymeric ru(II)/tri(bipyridine) centers. **W. Zhang**, Y. Chen, Y. Liu
892. Molecular binding behaviors between pyridinium dyes and water-soluble crown ether. **X. Zhang**, Y. Zhang, Y. Liu
893. Amphiphilic diselenide-containing supramolecular polymers . **Z. Wang**
894. Adhesion between materials using host-guest interaction and covalent bond formation reaction. **T. Sekine**, Y. Takashima, A. Harada*
895. Amide-linked bisureas with stimuli-responsive chloride transport activities. **E. Park***, K. Jeong

Hawaii Convention Center
Halls I, II, III

Fluorinations and Fluoroalkylations (#310)

Organized by: S. Prakash, T. Ritter, K. Mikami, S. Fustero, J. Hu
Presiding: S. Fustero, T. Ritter

Poster Session
19:00 – 21:00

896. Synthesis of 3-fluorinated cyclopropene derivatives and Diels-Alder reactions with 1,3-diphenylisobenzofuran. G. Lee*, **H. Lin**, H. Lee, Y. Huang
897. Nickl(0)-catalyzed selective co-trimerization or cross-trimerization reactions of ethylene, tetrafluoroethylene, and/or aldehydes. **M. Ohashi***, T. Kawashima, H. Shirataki, K. Kikushima, S. Ogoshi*
898. Synthesis of gem-difluorocycloalkenes via regiselective ring-opening reaction and subsequent RCM reaction using gem-difluorocyclopropanes as starting compounds. **Y. Masuhara***, T. Nokami, T. Itoh
899. Facile synthesis of 2-(perfluoroalkyl)indoles by palladium-catalyzed C-H activation. D. Shen, J. Han, J. Chen, H. Zhang, **W. Cao***
900. Copper-catalyzed oxidative cyclization: Synthesis of 3-carbonyl-1-perfluoroalkylpyrrolo[1,2-*a*]quinolines. Z. Xu, J. Han, J. Chen, H. Zhang, **W. Cao***
901. Efficient synthesis of 2-perfluoroalkyl pyrrole derivatives. X. Sun, J. Han, J. Chen, H. Zhang, **W. Cao***
902. Catalytic electrophilic fluorination with hypervalent iodine reagents. **N. Ilchenko***, B. Tasch, K.J. Szabo
903. Fluorous nanochannel constructed by self-assembly of fluorinated macrocycles: Ultrafast water transport. **Y. Itoh***, T. Konda, K. Sato, T. Aida*
904. Fluorination of isoxazoles and its application for the synthesis of 5-hydroxy-4,4-difluoroisoxazolines. **K. Sato***, G. Sandford, S. Akiyama, M.J. Lancashire, Y. Konishi, A. Tarui, M. Omote, A. Ando
905. An efficient generation and its synthetic applications of lithium 4-bromo-3,3,4,4-tetrafluorobutynide. **Y. Watanabe**, T. Konno*
906. Versatile procedure for fluorocyclization of tryptamines and its application to synthesis of protubonine A analog. **T. Fujiwara***, Y. Nishimura, H. Yasuda, H. Nambu, T. Yakura*
907. Catalytic introduction of difluoromethyl and difluoromethylene groups with difluorocarbene and its complexes. **K. Fuchibe**, T. Aono, J. Hu, R. Takayama, Y. Koseki, M. Bando, J. Ichikawa
908. Aminotrifluoromethylation via cyclic amine formation of olefins. **S. Kawamura**, H. Egami, M. Sodeoka*
909. Synthesis and crystallographic study of perfluoroalkylated naphtho[2,1-*b*:6,5-*b'*] dithiophene. **E. Nogami**, T. Yajima*
910. Ring-opening addition reaction of gem-difluorocyclopropane via radical reaction process. **K. Narita**, T. Nokami, T. Itoh
911. De novo synthesis of fluorinated carbohydrate building blocks. **K. Takayanagi**, A. Harada, T. Nokami*, T. Itoh*
912. Copper-catalyzed hydrofluorination of α,β-acetylenic esters and aroylfluorination of epoxides using benzoyl fluoride as fluorine source. **D. Shiozaki**, H. Kuniyasu, M. Nakazaki, T. Iwasaki, N. Kambe
913. Highly diastereoselective synthesis of CF_3-containing spirooxazolines and spirooxazines by photoredox catalysis. **N. Noto**, T. Koike*, M. Akita*
914. Copper-catalyzed regioselective trifluoromethylthiolation of pyrroles and aryl amines by trifluoromethanesulfonyl hypervalent iodonium ylide. **Z. Huang**, N. Shibata
915. Catalytic trifluoromethylthiolation of allylsilanes and silyl enol ethers using trifluoromethanesulfonyl hypervalent iodonium ylide. **S. Arimori**, N. Shibata*
916. Development of electrophilic pentafluorophenylation and pentafluorosulfanylarylation using diaryliodonium salts. **K. Matsuzaki**, N. Shibata*
917. Synthesis of pentafluorosulfanylphenyl containing heterocycles and their biological activities. **E. Tokunaga***, H. Akiyama, N. Shibata
918. Radiosynthesis of deoxyfluorosucrose analogs and their in vivo study of sucrose transport in maize leaves. **C.S. Hampton**, T. Brossard, D. Rotsch, W. Ying, V. Gaddam, M. Harmata, J. Robertson, M. Swyers, S.S. Jurisson, D.M. Braun
919. Detection of HF by the open-shell P-heterocyclic system. **S. Ito***, Y. Ueta, K. Mikami
920. Organocatalytic enantioselective fluorination of α,α-disubstituted aldehydes. **K. Shibatomi***, K. Kitahara, T. Okimi, S. Iwasa

Hawaii Convention Center
Halls I, II, III

Nanomaterials as Catalysts for Green Chemistry (#313)

Organized by: A. Moores, Y. Uozumi, C. Li, R. Varma

Poster Session
19:00 – 21:00

921. Cobalt-rhodium heterobimetallic nanoparticles as catalysts for the amination of aldehydes and ketones with amines and nitroarenes. **Y. Chung***, J. Park
922. Core-shell nanostructured Au@CeO_2 catalyst for the highly selective semihydrogenation of alkynes to alkenes. **M. Yamamoto**, Z. Maeno, T. Mitsudome, T. Mizugaki, K. Jitsukawa, K. Kaneda*
923. Preparation of SiO_2-coated SnPt bimetallic nanoparticle catalysts for selective hydrogenation of unsaturated aldehyde. **K. Taniya***, T. HARA, T. Imai, A. OKEMOTO, Y. ICHIHASHI, S. NISHIYAMA
924. Development of gallium cation-exchanged montmorillonite catalyst for depolymerization of polyethers. **S. Yamada**, Z. Maeno, T. Mitsudome, T. Mizugaki, K. Jitsukawa*
925. Complementary catalysis of core-Pd and shell-Ag for selective semihydrogenation of alkynes. **T. Urayama**, Z. Maeno, T. Mitsudome, T. Mizugaki, K. Jitsukawa, K. Kaneda*
926. Transformation of terminal alkenes into primary allylic alcohols over supported Pd catalysts. **Z. Zhang***, T. ISHIDA, H. Murayama, T. Fujitani, M. Tokunaga
927. Microwave-ultrasound simultaneous irradiation: A hybrid technology applied to ring closing metathesis in glycerol micelles. **E. Colacino**, **M. Radoiu**
928. Direct alpha arylation of various ethers with palladium loaded titanium oxide photocatalyst. **a. tyagi***, T. Matsumoto, T. Kato, H. Yoshida
929. Cyanomethylation of alkane by metal loaded titanium dioxide photocatalyst. **E. WADA**, T. TAKEUCHI, H. Yoshida*

*** Principle Author**

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930. Designing trimodal zeolite catalyst for upgrading the coal-derived fuels. **L. Tan**, C. Xing, G. Yang, Y. Yoneyama, N. Tsubaki*

931. Practical iron-catalyzed oxidation of styrenes and alcohols by hydrogen peroxide. **S. Tanaka**, Y. Kon, k. sato

932. Liquid phase alcohol oxidation reaction using molecular oxygen. **N. Muranaka**, Y. Yoneyama, N. Tsubaki*

933. Catalytic nanostructure and mechanism of ReO_x-Pd/SiO_2 for hydrogenation of carboxylic acid. **Y. Takeda**, M. Tamura, Y. Nakagawa, K. Tomishige*

934. Selective 1,4-hydrosilylation of α,β-unsaturated ketones over supported PdAu alloy catalysts. **K. Endo**, H. Miura, T. Shishido

935. Monolithic Pd catalyst for the direct oxidative esterification of methacrolein to methyl methacrylate . **Y. Diao***, P. Feng, S. Zhang

936. Relationship between the atomic-scale structure of Au-Ag bimetallic catalysts and their catalytic performancefor 4-nitrophenol reduction as a model reaction. **I.J. Godfrey**, N. Dimitratos, I.P. Parkin, S. Maenosono, G. Sankar*

937. Inhibitory effect to pathogenic bacteria of visible light responsive type nanosilver photocatalyst. **S. Tajiri**, M. Miyazaki, K. Tanaka, K. Ito

938. Kinetic studies of noble metal nanoparticle catalyst microenvironments in water. **A.D. Quast***, I. Zharov, M. Bornstein, J.S. Shumaker-Parry

939. Heterogeneous Lewis acid catalysis with polymeric rare earth arylsulfonates. **P. Tungjiratthitikan**, H. Furuno*, J. Inanaga

940. Preparation of montmorillonite supported late transition metals and catalytic decarbonylation of arene carbaldehydes. **T. Mouri**, T. ISHIDA, H. Murayama, M. Tokunaga

941. Selective hydrogenation of α,β-unsaturated aldehydes over supported NiPt alloy catalyst. **K. Noguchi**, H. Miura, T. Shishido

942. Characterization of Pd-Ni alloy catalysts for hydrogenolysis of benzylic alcohols. **H. Murayama***, K. Nakamura, T. ISHIDA, T. Honma, H. Ohashi, T. Yokoyama, A. Hamasaki, M. Tokunaga

943. Characterization of supported gold nanoparticle catalysts prepared by impregnation method using amino acid gold complexes as precursors. **T. Hasegawa***, Y. YAMAMOTO, T. ISHIDA, H. Murayama, T. Honma, H. Ohashi, T. Yokoyama, M. Okumura, M. Tokunaga

944. [2+2+1] Cycloaddition of aldehydes, alkynes, and CO by supported Ru catalysts. **H. Miura**, K. Takeuchi, T. Shishido*

945. Development of high-throughput flow system using Ni-Zn mixed based salt catalyst: Application for enone epoxidation with hydrogen peroxide. **A. Hayashi**, T. Hara, N. Ichikuni, S. Shimazu*

946. Chitin-supported ruthenium as a catalyst for nitrile hydration. A. Matsuoka, **T. Isogawa**, Y. Morioka, B.R. Knappett, A.E. Wheatley, S. Saito, H. Naka

947. Decarbonylation of furfural catalyzed by zirconia and ceria supported Pd catalysts. **K. Kume**, T. ISHIDA, K. Kinjo, T. Honma, H. Ohashi, T. Yokoyama, H. Murayama, Y. Izawa, M. Utsunomiya, M. Tokunaga

948. Highly ordered polymer as ligand for palladium catalyst. **H. Kim**, H. Lee*

Hawaii Convention Center
Halls I, II, III

Organic Solid-State Chemistry: Structure, Property & Reactivity (#398)

Organized by: M. Sakamoto, L. MacGillivray, J. Vittal

Poster Session
19:00 – 21:00

949. Cocrystallization-based control over dichroism in crystalline molecular solids. **O. Bushuyev***, T. Friscic, C. Barrett

950. Multiple photoluminescence of biphenylgold(I)-isocyanide complex: Mechanochromic single crystals including various small organic molecules. **M. Jin***, T. Seki, H. Ito

951. Re-examination of amino acid NCA polymerization 65: Topochemical polymerization of L-glutamic acid ester *N*-carboxy anhydrides. **H. Kanazawa***, A. Inada

952. Positive phototaxis of oil-droplets comprising of a caged oleic acid against an anisotropic UV irradiation. **K. Suzuki***, N. Nakayama, T. Sugawara*

953. Low-temperature induced phase transition of nitrobenzene derivatives - negative thermal expansion. **H. Takahashi***, T. Nakamura, A. Oyamada, H. Tsue, R. Tamura

954. Family of thermosalient crystals: From serendipity to design. **D. Tan***, J.G. Hernández, T. Friscic

955. Twisting and piezochromism of pi-conjugated molecules using aromatic interactions. **S.W. Thomas***

956. Solid-state recognition and selective binding of organic isomers. **K. Uzarevic***

957. Crystal structures and desolvations of metoclopramide hydrochloride monohydrate and solvates. **Y.P. Nugraha***, O.D. Putra, H. Uekusa

958. Dehydration mechanism of Ciprofloxacin HCl and its implication to physicochemical properties. **O.D. Putra**, R. Toyoshima, A. Sekine, H. Uekusa*

959. Magneto-structural correlation in the crystals of *N*,*N*-bis(*tert*-butylphenyl) nitroxyl radical derivatives. **K. Adachi***, K. Miyamoto, R. Suzuki, Y. Miura, N. Yoshioka

960. Pseudopolymorphic phase transformation of potassium mefenamate hydrate crystal. **A. Egami**, N. Takata, A. Sekine, H. Uekusa

961. Crystal structure change in dehydration of ASP015K hydrobromide hydrate crystals. **N. Hamada**, K. Gato, H. Uekusa

962. Structural motif in itraconazole pharmaceutical co-crystal. **R. Hashimoto**, A. Sekine, H. Uekusa

963. Creation of fluorogenic sensors for aromatic hydrocarbons by supramolecular porous hosts. **S. Hatanaka**, T. Ono*, Y. Hisaeda

964. Crystal structure and gas adsorption behavior of *N*-protected DL-phenylalanylglycine. **A. Hisashi***, M. Kochunnoonny, R. Tamura, H. Tsue, H. Takahashi

965. Crystal structures of oily medicinal drugs determined by "crystalline sponge method". **M. Kawahata**, T. Akaisihi, Y. Hirose, S. Komagawa, K. Ohara, K. Yamaguchi*

966. Solid-state optical properties and crystal structures of 1,4-dipropoxy-9,10-anthraquinone polymorphs. **C. Kitamura***, S. Li, M. Takehara, Y. Inoue, K. Ono, T. Kawase, K.J. Fujimoto

967. Polymorphism of β-carboline derivatives. **H. Masu**

968. Preparations and crystal structures of diacetylene derivatives carrying nicotinic esters. **S. Minami**, . Iwahashi, T. Okuno*

969. Discovery of the K_4 structure formed by a triangular π radical anion, NDI-Δ. **A. Mizuno**, Y. Shuku, R. Suizu, M.M. Matsushita, M. Tsuchiizu, K. Awaga*

970. Construction of non-interpenetrated hydrogen-bonded hexagonal networks with multiple types of pores based on dehydrobenzo[18]annulene derivative. **S. Nakagawa**, I. HISAKI*, N. TOHNAI, M. MIYATA*

971. Magneto-structural correlation in chromium(V) nitride complexes with salicylideneaniline ligands carrying electron withdrawing group. **S. Nakagome**, Y. Takahashi, Y. Miura, N. Yoshioka

972. Computational search of packing and conformational polymorphs for organic molecules: Crystal structure prediction. **S. OBATA**, H. Goto

973. Dielectric response and structural phase transitions of charge-transfer complex crystals of polar acceptor molecules. **M. Ohtani**, J. Harada*, Y. Takahashi, T. Inabe*

974. Crystal structure and gas adsorption behavior of magnesium porphyrin with open coordination sites. **R. Oketani**, H. Takahashi, R. Tamura, H. Tsue*

975. Inclusion crystals and 1D channel structures using H-shaped CTXP host molecule. **K. Ota***, A. Sekine, H. Uekusa

976. Design of organic ionic crystals showing ferroelectricity from molecular rotation. **H. Oyamaguchi***, T. Shimojo, J. Harada, Y. Takahashi, T. Inabe

977. Supramolecular photochromism of bipyridinium derivatives appended a crown ether. **R. Satake***, H. Guo, M. Takahashi, T. Kuwabara

978. Variable fluorescence property of diaroylmethanatoboron difluorides manipulated by crystal packing structure controlled by steric geometry of substituents. **A. Sakai**, E. Ohta, Y. Yoshimoto, Y. Matsui, H. Ikeda*

979. Control of solid-state *trans-cis* photoisomerization rate of dual photoreactive complexes. **A. Sekine***, S. Tamari, H. Uekusa

980. CT complexes of unique molecular geometries from pincer-shaped pyrene donors and TCNQ. **Y. Shibuya**, Y. Itoh*, T. Aida*

981. Novel dual-chromic complex by using salicylideneaniline derivatives. **H. Sugiyama***, A. Sekine, H. Uekusa

982. Emission properties of diaroylmethanatoboron difluorides controlled by the steric bulkiness of substituents. **M. Tanaka**, A. Sakai, Y. Yoshimoto, Y. Matsui, E. Ohta, K. Mizuno, H. Ikeda*

983. 1D and 2D interaction motif curcumin cocrystal. **K. Teraoka**, A. Sekine, H. Uekusa

984. Negative differential resistance and FET characteristics in TTF-TCNQ at low-temperature . **D. Tonouchi**, M.M. Matsushita, K. Awaga

985. 3D dirac cones in the K_4 crystal. **M. Tsuchiizu**

986. Mechanism of photoreversible topochemical polymerization via [2+2]-cycloaddition of thymine derivative in the crystal. **A. Udagawa***, P. Johnston, K. Saito, A. Sakon, R. Toyoshima, H. Uekusa, H. Koshima, T. ASAHI*

987. Asymmetric synthesis of isoindolinones from achiral materials without an external chiral source. **K. Watanabe**, H. Ishikawa, N. Uemura, F. Yagishita, T. Mino, M. Sakamoto*

988. Asymmetric stereoisomerization of achiral 3,4-diphenylsuccinimides involving dynamic preferential crystallization. **F. Yagishita**, Y. Kunito, Y. Kasashima, T. Mino, M. Sakamoto*

989. Control of molecular arrangement mediated by the interaction between benzene-perfluorobenzene. **R. YAMASAKI***, M. Iida, R. Nagata, A. Ito, A. Tanatani, H. Kagechika, I. Okamoto

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Halls I, II, III

Cognizance of Endangered Elements for Organic Synthesis (#415)

Organized by: H. Tsuji, S. Zhu, G. Konishi, C. Luscombe, L. Campeau

Poster Session
19:00 – 21:00

990. Solvatochromic pyrene analogs of Prodan exhibiting high fluorescence quantum yields and photostability. **S. Agano***, Y. Niko, G. Konishi

991. Functional poly(2-oxazoline)s possessing solvatochromic fluorescent pyrene dye and the development of fluorescent hydrogel. **C. Chen**, G. Konishi

992. Iron-catalyzed diboration and carboboration of alkynes. **T. Hatakeyama**, N. Nakagawa, M. Nakamura

993. 3D assembly of pyrene chromophore on phenolic resin oligomer scaffold enhances fluorescence quantum yield. **K. Kamei***, K. Sumi, G. Konishi

994. Role of hypervalency of silyl group in the CO_2 insertion into disilanes and the decarbonylation of silylesters: A DFT investigation. **S. Kawauchi***, Y. Hayashi, L. Antonov

995. Synthesis of C_3 symmetric boratriangulene by tandem electrophilic C–H borylation. **K. Kinoshita**, S. Nakatsuka, K. Nakajima, N. Yasuda, T. Hatakeyama

996. Synthesis of high refractive index acrylate polymers with a phenolic resin oligomer in the side chain. **G. Konishi***, Y. Tojo

997. Synthesis of highly birefringent polymethacrylate. Y. Arakawa, J. Watanabe, **G. Konishi***

998. Iron-catalyzed reaction of amides and alkynes via C–H bond activation. **T. Matsubara***, L. Ilies, E. Nakamura

999. New redox-photosensitized reaction: Dimerization of cinnamonitrile via radical anion. **N. Morishita***, G. Konishi

1000. Synthesis of extended π-conjugated molecules with phosphorus ring junctions via tandem phospha-Friedel–Crafts reaction. **S. Nakatsuka**, S. Hashimoto, M. Nakamura, T. Hatakeyama

1001. Small molecular anode buffer material for solution-processable solar cells. **H. Nishioka**, S. Furukawa, E. Nakamura*

1002. Synthesis of boron-fused benzotetracene analogs via demethylative electrophilic C–H borylation. **M. Numano**, N. Nagami, K. Nakajima, S. Nakatsuka, N. Yasuda, T. Hatakeyama

1003. Single electron transfer-induced coupling of alkylzinc reagents with aryl halides. **K. Okura**, E. Shirakawa*

1004. Photophysical properties of diarylaminoanthracenes: Interchromophoric conjugation induced by the distortion of the donor plane. **S. Sasaki***, G. Konishi

1005. Iron-catalyzed ortho alkylation of carboxamides with organoalane under low catalyst loading. **R. SHANG**, L. Ilies*, E. Nakamura*

1006. Hydroxysulfenylation of electron-deficient alkenes through an aerobic copper catalysis. **H. Xi**

1007. Aggregated structures and emission properties of phenyl-group substituted oxygen bridged V-shaped molecules. C. Mitsui, W. Kubo, Y. Tanaka, H. Dosei, **M. Yano**, M. Yamagishi, K. Nakamura, H. SATO, A. Yamano, J. Takeya, T. Okamoto

Hawaii Convention Center
Halls I, II, III

Photoredox Catalysis in Organic Synthesis (#440)

Organized by: D. Nicewicz, S. Fukuzumi, W. Xiao

Poster Session
19:00 – 21:00

1008. Visible-light initiated oxidative cyclization of phenyl propiolates with sulfinic acids to coumarin derivatives under metal-free conditions. **L. Wang***

1009. Homogeneous and heterogeneous photoredox catalyzed hydroxymethylation of carbonyl compounds. **M. Reckenthäler**, A.G. Griesbeck*

*** Principle Author**

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1010. Fluoride salts accelerated visible light-induced allylation of α-halo carbonyl compounds with allyl boron compounds by organic dye catalyst. **N. Esumi**, I. Suzuki*, M. Yasuda
1011. Photoredox of heterocycles in continuous flow. **S. Parisien-Collette**, A. Hernandez-Perez, S. Collins*
1012. Direct coupling of aliphatic carboxylic acids with aryl halides. **R. Evans**, E. Welin, D. Hager, D. MacMillan
1013. Switching on elusive organometallic mechanisms with photoredox catalysis. **J.A. Terrett**, J. Cuthbertson, V. Shurtleff, D. MacMillan*
1014. Synthesis and chemical properties of pyrimidine-annulated 1-azaazulene derivatives: Autorecycling oxidation of some amines under photo-irradiation. **T. Takayasu**, T. Matsuura
1015. Visible light induced photocatalysis for C-H imidation of arenes and heteroarenes. **D. Lee**, H. Kim, T. Kim, S. Roh, D. Lee, C. Lee*
1016. Intermolecular [3+2] annulation of cyclopropylanilines with alkynes, enynes, and diynes via visible light photocatalysis. **T.H. Nguyen**, S. Morris, N. Zheng*
1017. Synthesis of α-linked 2-deoxy glycosides enabled by visible light mediated tin free deiodination. H. Wang, P. Shu, J. Tao, W. Chen, W. Yao, Y. Xu, X. Zhao, Y. Zhao, X. Xiao, Y. Zhu, J. Zeng, **Q. Wan***
1018. Photoredox catalyzed [4+2] annulation of cyclobutylanilines and alkynes. **J. Wang**, N. Zheng
1019. Metal-free ring-opening metathesis polymerization. **A.E. Goetz**, K.A. Ogawa, A.J. Boydston
1020. Photocatalytic decarboxylative reduction of carboxylic acids and its application in asymmetric synthesis. **G. Bergonzini**, **C. Cassani**, C. Wallentin*
1021. Decarboxylative functionalization of β-hydoroxy amino acids via photoredox catalysis and its application to the synthesis of the functional 1,2-amino alcohol derivatives. **S. Inuki**, K. Sato, Y. Fujimoto
1022. Visible light-mediated aromatic substitution reactions of cyanoarenes with dihydropyridines via dual carbon-carbon bond cleavage. **S. Nojima***, K. Nakajima, Y. Nishibayashi
1023. Palladium catalyzed radical vinylation of alkyl iodides under photoirradiation conditions. **S. Sumino**, I. Ryu*
1024. Homolysis of amide N-H bonds via proton-coupled electron transfer: Development of a catalytic alkene carboamination. **G. Choi**
1025. Regiospecific intermolecular aminohydroxylation of olefins by photoredox catalysis. **K. Miyazawa***, T. Koike, M. Akita
1026. Multistep organic reaction using a glass-milled photocatalytic microchip. **A. Nakamura**, K. Yoshida, S. Amanuma, S. Kuwahara, K. Katayama*
1027. Synthesis of alkyl alkenyl ketones by Pd/light-induced carbonylative Heck reaction of alkyl iodides. S. Sumino, **Y. Hamada**, T. Ui, T. Fukuyama, I. Ryu*
1028. Highly diastereoselective fused indoline synthesis using visible light. **S.A. Morris**, T.H. Nguyen, N. Zheng*
1029. Universal approach to radical cross-dehydrogenative couplings (CDC) of bromoalkanes to heteroaromatics. **T. McCallum**, L. Barriault*
1030. Metal-free photoredox catalysis for aromatic substitutions. **A. Jacobi von Wangelin***

Hawaii Convention Center
Halls I, II, III

Catalytic Multicomponent, Tandem and Cascade Reactions (#455)

Organized by: B. Arndtsen, J. Montgomery, K. Nozaki
Presiding: B. Arndtsen

Poster Session
19:00 – 21:00

1031. Lewis acid-catalyzed cyclization reactions of amides of ethenetricarboxylates. **S. Yamazaki***, M. Niina, K. Ueda
1032. Combined ecofriendly cascade synthesis using combinations of heterogeneous metal/organic catalysts/enzymes. **A. Córdova***, S. Afewerki, C. Carlos-Palo Nieto
1033. Consecutive olefin isomerization hydroformylation with hemilabile tridentate phosphite modified rhodium catalysts. **D. Selent***, C. Kubis, W. Baumann, A. Spannenberg, A. Boerner, R. Franke
1034. Palladium(0) catalyzed one-pot synthesis of 2-substituted indoles. **H. Yamada***
1035. Intramolecular cycloaddition reactions of ethenetricarboxylate derivatives. **S. Yamazaki**, H. Sugiura, M. Niina
1036. Five-membered ring construction via chain-walking cycloisomerization of various 1,n-dienes catalyzed by palladium complexes. **T. Hamasaki**, F. Kakiuchi, T. Kochi*
1037. Reductive coupling reaction of alkynes, acrylates, and carbon dioxide under cobalt catalysis. **K. Nogi**, T. Fujihara*, J. Terao, Y. Tsuji*
1038. Copper-catalyzed silylative allylation of ketones and aldehydes employing allenes and silylboranes. **T. Yamaguchi**, Y. Tani, T. Fujihara, J. Terao, Y. Tsuji*
1039. Cu^{I}/Rh^{II}-catalyzed tandem convergent multicomponent reaction for regio- and stereocontrolled synthesis of γ-oxo-β-amino esters. **D. Jung**, H. Jeon, J. Lee, S. Lee*
1040. Chemoselective Reformatsky-Negishi approach to α-haloaryl esters. **X. Linghu***
1041. Modular synthesis of multisubstituted furans through palladium-catalyzed three-component coupling of imines, alkynyliodonium reagents, and carboxylic acids. **J. Wu**, N. Yoshikai
1042. Catalytic Friedel–Crafts alkylation/Michael cascade reaction of donor–acceptor cyclopropanes with electron-riched benzenes. **S. Sin**, S. Kim*
1043. Copper-catalyzed double 3-arylation of 3-diazoinoindolin-2-imines: An efficient strategy to prepare 3,3-diarylinoindolin-2-imines. **Y. Wang**, P. Lyu
1044. Rhodium-catalyzed enantioselective [2+2+2] cycloadditions of 1,6-enynes with alkenes. **K. Masutomi**, K. Tanaka
1045. Palladium-catalyzed selective olefin isomerization via chain walking. **Y. Yamasaki**, F. Kakiuchi, T. Kochi*
1046. Divergent cascade pathways of the transient palladium complex in palladium-catalyzed intramolecular Heck-type reactions. **J. Lee***, W. Lee, S. Lee*
1047. Synthesis of sila-bicycles by ring-closing diene-yne metathesis reaction. **Y. Nakamura***
1048. Asymmetric synthesis of functionalized 1,4-dihydroquinolines via a one-pot Michael/aza-cyclization domino reaction and dehydration sequence. **H. Kim**, S. Kim*
1049. Palladium-catalyzed (Ullmann-type) reductive homocoupling of the Blaise reaction intermediate. **Z. XUAN**, S. Lee
1050. Cu(I)/Rh(II)-catalyzed tandem convergent synthesis of multifuntionalized amino acid derivatives involving Rh-carbenoid promoted Claisen rearrangement. **M. Kwak**, H. Jeon, S. Lee*
1051. Pd-catalyzed cascade borylative cyclization reactions of polyunsaturated compounds. **M.E. Buñuel***, R. López-Durán, A. Martos-Redruejo, V. Pardo-Rodríguez, J. Marco-Martínez, D.J. Cárdenas*
1052. Fe-catalysed Kumada-type alkyl-alkyl and cascade cyclization-Kumada alkyl-alkyl cross-coupling using NHC ligands. **I.E. Ortín Remón***, N. Cabrera-Lobera, G. Caballero-Santiago, M.E. Buñuel, D.J. Cárdenas
1053. Ruthenium-catalyzed alkylation of barbituric acids with alcohols: A simple, green, and efficient protocol of barbituric acids alkylation. **A.E. Putra**, Y. Oe, T. Ohta*
1054. Palladium-catalyzed three-component reaction of 3-(tributylstannyl)ally acetates, aldehydes, and organoboranes: A new entry to stereoselective synthesis of (*E*)-*anti*-homoallylic alcohols. **M. Sugata**, Y. Horino
1055. Ni-catalyzed dimerizative alkylarylation of 1,3-butadiene by alkyl halides and aryl Grignard reagents. **T. Iwasaki**, A. Fukuoka, H. Kuniyasu, N. Kambe*
1056. Palladium-catalyzed cascade reactions of alkynes with alkenes in ionic liquids. J. Li, **S. Yang**, H. Jiang
1057. Synthesis of quinoline-derived "archipelago model" asphaltene compounds via a multicomponent strategy. **D.E. Scott**, A.T. Iarovoi, R.J. Hamilton, J. Stryker*
1058. Palladium-catalyzed multicomponent reaction of 3-(tributylstannyl)propargyl acetates, aldehydes, and organoboranes. **A. Aimono**, Y. Horino

Thursday Morning

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 2

Reactive Intermediates and Unusual Molecules (#7)

Organized by: R. Sheridan, M. Abe, W. Leigh

8:00 – 1059. Toward synthesis of thermally stable triplet carbenes. **Y. Yamamoto***, J. Yamamoto, S. Fuku-en, K. Furukawa, R. Kishi, M. NAKANO
8:25 – 1060. Mechanisms of carbene additions to strained C-C π bonds. Z. Yang, S. Tsuno, E. Dalchand, K.N. Houk, **D.C. Merrer***
8:50 – 1061. Exploring paramagnetic main group compounds. T. Augenstein, J. Harmer, **F. Breher***
9:15 – 1062. Can bulky substituents really keep triplet carbene intact?. **K. Hirai***
9:40 – 1063. Carbene-stabilized organic radicals with tunable electrochemical properties. **T.W. Hudnal***, C. Deardorff, R.E. Sikma
10:00 – 1064. Controlling carbene reactivity by weak interactions. P. Costa, I. Trosien, S. Radhakrishnan, S. Henkel, M. Fernandez-Oliva, E. Sanchez-Garcia, **W. Sander***
10:25 – 1065. Toward stable triplet vinylnitrenes. **A.D. Gudmundsdottir***, S.K. Sarkar
10:50 – 1066. Extremely reactive carbenes: Electrophiles and nucleophiles. **R.A. Moss***, L. Wang, H. Cang, K. Krogh-Jespersen
11:15 – 1067. Quantum mechanical tunneling reactions of organic reactive intermediates. H. Inui, **R.J. McMahon***
11:40 – 1068. Photochemistry and spectroscopy of 5-membered heteroarylcarbenes and isomeric heterocumulenes. **R. Sheridan***, S.A. Varganov, R. Ghimire, S. Lucas

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Kalia Tower, Lehua Suite

Chemistry of Nanocarbons: Fullerenes, Carbon Nanotubes, Nanographenes and Related Materials (#41)

Organized by: T. Akasaka, F. Wudl, L. Echegoyen, X. Lu, C. Wang
Presiding: H. Imahori, M. Prato

8:00 – 1069. Photofunctional hybrid nanocarbon materials for solar energy conversion. **H. Imahori***
8:40 – 1070. Clickable fullerene scaffolds: Select your application and click. **J. Nierengarten**
9:10 – 1071. Fullerene recognition of chiral phosphorus-containing concave molecule. **M. Yamamura**, T. Nabeshima
9:25 – 1072. In-plane aromaticity in cyclo-paraphenylene dications: A magnetic circular dichroism and theoretical study. **A. Muranaka***, N. Toriumi, E. Kayahara, S. Yamago*, M. Uchiyama*
9:40 – 1073. Monometallic cyanide clusterfullerene: A novel form of endohedral fullerenes. **S. Yang***
10:00 – 1074. Synthesis of 1D, 2D, 3D molecular nanocarbons. **K. Itami***
10:20 – 1075. Non-HPLC isolation of uncommon metallofullerenes by a new hyphenated approach. **S. Stevenson***
10:40 – 1076. Synthesis of hydroxylated and lithium ion-encapsulated fullerenes. **K. Kokubo***
11:00 – 1077. Properties and growth mechanisms of endohedral fullerenes. **J. Poblet**
11:20 – 1078. Opportunities and challenges of carbon-based nanomaterials. **M. Prato**

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 3

Natural Product-based Drug Discovery (#66)

Organized by: B. Baker, R. Kerr, Y. Qin, D. Uemura, B. Littlefield
Presiding: B. Baker, W. Gerwick, M. Ueda

8:00 Opening Remark
8:05 – 1079. Epigenetic approach to drug discovery of anti-infective fungal metabolites. D. Demers, M. Knestrick, R. Fleeman, C. Witowski, B. Vesely, A. Azhari, C. Rice, B. Colon, A. Souza, L. Shaw, D.E. Kyle, **B. Baker***
8:45 – 1080. Aligning bacterial physiology and ecology with drug discovery. **J. Clardy***, E. Mevers, D. Dietrich, E. Hobert, A. Cantley
9:25 – 1081. Chemical biology of coronatine: Pathogenic infection in plants. **M. Ueda***
10:00 – 1082. Discovery and development of anticancer lead compounds from marine cyanobacteria. **W. Gerwick***, J. Almaliti, J. Lee, B. Miller, A. Pereira
10:30 – 1083. Nanomole-scale tools for drug-lead discovery from marine natural products. **T.F. Molinski***
11:00 – 1084. Isolation, structure determination, synthesis, and biological characterization of novel bioactive natural products from marine cyanobacteria. **H. Luesch**
11:30 – 1085. New highly stable tricyclic antitubercular ozonides derived from artemisinin. **S. Chaudhary***, P. Jaiswal, V. Sharma, A. Gaikwad, S. Sinha, V. Chaturvedi, Y. Manju, S. Puri, A. Sharon, P. Maulik
11:40 – 1086. Bioorganic studies on the key natural products from venomous mammals. **M. Kita***
11:50 – 1087. Yoshinone A: A novel natural product that shows an anti-obesity activity. **Y. Kawazoe**, T. Koyama, A. Iwasaki, O. Ohno, K. Suenaga, D. Uemura*

Hawaii Convention Center
Halls I, II, III

Molecular and Supramolecular Photochemistry (#71)

Organized by: J. Sivaguru, W. Chung, C. Bohne, c. Tung, M. Sakamoto, V. Ramamurthy
Presiding: C. Bohne, W. Chung, S. Jayaraman, V. Ramamurthy, M. Sakamoto, C. Tung

Poster Session
10:00 – 12:00

1088. Artificial photosynthesis dendrimers integrating light-harvesting, electron delivery, and hydrogen production. **Y. Zeng**, Z. Xun, Y. Li*
1089. Controlled self-assembly pathways by photocyclized product of stilbene dyad. **M. Yamauchi***, S. Yagai*

*** Principle Author**

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1090. Photoreactions of amino acid derivatives bearing aromatic group with 1,4-dicyanonaphthalene. **M. Yamawaki**, Y. Yoshimi*

1091. Decarboxylative radical addition of amino acids to *N*-acryloyl amino acids via photoinduced electron transfer. K. Osaka, **Y. Yoshimi***

1092. Supramolecular asymmetric photochirogenesis mediated by synthetic antibody: Ground- and excited-states interaction studies of synthetic antibody with 2-anthracenecarboxylate. **W. Yospanya**, S. SAKAMOTO, Y. Araki, M. Nishijima, Y. Inoue, T. Wada

1093. Multichromic supramolecular dye architectures for advanced light-harvesting applications. **M. Yousaf**, B.D. Koivisto*

1094. Azobenzene-incorporated BINOLs as stimuli-responsive catalysts. **S. AKAURA**, Y. TSUTSUI, M. Uchiyama, K. TAKAISHI, T. Imahori*

1095. Mechanistic investigation of dehydration and deamination in photochemical formation of quinone methides. **N. Basaric***, D. Skalamera, K. Mlinaric-Majerski, H. Vancik, P. Wan

1096. Two-photon triggered photolabile protecting groups: From molecular engineering to nanostructuration. **F. Bolze**, P. Sebastien, A. Specht, A. Losonczy

1097. Integrating azobenzene into macromolecular metal complexes to generate optical active materials. **S.C. Burdette***, J. Yan

1098. Light induced molecular machine: Ruthenocene-based supermolecular crystals. **K. Chen***, M. Horie

1099. Light-driven nanofiber and nanoring morphological transformation in an organogel based on an azo bridged biscalix[4]arene. P. Su, K. Chang*, **W. Chung***

1100. Spatially directed electron and energy transport in terpyridine based coordination oligomers: A spectroscopic study. **B. Dietzek***

1101. Conjugating artemisinin derivatives with synthetic components for pharmacological applications. **A. Eske**, A.G. Griesbeck*, S. Sillner

1102. Controlling energy and electron flow using an organic cavitand and an inorganic layered material. **T. Fujimura**, E. Ramasamy, Y. Ishida, T. Shimada, S. Takagi*, V. Ramamurthy*

1103. Laser photolysis studies of triplet sensitization triggered ω-cleavage in aromatic carbonyls containing five-membered rings. **S. Fujino**, M. Yamaji*

1104. Solvent and substituent effect on lifetime of colored form of dinitrobenzylpyridine derivatives. **S. Fukuyoshi**, T. Nakayoshi, Y. Watanabe, A. Oda

1105. Photochemical reactions and photophysical properties of dinaphthyridineamino derivatives. **R. Hagihara**, S. Karasawa*, N. Koga*

1106. Photochromism and photomechanical bending of diisopropylbenzophenone crystals. **Y. Hagiwara***, M. Kitajima, H. Koshima, T. ASAHI

1107. Dye-sensitized solar cell of a non-carboxylated dye compound containing cyclodextrin layer. **M. Hara**, T. Takeshita, Y. Kasaba

1108. Photo and thermally induced phase transition of ferrocene-containing rotaxane crystals. **M. Horie***, K. Chen

1109. Laser photolysis studies of photoinduced ω-bond dissociation in aromatic carbonyls having C-C triple bond. **A. Horimoto**, K. Nozaki, M. Yamaji*

1110. Design and synthesis of new caged calcium with high two-photon absorption character. **S. Jakkampudi***, M. Abe, R. Takagi, C. Katan

1111. Completing the cycle: Sustainable, renewable, and recyclable polymers/oligomers derived from biomass through programmed photodegradation. R. Raghunathan, R. Krishnan, R. Saravanakumar, M.P. Sibi, D. Webster, **S. Jayaraman**

1112. Characteristic photoinduced macroscopic dynamics of molecule-based assemblies: Propelling and self-oscillation. **Y. Kageyama***, Y. Kurokome, T. Ikegami, S. Takeda

1113. Amino acid based fluorescent chemosensor for CO_2 using intramolecular hydrogen bonding stabilization: Application to screen relative activities of CO_2 absorbents. **S. Kang**, M. Eom, T. Lim, M. Han*

1114. Photoreaction of push-pull type diquinolinylamine derivatives and alteration of emission and morphology in solution. **S. Karasawa***, J. Todo, K. Usui, H. Suemune, N. Koga*

1115. Synthesis and function of a DNA cleaving molecule possessing phototriggering functionality via a Norrish type II reaction. S. Ueta, F. Yagishita, M. Nishiuchi, **Y. Kawamura***

1116. Photooxygenation of model compounds for carotenoids. **M. Kleczka**, A.G. Griesbeck, A. de Kiff

1117. Development of new photolabile protecting groups with two-photon absorption ability for physiological studies. **N. Komori**, M. Abe, C. Katan, K. Kamada, K. Furukawa

1118. Photochemistry of N-substituted heteroaromatic salts. **W. Kramer**, C. Mullins, M. Solomon, L. Hoth, A. Allred, E. Stewart, W. Curry

1119. Chiral binapthyl-tethered azobenzene bis(tritylalcohol) as a chirality switching catalyst. **T. Kuroda**, T. OMAGARI, S. UTO, S. Kurihara, K. TAKAISHI, M. Uchiyama, T. Imahori

1120. Photophysical property switching of artificial light-harvesting porphyrin dendrimers in response to monomeric porphyrin guest binding. **H. Lee**, Y. Jeong*, W. Jang

1121. Ultra-low power photon upconversion in light-harvesting chromophore arrays. **P. Mahato**, N. Yanai*, N. Kimizuka*

1122. Analysis of "excited state C–C bond cleavage–luminescence" phenomenon of methylenecyclopropanes by using laser flash photolysis. **Y. Matsui**, T. Kido, E. Ohta, H. Ikeda*

1123. Emission properties of pyrene probes and ring stacking modes on the surface of flexible proteins. **T. Matsuo***, A. Fujii, S. Hirota, H. Matsumura, W. Chung

1124. Photoinduced switching to metallic states in a 2D organic charge-transfer complex dimethylphenazine-tetrafluorotetracyanoquinodimethane with anisotropic molecular stacks. **H. Matsuzaki***, M. Ohkura, Y. Ishige, Y. Nogami, H. Okamoto

1125. Reversible electronic energy transfer involving supramolecular assemblies and organic-inorganic hybrids. S.A. Denisov, G. Jonusauskas, A. Tron, **N.D. McClenaghan***

1126. Photochemistry of pyromellitic diimides. **S. Molitor**, W. Kramer, A.G. Griesbeck*

1127. Highly enantioselective biocatalytic enantiodifferentiating photocyclodimerization of 2,6-anthracenedicarboxylate mediated by human serum albumin. **M. Nishijima***, K. Tanaka, G. Fukuhara, T. Mori, Y. Inoue*

1128. Highly concentrated millimeter sized domain of lysozyme clusters by laser trapping. **S. Nishimura***, H. Yoshikawa, S. Nakabayashi, K. Yuyama, T. Sugiyama, H. Masuhara

1129. Enantioselective photoreactions controlled by the functional group of chiral templates. **Y. Nishiyama***, Y. Suzuki, Y. Yanagisawa, K. Kakiuchi

1130. Photophysical studies of photoredox catalyzed trifluoromethylation of heteroarenes. **J. Ochola***, M.O. Wolf

1131. Identification of photodegradation products of 4,5-dimethoxy-2- nitrobenzyl esters and carbamates having alkyl group at α-position. **N. Okamura**, Y. Saito, T. Kikuchi, K. Shoda, N. Chikaraishi, K. Yamaguchi*

1132. Synthesis of fluorescent solvatochromic dyes based on 2-pyridylthiophene compound and tuning of absorption and emission wavelengths by coordination at the pyridyl nitrogen. **Y. Otsuka***, K. Yamada, S. Sakurai

1133. Highly selective turn-on near-infrared fluorescent sensor for imaging hydrogen sulfide in living cells. **C. Park**, T. Ha, C. Lee

1134. Photochemical behaviors of cationic cyanine dyes on a clay nanosheet. **N. Sato**, T. Fujimura, T. Shimada, S. Takagi*

1135. Photoreaction of exo-2,3-diphenyl-6,6-dicyanofulvene dimer. **T. SEGAWA***, T. YAHAGI, H. HONMA, S. SEKIMOTO

1136. Photochemical processes of halogenated 1,3-diketone derivatives studied by stationary, single and double laser photolyses. **Y. Suwa**, M. Yamaji*

1137. Surface-fixation induced emission of cationic dyes on an anionic clay surface. **D. Tokieda**, N. Sato, T. Fujimura, T. Shimada, S. Takagi

1138. Ketoprofen as photoinitiator for anionic polymerization. **Y. Wang***, P. Wan

1139. Pyridinium salts as electron traps: An ultrafast transient absorption spectroscopy study. **R.M. Wilson***, I. Khubaibullin, S. Matveev, A.E. Shamaev, A.S. Mereshchenko, K. Karabaeva, M.S. Panov, A.N. Tarnovsky

Hilton Hawaiian Village
Tapa Tower, Iolani Suite 1 & 2

Molecular Containers (#99)

Organized by: S. Mitsuhiko, L. Isaacs, H. Yang
Presiding: S. Goldup, H. Yang

8:00 opening
8:05 – 1140. Recognition and catalysis in deep cavitands. **J. Rebek**
8:35 – 1141. Molecular self-sorting for controllable suprapolymerization. **X. Zhang**
9:05 – 1142. Metal-ligand assembly using T-shaped, right-angled ligands. P. Rowsell, K. Zhu, I. Elguraish, **S. Loeb***
9:30 – 1143. Container molecules for xenon (and other gas) complexation. **K.T. Holman**
9:50 coffee break
10:00 – 1144. Elaborate molecular inclusion methods in metallo-hosts via multipoint noncovalent interactions. **M. Shionoya***
10:30 – 1145. Metallo-cages from cyclotriveratrylene-type ligands. **M. Hardie***, J.J. Henkelis, F. Thorp-Greenwood, T. Ronson, J. Fisher, V.E. Pritchard, N. Cookson
10:55 – 1146. Unimolecular tubular artificial transmembrane channels. **J. Hou**
11:20 – 1147. Allosteric modulation of supramolecular catalysis in synthetic supercontainers. **Z.R. Wang**
11:40 – 1148. Aminocarbohydrates recognition with cucurbit[7]uril. Y. Jang, **Y. Ko**, J. Koo, J. Khedkar, J. Wang, Y. Rhee, K. Kim*

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 1

Organoboron Chemistry: Applications in Organic Synthesis, Biology, and Materials (#100)

Organized by: D. Hall, B. Wang, P. Duggan, M. Suginome
Presiding: D. Hall

8:00 – 1149. Boron-based anticancer prodrugs that target tumor cells under oxidative stress. **X. Peng***
8:30 – 1150. Boron containing retinoids are potential therapeutic agents for treatment of Alzheimer's diseases. **B.C. Das***, T. Evans
8:50 – 1151. Boronic acid facilitated "click-like" reaction allowing for secondary functionalization. **A. Draganov**, K. Wang, J. Holmes, K. Damera, D. Wang, C. Dai, B. Wang*
9:10 – 1152. Fifth element in drug design: Boron in medicinal chemistry. **L. Rendina***, M. Kassiou, C. Austin, F. Issa, J. Kahlert, R. Narlawar, S. Wilkinson
9:40 – 1153. Saccharide recognition with peptide boronic acids. **P. Duggan***, W. Kowalczyk, D. Haylock, O. Hutt
10:00 Break
10:10 – 1154. Branched peptide boronic acids: Molecular recognition of folded HIV-1 RNA structures. **W.L. Santos**
10:40 – 1155. Boronic acid probes in supramolecular analytical chemistry. **A. Schiller***
11:00 – 1156. DNA modifications with the boronic acid moiety. **B. Wang**
11:20 – 1157. Novel benzoxaboroles as antiparasitic agents: Discovery and development of new treatments for kinetoplastid diseases. **R.T. Jacobs**

Hilton Hawaiian Village
Rainbow Tower, Rainbow 1

Electrochemical Reactions and Mechanisms in Organic Chemistry (#104)

Organized by: K. Chiba, S. Suga, K. Moeller, C. Frontana
Presiding: K. Chiba, K.D. Moeller, D.G. Peters

8:00 – 1158. Examples of redox chemistry conducted in the absence of a traditional supporting electrolyte: Development and use of a composite dispersion. **D. Little***, S.J. Yoo, S. Herold
8:15 – 1159. Electrochemical glycosylation as an enabling tool for oligosaccharide synthesis. **T. Nokami***, Y. Isoda, N. Sasaki, S. Hayase, T. Itoh, R. Hayashi, A. Shimizu, J. Yoshida
8:30 – 1160. Redox and electron mediation behavior of pyridinium ionic liquids and their application to organic synthesis. **H. Shimakoshi***, N. Houfuku, Y. Hisaeda
8:45 – 1161. Electrocatalysis of azobenzene isomerization. **S.C. Blackstock***, C. Saint-Louis
9:00 – 1162. Transition metal free C-C bond formation of brominated 2,2'-biphenyls. **R. Obata***, S. Ohba, Y. Einaga, S. Nishiyama
9:15 Break
9:30 – 1163. Structure-activity relationship of AMP-luciferin analogs for in vivo imaging. **N. Kitada**, S. Iwano, T. Hirano, H. Niwa, S. Maki
9:45 – 1164. Electrochemical reduction of haloacetic acids with sonication at a silver cathode. **E.T. Martin***, D.G. Peters
10:00 – 1165. Synthesis of oxazoline from unsaturated amides using an electrochemically generated $ArS(ArSSAr)^+$ pool. **Y. Miyamoto**, K. Matsumoto*, S. Suga, S. Kashimura, J. Yoshida*
10:15 – 1166. EPR and UV-Vis spectroelectrochemical investigations of *s*-tetrazine derivatives. **M. Lapkowski***, S. Pluczyk, P. Zassowski, P. Audebert
10:30 Break
10:45 – 1167. AC-bipolar electrolysis for template-free synthesis of conductive polymer fiber networks. **Y. Koizumi***, H. Nishiyama, I. Tomita, S. Inagi
11:00 – 1168. Reduction of dodecachloropentacyclo[5.3.0.0^{2,6}.0^{3,9}.0^{4,8}]decane (mirex) at silver cathodes assisted by ultrasound. **C.M. McGuire***, D.G. Peters

*** Principle Author**

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11:15 – 1169. Reductive carboxylation of benzoic acid esters by electron transfer from magnesium metal. **H. MAEKAWA***, H. Okawara, T. Murakami
11:30 – 1170. Global and local chemical descriptors and its use for describing electron transfer events coupled with proton transfer. **C.E. Frontana***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 4

Recent Trends in Organocatalysis (#122)

Organized by: M. Terada, M. Shi, J. Antilla, K. Maruoka
Presiding: K. Ishihara, T. Kawabata, T.H. Lambert, M. Terada

8:00 – 1171. Enantioselective bifunctional N-heterocyclic carbene catalysis. **S. Ye***
8:30 – 1172. Enantioselective iodocyclization induced by chiral base–acid cooperative catalysis. **K. Ishihara***, H. Nakatsuji
9:00 – 1173. Aromatic ions for the design of new organocatalysts. **T.H. Lambert***
9:30 – 1174. Cooperative organocatalysis strategies for synthesis. **K. Scheidt***
10:00 – 1175. Enantioselective synthesis of tetralone-derived natural products based on organocatalytic oxidative kinetic resolution. **K. Nagasawa***
10:30 – 1176. Amino acid-based chiral phosphines for enantioselective nucleophilic catalysis. **Y. Lu***
11:00 – 1177. Enantio- and site-selective molecular transformation by organocatalysis. **T. Kawabata***
11:30 – 1178. Asymmetric counteranion directed catalysis (ACDC): A general approach to enantioselective synthesis. **B. List**

Hilton Hawaiian Village
Mid-Pacific Center, Coral 5

Homogeneous Gold Catalysis: Methods, Theories and Applications (#192)

Organized by: L. Zhang, H. Ohno, R. Liu
Presiding: L. Ye

8:00 – 1179. Development of highly effective polymerization processes catalyzed by gold complexes. **F. Nzulu***, J. Goddard, C. Ollivier, L. Fensterbank
8:20 – 1180. Triazole-Au(I) complexes in promoting homogeneous gold catalysis: From stability to selectivity. **X. Shi**
8:50 – 1181. Low-coordinated phosphines for the activation-free LAuCl catalysis. **S. Ito***
9:10 – 1182. Homogeneous gold catalysis vs. heterogeneous gold nanopore, AuN-Pore, catalysis: Advantages and disadvantages. **Y. Yamamoto**
9:45 break
10:00 – 1183. NHC-AuCl/Selectfluor: A highly efficient catalytic system for the activation of enynals/enynones. **S. Zhu**
10:20 – 1184. Reactivity of gold-cyanomethyl complexes. **S.P. Nolan**, A. Collado, D. Gasperini, D. Cordes, A. Slawin
10:50 – 1185. Discovery of antiresistance agents using gold catalysis. **X. Wang***
11:10 – 1186. Efficient gold catalysis enabled by novel ligands. **L. Zhang***
11:40 – 1187. Gold-catalysed cross-coupling of arenes via double C–H activation. **N. Ahlsten**, X.C. Cambeiro, I. Larrosa*

Hawaii Convention Center
Halls I, II, III

Molecular Function of Natural Products: Advances towards Chemical Biology (#237)

Organized by: M. Ueda, B. Miller, K. Irie, B. Miller, B. Miller, C. Lin, T. Oishi, C. Forsyth, H. Lee

Poster Session
10:00 – 12:00

1188. Crystal structure of *D,L*-racemic supramolecular rare sugars. **T. Senoo**, T. Ishii*, T. Kamakura, M. Mimura, K. Fukada, A. Yoshihara, T. Kozakai, G. Sakane
1189. Discovery of a potent and selective agonist of TRPA1 and direct observation of its binding to TRPA1 by electron microscopy. **J. Takaya**, K. Mio, Y. Mori, M. Uesugi*
1190. Studies toward the total synthesis of amphidinolide N. **Y. Kawashima**, H. Fuwa, M. Sasaki*
1191. Structural insight into the inhibitory mechanism of amyloid β42 aggregation by non-catechol-type flavonoids. **M. Hanaki**, K. Murakami, K. Akagi, K. Irie*
1192. Jasmonic acid transporter suppresses the excess wounding response in undamaged parts. **Y. Ishimaru**, T. Oikawa, T. Suzuki, H. Matsuura, K. Takahashi, S. Hamamoto, N. Uozumi, T. Shimizu, M. Seo, H. Ohta, M. Ueda*
1193. Oxidative stress-related substance, acrolein, regulates biosystems by reacting with polyamine. **A. Tsutsui***, T. Zako, Y. Yamaguchi, T. Bu, R. Imamaki, S. kitazume, N. Taniguchi, M. Maeda, K. Tanaka*
1194. Development of the strategy for the selective chemical modification in a hydrophobic site in DNA or RNA. N. Sato, Y. Sasaki, K. Onizuka, K. Yamada, **F. Nagatsugi**
1195. Mechanism for the antibacterial action of epigallocatechin gallate (EGCg) on *Bacillus subtilis*. **A. Horiuchi**, J. Sato, K. Shimatani, T. Ozawa, N. Shigemune, D. Tomiyama, T. Sonoda, M. Nakayama, M. Hasumi, T. Miyamoto
1196. In vivo production of eight-membered heterocycles from acrolein and transformation to 3-formyl-3,4-dehydropiperidine (FDP). **T. Masayuki**, F. Koichi, K. Tanaka*
1197. Evaluation of the binding site of aplyronine A on tubulin by genetic approach. **K. Yamagishi**, K. Tsuchiya, T. Chinen, T. Usui, M. Kita, H. Kigoshi
1198. Development of novel fluorescent PPI detection system for subtype selective ligand of phytohormone co-receptor. **Y. Takaoka**, M. Iwahashi, T. Iwashita, T. Suzuki, K. Hayashi, S. Egoshi, Y. Ishimaru, M. Ueda*
1199. Development of the new firefly luciferin analog aiming at detection of a free radical in the living body. **S. Ioka***, T. Saitoh, S. Iwano, S. Maki, H. Niwa, M. Imoto, S. Nishiyama
1200. Directed evolution of antibody-like peptides for proteomics. **T. Kawakami***
1201. Glycolipozyme MPIase functions as membrane protein integrase in vivo. **K. Sawasato***, M. Moser, R. Sato, K. Nishiyama
1202. Reconstitution of glycolipozyme MPIase-dependent protein integration into membrane. **M. Sasaki***, H. Matsubayashi, Y. Kuruma, T. Ueda, K. Nishiyama
1203. Characterization of an MPIase homologue in plants that catalyses membrane protein integration. **Y. Endo***, T. Yamaguchi, H. Matsubayashi, Y. Kuruma, T. Ueda, K. Shimamoto, K. Nishiyama
1204. Cell differentiation inducing metabolites from marine sponges. **S. Matsunaga***
1205. Establishment of a 3D cell culture-based screening platform to identify natural products that can regulate trans-epithelial water transport of the human gastrointestinal tract. **S. Fujii**, R. Okamoto*, T. Nakata, K. Suzuki, F. Ishibashi, A. Kawamoto, S.O. Segawa, T. Mizutani, K. Tsuchiya, T. Nakamura, M. Watanabe
1206. Theoretical study on the electronic structure of trimethylamine N-oxide (TMAO) in aqueous solution. **Y. Watanabe**, D. Akase, M. Aida*
1207. Identification of biosynthetic enzymes for MPIase, a glycolipozyme essential for membrane protein integration. **R. Sato***, K. Shimamoto, T. Yamaguchi, M. Moser, K. Nishiyama
1208. Extraction of flavor compounds from lemongrass utilizing ionic liquids. **C. Murata**, T. Usuki*
1209. Potent antibacterial compound is isolated from garlic peel. **H. KITAHARA***, A. Ito
1210. Suppression of siRNA off-target effect by chemical modifications which regulate thermodynamics in nucleotide base-pairing. **K. Ui-Tei***, H. Iribe, T. Takahashi
1211. Elucidation for bioactivity of ouabagenin, a presumed endogenous ligand for nuclear receptor. **S. TAMURA**, H. Oishi, T. Abe, M. Okada, M. Ueda*
1212. Exploring an appropriate ligand-binding pose by ensemble-based docking. **H. Saito***, K. Kawaguchi, H. Nagao
1213. Mitotic role of estrogen receptor alpha: Stimulation of E3 ubiquitin ligase activity of UBE3C that facilitates cell proliferation. **M. Okada***, T. Ohta
1214. Voltage-dependent, slowly activated K^+ channel involved in nyctinasty of *Samanea saman*. **T. Oikawa***, T. Suzuki, Y. Ishimaru, S. Hamamoto, S. Munemasa, Y. Murata, N. Uozumi, M. Ueda
1215. Molecular target of yessotoxin. **N. Matsumori**, H. Tsuchikawa, T. Usui, N. Sugiyama, M. Satake, K. Tachibana
1216. Biological characterization of MetE as a receptor candidate in *Cassia obtusifolia* for the leaf opening factor. **N. Kanzawa***, J. Nishiya, Y. Otsuka, Y. Ishimaru, M. Ueda
1217. Development of small molecular calcium indicators for plant cell. **M. Shigenaga**, M. Imai, Y. Nukadzuka, Y. Takaoka, M. Ueda*
1218. Regulatory mechanism of TRP channel in yeast tonoplast. **S. Hamamoto***, I. Yabe, N. Uozumi
1219. Elucidation of the molecular mechanisms of action of bioactive natural products using high performance affinity beads. **S. Sakamoto**, Y. Yamaguchi, T. Ito, H. Handa*
1220. Molecular mechanism of action of fusicoccin-based antitumor agents. **J. Ohkanda***, S. Sato, P. Parvatkar, M. Uesugi, N. Kato
1221. Target identification of agelasine D, a marine spongean diterpene alkaloid, as an antidormant mycobacterial substance. **M. Arai**, Y. Yamano, A. Setiawan, M. Kobayashi*
1222. NMR analysis of ligand-induced structural changes to identify key structures of ligand molecules. **H. Takahashi**
1223. Method for selective clearance of cytosolic proteins via autophagy. **D. Takahashi**, H. Arimoto*
1224. Development of novel protein labeling method useful for plant chemical biology. **Y. Nukadzuka**, Y. Takaoka, M. Ueda*
1225. Acceleration of lipid degradation by widdrol in fully differentiated 3T3-L1 cells. **H. Jeong**, H. Yun, S. Choi, Y. Son, I. Jeong, S. Nam, S. Kim, M. Ham, N. Kim, S. Jin, B. Kim, E. Lee, H. Kwon*
1226. Development of transgenic Daphnia for monitoring hormonal activities of chemicals. Y. Kato, T. Nakanishi, T. Matsuura, **H. Watanabe***
1227. Development of bioactivity-controlled molecular probe to reveal the mechanism of stomatal reopening caused by phytotoxin coronatine. **T. Iwashita**, Y. Takaoka, T. Suzuki, R. Tashita, S. Egoshi, Y. Ishimaru, M. Ueda*
1228. Development of molecular probes based on the partial structure of Amphidinol 3. **Y. Takada***, M. Ebine, T. Oishi
1229. Fluorescence-labeled lipopeptides as molecular probes for TLR2. **Y. Arai**, Y. Kawahara, K. Yokoyama, S. Inuki, K. Kabayama, F. Koichi, Y. Fujimoto
1230. Synthesis of desmosine-d_4 for LC-MS/MS analysis in elastin degradation. **D. Watanabe**, T. Usuki*
1231. Study on the novel chemical probes to analyze protein-ligand interactions. **K. Yoneda***, Y. Hu, M. Kita, H. Kigoshi
1232. Natural product-inspired glutamate analogs: The diverted synthesis and the neuronal activity. **M. Chiba**, C. Fujimoto, Y. Ishikawa, M. Oikawa*
1233. In vivo Raman imaging in living guard cells for elucidating the localization of the plant toxin coronatine. **S. Egoshi**, K. Dodo, Y. Ishimaru, T. Iwashita, T. Suzuki, Y. Takaoka, M. Sodeoka, M. Ueda
1234. Design and synthesis of a photoreactive OSW-1 analog and its application to a photoaffinity labeling study . **R. Yamada**, T. Takeshita, M. Hiraizumi, K. Sakurai*
1235. Synthesis of photoreactive *O*-benzyl-D-serine derivatives for photoaffinity labeling. **T. Yoshida***, Y. Hashidoko, M. Hashimoto
1236. Design and synthesis of a biochemical probe of (+)-macrosphelide A. **J. Sim**, C. Lim, S. Lee, Y. Suh*
1237. Design, synthesis, and biological evaluation of cyclic depsipeptides as chemical probes for study of the tumor microenvironment. **K. Hattori**, K. Koike, K. Okuda, T. Hirayama, H.K. Nagasawa
1238. [$^{13}C_3$,$^{15}N_1$]-labeled isodesmosine, a potential internal standard for the LC-MS/MS analysis in elastin degradation. **T. Tanigawa**, T. Usuki*
1239. Search for Notch signaling inhibitors from natural products. **M.A. Arai***, R. Akamine, R. Okamoto, T. Koyano, T. Kowithayakorn, S.K. Sadhu, F. Ahmed, M. Ishibashi*
1240. Phenol compounds treated cotton and wool fabrics for developing multifunctional clothing materials. **K. Hong***
1241. Host factors enhance antimicrobial activity of "Lysocin E". **H. Hamamoto**, S. Jie, A. Paudel, K. Ishii, J. Yasukawa, K. Sekimizu
1242. Rapid search for naturally occurring neural stem cells activators using stem cell transcription factor Hes1 beads. M.A. Arai, **N. Ishikawa**, T. Koyano, T. Kowithayakorn, M. Ishibashi*
1243. Identification of licopyranocoumarin and glycyrurol from herbal medicines as neuroprotective compounds for Parkinson's disease. **M. Imoto***, T. Fujimaki, S. Saiki, E. Tashiro, D. Yamada, N. Hattori
1244. *Aspergillus kawachii* treatment enhances antioxidative effect of mistletoe through increase in phenolic compound contents. S. Kim, **J. Lee**, E. Choi, J. An, J. Moon, S. Kim, K. Song*
1245. Isolation of Notch inhibitors from *Calotropis gigantea*. **T. Yoneyama***, M.A. Arai, R. Okamoto, S.K. Sadhu, F. Ahmed, M. Ishibashi
1246. Isolation and biological activities of novel androgen receptor antagonist produced by Streptomyces. **S. Saito**, T. Fujimaki, E. Tashiro, Y. Igarashi*, M. Imoto*
1247. Vascular protective activity of plant-derived caffeoyl quinic acids against HMGB1-induced inflammatory responses. N. Tuan, I. Park, E. Lim, H. Kang, B. Jung, **J. Bae***, **M. Na***
1248. Extraction of citral from lemon myrtle utilizing ionic liquids. **K. Munakata**, T. Usuki*
1249. Widdrol, a sesquiterpene isolated from *Juniperus chinensis*, inhibits angiogenesis and tumor growth by targeting vascular endothelial growth factor receptor 2 signaling. **S. Jin**, H. Yun, H. Jeong, Y. Oh, H. Park, B. Kim, H. Kwon*
1250. Anticancer activity of *Endlicheria anomala* extract by apoptosis induction in human lung and liver cancer cells. H. Park, **S. Jin**, Y. Oh, H. Jeong, H. Kwon, B. Kim*
1251. Synthetic studies on funiculosin. **K. Sato**, S. Inuki, Y. Fujimoto

*** Principle Author**

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1252. Synthesis of the photoactive phenylthiocarbamide derivatives for gustatory receptors elucidation. **A. Ishida***, Y. Hashidoko, M. Hashimoto
1253. Synthetic studies of protoaculeine B. **H. Sugahara**, K. Otsuka, Y. Ishikawa, M. Oikawa*
1254. Synthetic study and target analysis of dictyoceratin-A and -C, hypoxia-selective growth inhibitors from marine sponge. **N. Kotoku***, Y. Sumii, T. Kawachi, A. Fukuda, M. Arai, M. Kobayashi*
1255. Synthesis and properties of deuterated cyclo-DOPA derivatives. **S. Nakagawa***, Y. Hashidoko, M. Hashimoto
1256. Formal C–H azidation-based shortcut to diazido building blocks for the versatile preparation of photoaffinity labeling probes of natural products and pharmaceuticals. **T. Hosoya***, S. Yoshida, Y. Misawa
1257. Divergent synthesis of pseudoenantiomers toward ABC-ring moiety of steroids. **M. Furuta**, K. Hanaya, T. Sugai, M. Shoji*
1258. Structure-activity relationship studies of oligomeric flavan-3-ols: Role of phenolic hydroxyl groups in biological activities. **Y. Hamada**, K. Ito, Y. Ayano, T. Koashi, N. Nakajima, A. Saito*
1259. Synthesis of inositol phospholipids from *Ascaris suum* using regioselective phosphorylation. **S. Suehara**, T. Aiba, S. Nakagawa, M. Sato, Y. Maekawa, T. Murai, K. Fukase, S. Inuki, Y. Fujimoto
1260. Synthetic study of the C31-C67 part of amphidinol 3. **Y. Wakamiya***, M. Ebine, T. Oishi
1261. Synthetic studies toward strophasterol A. S. Sato, M. Murakami, T. Hirokawa, **S. Kuwahara***
1262. Synthesis of sugar-modified EGCGs by direct C-glycosylation and its application to a chemical biology. **H. Hamagami**, Y. Hatasa, Y. Yamaguchi, S. Fuse, T. Shibata, H. Tachibana, K. Uchida, H. Tanaka
1263. Total synthesis of cyclobakuchiols by using conformation-controlled stereoselective reactions. **H. Kawashima**, Y. Kaneko, M. Sakai, N. OGAWA, Y. Kobayashi*
1264. Synthetic study of the LM ring of maitotoxin. **H. Kishigami**, T. Oishi, M. Ebine, K. Torikai
1265. Synthetic study of tricyclic terpenoids via convergent strategies. **K. Kuwata***, K. Hanaya, T. Sugai, M. Shoji
1266. Synthetic strategy toward unique complex right-side structures of physalins. **M. Morita**, S. Kojima, G. Hirai, M. Sodeoka*
1267. Synthetic studies on iriomoteolide-2a. **K. Sakamoto**, A. Hakamata, H. Fuwa*, M. Sasaki
1268. Synthetic study on cardiolipin containing cyclopropane fatty acids. **S. Ishibashi**, S. Inuki, Y. Fujimoto
1269. Synthetic study of cnicin. **M. Tanigawa**, T. Usuki*
1270. Total synthesis of palau'amine. **K. Takeuchi**, Y. Kaihara, K. Tanino, K. Namba*
1271. Synthetic study of cyclic desmosine for elucidation of the crosslinking structure of elastin. **K. Ogawa**, T. Usuki*
1272. Stereoselective synthesis of resolvins and 12-HHT. **N. OGAWA**, Y. Kobayashi*
1273. Synthetic study of various flavan-3-ol analogs by regioselective modification of 5-position of flavan-3-ols and their structure-activity-related study. **Y. Higashino**, K. Mori, Y. Ayano, T. Hojima, N. Nakajima, A. Saito
1274. Synthesis of funiculosin derivatives as immune activators via TLR4/MD-2. **K. MIZOTE**, A. SAEKI, H. HONDA, N. OKAMOTO, T. KIMURA, Y. NAGAI, K. TAKATSU, Y. Fujimoto*, K. Fukase*
1275. Formal synthesis of madindoline A via enzymatic discrimination of quaternary carbon center. **M. Shoji***, K. Shimizu, M. Tomita, K. Fuhshuku, T. Sugai
1276. Alternative one-pot synthesis of (trifluoromethyl)phenyldiazirines from corresponding tosyloxime derivatives for photoaffinity labeling. **L. Wang***, Y. Murai, T. Yoshida, A. Ishida, Y. Sakihama, Y. Hashidoko, M. Hashimoto
1277. Practical synthesis of natural plant-growth regulator 2-azahypoxanthine, its derivatives, and biotin-labeled probes. **K. Ikeuchi**, M. Inai, T. Asakawa, Y. Hamashima, H. Kawagishi*, T. Kan*
1278. Synthetic studies of JBIR-23, -24. **S. Yorita**, H. Yokoyama, M. Miyazawa*
1279. Synthtic studies of Schiglautone A. **H. Yamasawa**, H. Yokoyama, M. Miyazawa*
1280. Synthetic study of the LMNOPQRS ring system of maitotoxin. **H. Onoue***, K. Torikai, M. Ebine, T. Oishi
1281. Total synthesis of spirofungin A. **K. Kunichika**, H. Yokoyama, M. Miyazawa*
1282. Studies toward the total synthesis of cynaropicrin. **T. Mori**, T. Usuki*
1283. Novel synthesis of zerumbone-pendant derivatives for development of biologically active compounds. **Y. Utaka**, Y. Kawai, T. Kitayama
1284. Synthesis of 1,3a,6a-triazapentalene derivatives and their interesting fluorescence properties. **K. Namba***, A. Osawa, A. Nakayama, A. Mera, A. Otani, K. Tanino
1285. Synthetic study of plusbacin A_3. **A. Katsuyama**, A. Matsuda, S. Ichikawa*
1286. Synthesis and biological activities of the amide derivative of aplog-1, a simplified analog of aplysiatoxin with antiproliferative and cytotoxic activities. **Y. Hanaki**, R.C. Yanagita, C. Takahashi, T. Sugahara, M. Aida, H. Tokuda, K. Irie*
1287. Synthesis and biological activity of phosphatidylinositol for the elucidation of NKT cell pre-activation mechanism. **S. Nakagawa**, A. Shimoyama, T. Aiba, Y. Fujimoto, F. Koichi*
1288. Synthesis of novel allene-zerumbone derivatives with twelve membered ring. **T. Miyamura**, H. Tatsumi, M. Kameo, T. Kitayama
1289. Synthesis of optically active 3-O-acylated catechin analogs by oxidative cyclization. **N. Shiraishi**, M. Kumazoe, S. Fuse, H. Tachibana, H. Tanaka*
1290. Fundamental reaction activity of zerumbone with conjugated system in the eleven-membered ring structure for development of biologically active compounds. **A. Nishikawa**, C. Yamamoto, T. Kitayama

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

The Science and Strategy of Pharmaceutical Process Chemistry: Adapting to Global Regulatory Development Guidance on Process Impurities (#242)

Organized by: H. Okuda, T. Watson, G. CHAE
Presiding: T. Watson

8:00 Welcome introductions
8:05 – 1291. Recent efforts in implementation ICH Q11 quality guidance in Japan. **H. Okuda***, K. Takagi
8:30 – 1292. Can ICH Q12 help realise the full benefits for ICH Q11 and enhanced process understanding?. **F. Montgomery***
8:55 – 1293. Early experiences with ICH Q11: successes and opportunities. **J. Lepore**
9:20 – 1294. ICH Q11 Starting material IWG Update - the role of impurities. **T. Watson**
9:45 Break
9:55 Q&A
10:10 – 1295. Use of models for the development and implementation of a small molecule impurity control strategy. K.D. Seibert*, C. Luciani, S. Coffey, **K.D. Seibert**
10:35 – 1296. QbD implementation and ICH Q11 application – a case study of lifecycle approach to impurity control. **T. Watson**
11:00 – 1297. Development of manufacturing route to elbasvir. **J. Yin***
11:25 – 1298. Strategies of assessment, analysis, and control of genotoxic impurities in drug substance development with case studies. **H. Lee***

Hilton Hawaiian Village
Kalia Tower, Hibiscus 2

Molecular Self-Assembly and Functional Organic Nanostructures (#263)

Organized by: J. Parquette, M. Lee, J. Badjic, F. Huang
Presiding: J. Badjic

8:00 Introductory Remarks
8:10 – 1299. Electronic delocalization within self-assembled nanostructures derived from pi-conjugated oligopeptides. **J.D. Tovar***
8:40 – 1300. Complex topologies through subcomponent self-assembly. **J.R. Nitschke***
9:10 – 1301. Cooperative supramolecular polymerization of hydrogen-bonded supermacrocycles. **M. Yamauchi***, S. Yagai*
9:40 Coffee Break
9:55 – 1302. Shape-selective synthesis and self-sorting of covalent organic cage compounds. **F. Beuerle***
10:25 – 1303. Surface-supported robust 2D lanthanide-carboxylate coordination networks. B. Cirera, J. Urgel, Y. Wang, W. Auwärter, R. Otero, J. Gallego, M. Alcamí, S. Klyatskaya, M. Ruben, F. Martin, R. Miranda, J. Barth, **D. ECIJA**

Hilton Hawaiian Village
Rainbow Tower, Rainbow 3

Molecular Probes and Fluorophores for Biological Imaging (#280)

Organized by: C. Fahrni, C. Cairo, C. Yip, Y. Hori
Presiding: Y. Hori

8:00 Opening Remarks
8:05 – 1304. Development of imaging agents to target tumour hypoxia. **D. Sneddon**, R. Niemans, N.G. Lieuwes, R. Biemans, M. Bauwens, I. Pooters, L. Dubois, P. Lambin, P. Pellegrini, N. Lengkeek, C.T. Supuran, S. Poulsen*
8:25 – 1305. Phosphorescent probes for multiphoton microscopy of oxygen. **S. Vinogradov***
8:45 – 1306. HKSOX series of highly selective and sensitive fluorescent probes for multiplatform detection of superoxide in live cells and in vivo. J. Hu, N. Wong, S. Ye, **D. Yang***
9:05 – 1307. Long(er) wavelength fluorescent probes. **K. Gee**
9:35 – 1308. Illuminating metals: Fluorescent tools for the study of cellular magnesium. M. Afzal, J. Gruskos, J. Pitteloud, G. Zhang, **D. Buccella***
10:05 Session Break
10:20 – 1309. Fluorescent probes based on sulfur as a reporting element. **N. Finney**
10:40 – 1310. Towards targeted ratiometric sensors of labile metal pools. **C. Shen***, I. Carney, K. Yang, E. New
11:00 – 1311. Spectroscopic probes and sensing analysis (2015). **H. Ma**
11:30 – 1312. Tunable molecular-based nanoparticles as biocompatible and eco-friendly alternative to quantum dots for bioimaging. **M.H. Blanchard-Desce**

Hawaii Convention Center
Halls I, II, III

Frontiers of Chirality in Organic Chemistry (#286)

Organized by: J. Canary, N. Berova, E. Yashima, M. Hyun, T. Shibata, T. Asahi, C. Welch, S. You
Presiding: T. ASAHI, N. Berova, J. Canary, M. Hyun, T. Shibata, C. Welch, E. Yashima, S. You

Poster Session
10:00 – 12:00

Spontaneous Resolution and Autocatalysis
1313. Spontaneous formation of enantioenriched α-amino nitrile, chiral precursor of Strecker synthesis. **T. Kawasaki***, N. Takamatsu, S. Aiba, Y. Tokunaga
1314. Asymmetric synthesis of nitrogen isotopically chiral diamine and its chiral discrimination by asymmetric autocatalysis. **H. Ozaki**, K. Tada, S. Harada, T. Ayugase, H. Ozawa, T. Kawasaki, A. Matsumoto, K. Soai*
1315. Asymmetric autocatalysis triggered by helical arrangement of chiral crystals of achiral organic compounds. **Y. Kaimori**, T. Ide, S. Fujiwara, M. Uchida, T. Sasagawa, T. Kawasaki, A. Matsumoto, K. Soai*

Chiral Materials and Nanostructures
1316. Control of metal arrays based on heterometallics masquerading in heterochiral aggregations of chiral clothespin-shaped complexes. **M. Naito***, R. Inoue, S. Kawamorita, N. Komiya, T. Naota
1317. Synthesis of *N*-hetero-*ortho*-phenylene oligomers containing pyridyl groups. **Y. Tokoro***, N. Ohtsuka, A. Toh, S. Fukuzawa*
1318. Synthesis and acid/base-triggered extension/contraction motion of a double-stranded boron helicate bearing bipyridyl units. **Y. Suzuki**, T. Nakamura, S. Yamamoto, D. Taura, H. Iida, N. Ousaka, E. Yashima*
1319. Helix inversion of β-peptide by hydrogen bonding pattern alteration. **S. Shin**, Y. Kim, I. Guzei, S. Choi*
1320. Synthesis and application of complementary double helices connected with metal-salen complexes. **S. Hioki**, J. Tanabe, D. Taura, E. Yashima

Chiral Analysis, Recognition, and Separation
1321. High throughput analysis of enantiopurity in pharmaceutical research using multiple injections. **K. Zawatzky**, E.L. Regalado, C. Welch
1322. Discrimination of chiral crystals with two-fold screw axis using optical activity. K. Ishikawa*, **Y. Terasawa**, M. Tanaka, M. Shiro, H. Koshima, T. ASAHI*
1323. Solvent-induced kinetic and thermodynamic control of remote-controlled planar chirality in peptide-bound metallomacrocycles. **F. Mamiya**, N. Ousaka, E. Yashima*
1324. Solid-liquid and liquid-liquid extractions of native saccharides by alternating pyridine-phenol oligomers linked with acetylene bonds. **Y. Ohishi**, M. Inouye, H. Abe
1325. Dynamic formation of enantiomeric thalidomide dimeric structure: Solid and solution state chiroptical spectroscopy and computational analysis. **T. Hiroki***, Y. Ogino, M. Tanaka, N. Shibata, T. ASAHI*, T. SHIMOZAWA
1326. Synthesis and application of optically pure rotaxanes with their specific chirality for enantioselective complexation with chiral amines. K. Hirose, **R. Kano**, K. Tsuda, H. Furutani, Y. Hinohara, Y. Tobe*

*** Principle Author**

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1327. Synthesis and conformational analysis of novel helical amide oligomers. **K. Urushibara**, H. Masu, I. Azumaya, H. Kagechika, A. Tanatani*
1328. Highly stereoselective recognition of undervatized amino acids by a simple chiral phenyl aldehyde. **Q. Chen**, k. kim
1329. Efficient resolution of 2-fluorophenylglycine by continuous preferential crystallization. **C. Rougeot***, R.M. Kellogg, J. Hein

Asymmetric Synthesis and Catalysis
1330. Study on the stereoselective cyclization of 1-alkenyl β-aminoalkyl sulfoxides and sulfones. **M.R. Kulak**, A.L. Schwan, S. Soderman, T. Mook
1331. Development of new synthetic reactions leading to organophosphorus compounds having chiral carbon centers. **Y. Maekawa**, T. Murai
1332. Crystal structure analysis of asymmetric autocatalysis of pyrimidyl alkanol. **A. Matsumoto**, T. Abe, A. Hara, T. Tobita, T. Sasagawa, T. Kawasaki, K. Soai*
1333. Synthesis the planar chiral phosphine-olefin ligand base on the transition metal scaffold and application in asymmetric catalysis. **Y. Tseng***, M. Ogasawara, S. Arae, T. Takahashi, K. Kamikawa
1334. Desymmetric hydrogenation of a *meso*-cyclic acid anhydride toward biotin synthesis. **M. Yoshimura**, K. Tsuda, H. Nakatsuka, T. Yamamura, S. Tanaka, M. Kitamura*
1335. Diasteroselective synthesis of an axially chiral 2,2'-bipyridine -*N*,*N*'-dioxide bearing peptide chains. **A. Urushima**, N. Ousaka, E. Yashima*
1336. Asymmetric synthesis of MαNP acid using a chiral auxiliary. **W. Fujiwara**, M. Kato, M. Kusakari, T. Kijima, S. Murakami, S. Matsuba, B. Hatano*
1337. Asymmetric Suzuki-Miyaura cross-coupling of 1-bromo-2-naphthoates using helically chiral polymer ligand PQX-phos. **Y. Akai**, T. Yamamoto, M. Suginome*
1338. Enantioselective synthesis of heterocyclic compounds via asymmetric Heck-Matsuda oxyarylation of styrene-like compounds. **N.C. Martins**, A.R. SILVA, C.D. Correia*
1339. Synthesis of optically organoselenides using chiralauxiliaries. **Y. Taguchi**, Y. Nakazawa, R. Mashiko, B. Hatano, S. Murakami, T. Kijima
1340. Enantioselective Heck-Matsuda arylations: Synthesis of substituted 2,3-dihydrobenzofurans by a new oxyarylation reaction. **A.R. SILVA**, N.C. Martins, C.D. Correia*
1341. Solvent free chiral inversion of thalidomide and hydrolysis product of thalidomide. **M. Nakamura**, K. Otogawa, T. SHIMOZAWA, T. ASAHI*
1342. Enantioselective synthesis of γ-amino acids via sp^3 C-H Bond activation using by Ir(I)-catalyst. **M. Michino**, M. Ito, Y. Tahara, T. Shibata*
1343. Synthesis of phosphonate monoesters via hydrolysis of phosphonate esters having a binaphtyl group and their application. **K. Kuwabara***, Y. Maekawa, Y. Hirai, T. Murai
1344. Chiral β-aminoalcohol catalysts with bulky substituents possessing strong asymmetric power determined by competitive asymmetric autocatalysis. **Y. Komuro**, Y. Mori, R. Noto, N. Watabe, T. Kawasaki, A. Matsumoto, K. Soai*
1345. Asymmetric synthesis of planar-chiral functionalized paracyclophanes and their application as chiral ligands. **M. Fukai**, H. Madhurima, R. Sekine, S. Oshima, **T. Shibata***
1346. Ag(I)-bisamidine catalyzed asymmetric Friedel-Crafts alkylation of indoles with α-substituted-β-nitroacrylates. **T. Nomoto**, M. Yamanaka*
1347. Enantioselective synthesis of aminoindane carboxylic acid derivatives by the Rh-catalyzed [2+2+2] cycloaddition. **S. Obinata**, Y. Tahara, T. Shibata*
1348. Catalytic enantioselective synthesis of *P*-stereogenic phosphine derivatives by molybdenum-catalyzed asymmetric ring-closing metathesis on (π-arene)chromium platform. M. Ogasawara, **R. Ikehata**, Y. Tseng, W. Wu, S. Arae, R. Yasuda, T. Takahashi, K. Kamikawa
1349. Asymmetric synthesis of triptycene via enantioselective alkynylation of 1,5-dibrooanthracene-9,10-dione. **Y. Kamimura**, T. Shibata*
1350. Asymmetric hydrogenation of quinazolinium salts catalyzed by dinuclear iridium(III) complexes bearing chiral diphosphine ligand. **K. Higashida**, A. Iimuro, Y. Kita, K. Mashima*

Hilton Hawaiian Village
Mid-Pacific Center, Coral 2

Fluorinations and Fluoroalkylations (#310)

Organized by: S. Prakash, T. Ritter, K. Mikami, S. Fustero, J. Hu
Presiding: K. Mikami

8:00 Opening Remarks
8:05 – 1351. Studies on fluoroalkylations. **S. Prakash***
8:30 – 1352. New version of Umemoto reagent for practical application: Di- and tetra-fluoro-*S*-(trifluoromethyl)dibenzothiophenium salts. **T. Umemoto***, T. Zhu, B. Zhang, Y. Li
8:55 – 1353. Difluoromethylthiolation: New reagents and reactions. **Q. Shen**
9:20 – 1354. Carbene-induced intra- vs. intermolecular transfer-trifluoromethylation of aryl trifluoromethylthio-compounds under rhodium catalysis. **N. Shibata***
9:45 – 1355. Trifluoromethylation of olefins by photoredox catalysis. **M. Akita***, T. Koike
10:10 – 1356. Transition metal catalyzed fluoroalkylation with fluoroalkyl bromides and chlorides. **X. Zhang***
10:35 Break
10:45 – 1357. New approach for catalytic asymmetric synthesis of befloxatone. **J. Ma**
11:10 – 1358. Straightforward access to ^{18}F-labeled PET probes via Ni/Cu co-catalyzed defluoroborylation of fluoroarenes. **T. NIWA***, H. Ochiai, Y. Watanabe, T. Hosoya
11:35 – 1359. Monofluorinated building blocks: New synthetic approaches. **S. Fustero***

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 2

Organic Solid-State Chemistry: Structure, Property & Reactivity (#398)

Organized by: M. Sakamoto, L. MacGillivray, J. Vittal
Presiding: M. Sakamoto, R. Tamura

8:00 – 1360. Hierarchical construction of multistructural porous organic salts (POSs) through different networks of supramolecular clusters. **T. Miyano**, A. YAMAMOTO, I. HISAKI, M. MIYATA, N. TOHNAI*
8:20 – 1361. Design of triple vapochromic organic crystals of quinolone antibiotics. **A. Sakon***, A. Sekine, H. Uekusa
8:40 – 1362. Synthesis of chemically-modified 3-tert-butyl benzotriazinyl radicals and their magneto-structural correlation. **Y. Takahashi**, Y. Miura, N. Yoshioka*
9:00 – 1363. Morphological control of organic semiconductor crystals by surface design and matrix rheology. **S. Okada**, M. Oiki, S. Furukawa, H. Tanaka, K. Harano, E. Nakamura*
9:20 – 1364. Controlled cycloaddtion reaction mediated by noncovalent interaction. **Y. Ma**, X. Meng
9:40 – 1365. Crystallisation, melt racemisation, and polymorphic transformation of pyroglutamic acid. **H. Wu***, A.R. West
10:00 break
10:10 – 1366. Thermally responsive crystal of cyclic amphiphiic molecule including monodisperse oligoethylene glycol units. **K. Kinbara***, T. Shima, T. Muraoka, N. Hoshino, T. Akutagawa, Y. Kobayashi
10:30 – 1367. Solution and solid-state reactions of the larger acenes. **J. Anthony**, A. Petty
11:00 – 1368. Synchrotron studies of self-compression in channel inclusion compounds. **M.D. Hollingsworth***, B. Wang, I. Frantsuzov, S. Nichols, P. Rabiller, C. Mariette, L. Guérin, B. Toudic
11:30 – 1369. Chemical complexity phenomena observed in chiral crystalline and liquid-cryustalline phases. **R. Tamura**

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 3 & 4

New Organosulfur Chemistry (#436)

Organized by: E. Block, E. Juaristi, A. Schwan, X. Jiang, C. Lee
Presiding: E. Block, E. Juaristi

8:00 Introductory Remarks by Eric Block
8:05 – 1370. Synthesis and stereochemistry from sulfenic acid anions. **A.L. Schwan***, S.C. Söderman, M.R. Kulak, E. Remigio
8:35 – 1371. Sulfenic acids, selenenic acids, and hydropersulfides: Potent redox mediators or just neat molecules?. **D. Pratt**
9:05 – 1372. New modes of sulfur reactivity for organic synthesis, biochemistry, and polymer science. **J.M. Chalker***, G.A. Edwards, G.H. Jones, M.P. Crockett, A.M. Evans, M. Tierney
9:35 – 1373. Synthesis, structure, and reactivity of a primary-alkyl-substituted sulfenic acid and its anion. **K. Goto***, M. Ishihara, N. Abe, S. Sase
10:00 Break
10:10 – 1374. Formations of organosulfur compounds in disrupted tissue of LFS-suppressed onion and their bioactivities. **T. Kamoi**, M. Aoyagi, M. Kato, S. Imai
10:40 – 1375. Odorless synthesis of bioactive sulfur-containing molecules. **T. Wirth***
11:05 – 1376. Characterization and synthesis of novel ring-substituted thiolanes from extracts of crushed garlic (*Allium sativum*). **B. Dethier***, E. Block
11:30 – 1377. Solvent-dependent self-assembly of *S*-substituted cysteines. **R.A. Musah***, T. He

Thursday Afternoon

Hilton Hawaiian Village
Mid-Pacific Center, Coral 5

Designed pi-Electronic Systems: Synthesis, Properties, Theory and Function (#25)

Organized by: T. Kubo, Y. Tobe, M. Haley, G. Bodwell, K. Wong
Presiding: T. Kubo

13:00 – 1378. Supramolecular functionalization of nanocarbons with electroactive π-conjugated non-planar recognition motives. **N. Martín**
13:40 – 1379. Tetrathiafulvalene vinylogues as versatile building blocks: From small molecular systems to nanomaterials. **Y. Zhao***
14:05 – 1380. Expanded indeno-fused carbocyclic and heterocyclic quinoidal scaffolds: Syntheses, structures, and properties. **M.M. Haley**
14:30 – 1381. Straightforward synthesis of highly twisted porphyrin oligomers. **S. Hiroto**, S. Ito, H. Shinokubo
14:45 – 1382. Cyclopenta: Fused acenes and quinoidal heteroacenes. **C. Chi***
15:00 – 1383. Defining the structure, properties, and reactivity of [*n*]cumulenes. **R.R. Tykwinski**
15:40 – 1384. Construction of chiral structures from anthracene units and acetylene linkers. **S. Toyota***, T. Iwanaga
16:05 – 1385. Open-shell π-conjugated molecular systems for nonlinear optics. **M. NAKANO***, R. Kishi, K. Yoneda, K. Fukuda, B. Champagne
16:30 – 1386. Synthesis of novel acenequinones and investigation of their self-assembly. **K. Maly***, J.A. Paquette, R.E. Yardley, E. Cieplechowicz, M. Halloran
16:45 – 1387. Dithienothiazines as novel heterocyclic donors – phenothiazine congeners enriched in electron density. **T.J. Müller***

Hilton Hawaiian Village
Kalia Tower, Lehua Suite

Chemistry of Nanocarbons: Fullerenes, Carbon Nanotubes, Nanographenes and Related Materials (#41)

Organized by: T. Akasaka, F. Wudl, L. Echegoyen, X. Lu, C. Wang
Presiding: H.C. Dorn, D.M. Guldi

13:00 – 1388. Growing carbon nanotubes from synthetic organic end-caps. **L.T. Scott***
13:40 – 1389. Open-cage fullerenes toward endofullerenes and heterofullerenes. **Y. Murata***
14:10 – 1390. Synthesis of polybenzoquinolines as graphene nanoribbon precursors. **Y. Park**, D.J. Dibble, A. Mazaheripour, M.J. Umerani, A.A. Gorodetsky
14:25 – 1391. One-shot K-region selective annulative π-extention of polycyclic aromatic hydrocarbons for nanographene synthesis. **H. Ito**, K. Ozaki, M. Shibata, K. Kawasumi, K. Itami*
14:40 – 1392. Organic functionalization of lithium-ion-containing fullerenes. **Y. Matsuo***
15:00 – 1393. Decorating nanocarbons with optoelectronic systems. **Á. Sastre-Santos***
15:20 – 1394. Electron mobility of zero, 1- and 2D nanocarbons in their bulk states/interfaces. **S. Seki**
15:50 – 1395. Recent structural results reveal shape-compatible cocrystallization agents for tubular-shaped fullerenes. **M.M. Olmstead***, A.L. Balch, K. Ghiassi
16:20 – 1396. Effect of covalent bond formation on the electronic structure, magnetism, and properties of graphene and carbon nanotubes. **R.C. Haddon**

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 3

Natural Product-based Drug Discovery (#66)

Organized by: B. Baker, R. Kerr, Y. Qin, D. Uemura, B. Littlefield
Presiding: H. OSADA, J. Qi

13:00 – 1397. Biosynthesis study aiming at creation of an anti-osteoclast drug. **H. OSADA***, T. Nogawa, S. Takahashi
13:40 – 1398. Design and synthesis of novel ligands of opioid receptors. **H. Nagase***
14:10 – 1399. Discovery of natural products with activities against the subtypes of triple negative breast cancer. **S.L. Mooberry***
14:40 – 1400. Small molecule derived from natural products for treatment of age-related diseases. **J. Qi**, R. Tang, Y. Luo, K. Sun, L. Xiang
15:10 – 1401. Biological activity of biselyngbyasides, macrolides from marine cyanobacteria. **K. Suenaga**

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15:30 – 1402. Drug discovery targeting the ubiquitin-proteasome system from marine organisms. **S. Tsukamoto***
15:50 – 1403. Development of natural product-like library by using diversity-enhanced extracts. **H. Kikuchi***, Y. Oshima
16:00 – 1404. Bioactive and novel metabolites from marine and terrestrial Malaysian fungi. **M.R. Prinsep***, G. Tait, C. Linderboom, F. Lim, S. Lim, K. Ramasamy, A. Cole
16:10 – 1405. Glycolipopeptide possessing a branched lipid unit as a TLR2 ligand. H. Koinuma, H. Sugiyama, H. Kiyohara, M. Sunagawa, **H. Tanaka**
16:20 – 1406. Comparison of vanadium dependent bromoperoxidases from three species of the red algal genus *Laurencia*. K. Kaneko, K. Washio, D. Kobayashi, T. Ishikawa, T. Umezawa, F. Matsuda, K. Nishikawa, Y. Morimoto, M. MORIKAWA, **T. Okino***
16:30 – 1407. New cytotoxins from sponges of deeper coral reefs and a marine microorganism. **J. Tanaka**, P. Ahmadi, T. Wauke, A. Agena
16:40 – 1408. Anti-aging substance from nature products and their mechanism of action. **L. Xiang***, K. Sun*, Y. Weng*, Y. Lin, Y. Sun*, J. Qi*
16:50 – 1409. General, practical, and diversifiable synthetic route to new macrolide antibiotics. **Z. Zhang**, I. Seiple, P. Wright, A. Langlois, K. Yabu, M. Condakes, D. Hog, P. Jakubec

Hilton Hawaiian Village
Tapa Tower, Iolani Suite 1 & 2

Molecular Containers (#99)

Organized by: S. Mitsuhiko, L. Isaacs, H. Yang
Presiding: H. Ube, Z.R. Wang

13:00 – 1410. Learning what knot to do. **D. Leigh***
13:30 – 1411. Functional materials from self-assembling *bis*-urea macrocycles. S.R. Salpage, A.A. Korous, **L.S. Shimizu**
13:55 – 1412. Pillar[n]arene-based supramolecular assemblies for gas storage and porous carbon fibers. **T. Ogoshi***, K. Yoshikoshi, R. Sueto, T. Yamagishi
14:20 – 1413. Functionalized self-assembled cages: Stereocontrol and reactivity. **R. Hooley**
14:45 coffee break
14:55 – 1414. From heteracalixaromatics to corona[n]arenes. **M. Wang***
15:25 – 1415. Functional container molecules through subcomponent self-assembly. **J.R. Nitschke**
15:55 – 1416. Polyaromatic micelles with wide-ranging host capability in water. **M. Yoshizawa***
16:20 – 1417. Mutual induced fit in artificial molecular systems: Creation of host-in-host structures. **T. Sawada**, H. Hisada, S. Wang, M. Fujita*
16:40 – 1418. Rotaxane dendrimers with mechanically interlocked moieties on branches. **H. Yang**

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 1

Organoboron Chemistry: Applications in Organic Synthesis, Biology, and Materials (#100)

Organized by: D. Hall, B. Wang, P. Duggan, M. Suginome
Presiding: M. Suginome

13:00 – 1419. Catalysis based on reversible covalent interactions of organoboron compounds. **M.S. Taylor***
13:30 – 1420. Boron compounds for determining the enantiomeric excess of chiral analytes and as sensors for detecting fluoride, hydroxy radicals, and peroxynitrite in water. **S.D. Bull**
13:50 – 1421. Benzoxaboroles for membrane separation. **E.V. Lampard***, T.D. James, S.D. Bull, D. Patterson
14:10 – 1422. Developing the phosphinoboration reaction. S.J. Geier, C.M. Vogels, S. Doherty, **S. Westcott***
14:40 – 1423. Hydroxymethylboronic acid and its anhydride-ester dimer. **D.S. Matteson***
15:00 Break
15:10 – 1424. Basic science of azaborines and the progress toward their applications in medicinal chemistry. **S. Liu***
15:40 – 1425. Amino-boro-naphthalenes: From satisfaction to frustration. **E. GRAS***, D.C. Pla Queral, B. Mestre
16:00 – 1426. Development of a novel class of hybrid materials involving boronates and benzoxaborolates. **D. Laurencin***, S. Sene, M. Pizzoccaro, S. Bégu, D. Berthomieu, C. Gervais
16:20 – 1427. Chemistry of boron-doped nanographenes. **S. Yamaguchi***

Hilton Hawaiian Village
Rainbow Tower, Rainbow 1

Electrochemical Reactions and Mechanisms in Organic Chemistry (#104)

Organized by: K. Chiba, S. Suga, K. Moeller, C. Frontana
Presiding: C.E. Frontana, D. Little, S. Suga

13:00 – 1428. Competition studies, cyclic voltammetry, and the use of mechanistic insights to guide the design of new radical cation reactions. R. Perkins, L. Gonzalez, M. Graaf, R. Feng, **K.D. Moeller**
13:15 – 1429. Recent advances in the construction and use of functionalized microelectrode arrays. M. Graaf, S. Uppal, D. Rensing, B. Nguyen, **K.D. Moeller***
13:30 – 1430. Biradical chemistry with electrode: Biradical formation from peroxy radical cation and its reactions. **R. Akaba***
13:45 – 1431. Bipolar electrochemistry for fabricating gradient polymer bushes. **S. Inagi***, N. Shida, Y. Koizumi, H. Nishiyama, I. Tomita
14:00 – 1432. Molecular design and synthesis of D-π-A dye sensitizers with pyridyl group for high-performance dye-sensitized solar cells. **Y. Ooyama***
14:15 Break
14:30 – 1433. Reactions of electrochemically generated β-haloalkoxysulfonium ions. **R. Hayashi**, Y. Ashikari, T. Nokami, A. Shimizu, J. Yoshida*
14:45 – 1434. Reductive acylation and trifluoroacetylation of aromatic conjugated ynones by electron transfer from magnesium. **T. ZHANG***, Y. NISHIYAMA, H. MAEKAWA
15:00 – 1435. Transformation of regioregular organotitanium polymers into π-conjugated polymers containing Group 16 elements. **N. Hiroki**, S. Inagi, I. Tomita
15:15 – 1436. Synthesis of fluorinated tetrahydropyrans via Prins cyclization of aldehydes and homoallylic alcohols using electrochemical oxidation. **K. Matsumoto***, K. Yamaguchi, K. Miyasaka, F. Haga, T. Nokami, K. Nishiwaki, S. Kashimura
15:30 Break
15:45 – 1437. Advances in anodic C,C-cross-coupling reactions of phenols and arenes. **A. Wiebe***, S.R. Waldvogel, R. Franke, K.M. Dyballa
16:00 – 1438. Stability and reactivity of thiirenium ions generated by electrochemical oxidation. **S. Horiuchi**, R. Hayashi, A. Shimizu, J. Yoshida*
16:15 – 1439. Direct observation and reactivity of thionium ions generated by using the indirect cation pool method. **A. Shimizu**, K. Takeda, K. Saito, S. Kim, T. Nokami, J. Yoshida*
16:30 – 1440. Catalytic activity of electrochemically generated organo-dications. **S. Suga***, I. Fujiwara, Y. Kurihara, Y. Onishi, K. Mitsudo

Hilton Hawaiian Village
Mid-Pacific Center, Coral 4

Recent Trends in Organocatalysis (#122)

Organized by: M. Terada, M. Shi, J. Antilla, K. Maruoka
Presiding: K. Maruoka, M. Shi, M.P. Sibi, W. Wang

13:00 – 1441. Recent advances in organocatalytic bromination reactions. **Y. Yeung***
13:30 – 1442. Zwitterion directed regio- and enantioselective cyclizations. **M. Shi***
14:00 – 1443. Enantioselective synthesis of chiral biaryls by means of chiral phosphoric acid. **T. Akiyama**
14:30 – 1444. Cooperativity in catalysis: A novel method for enantioselective transformations with complex substrates. **M.P. Sibi***, H. Subramanian, R. Moorthy
15:00 – 1445. Hetero-Michael addition to α,β-unsaturated carboxylic acids. **Y. Takemoto**
15:30 – 1446. Anilines-mediated organocatalytic reactions. C. Yu*, H. Huang*, X. Li, **W. Wang***
16:00 – 1447. Chiral nucleophilic carbenes for use in organic synthesis: From acyl anion chemistry to internal redox catalysis and beyond. **T. Rovis***
16:30 – 1448. Design of new organoradical catalysts for selective C-H activation and asymmetric cyclization. **K. Maruoka***

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

The Science and Strategy of Pharmaceutical Process Chemistry: Adapting to Global Regulatory Development Guidance on Process Impurities (#242)

Organized by: H. Okuda, T. Watson, G. CHAE
Presiding: F. Montgomery

13:00 Introduction
13:05 – 1449. Challenges in the development of naloxegol: Controlling quality through a 5 stage telescope. **G. Ford***
13:30 – 1450. Use of contextually accurate impurities in spike-challenge studies with proteomics analytics to inform process control strategy, validation, and design space. **R.A. Hart***
13:55 – 1451. Process understanding and its role in a comprehensive control strategy: A case study. **J. Lepore***
14:20 – 1452. Use of ICH Q11 principles in selection of starting materials. **F. Montgomery***
14:45 Questions and Answers
14:55 Break for Coffee
15:10 – 1453. Real time monitoring of quality attributes in mammalian bioprocesses. **C. Wu***
15:35 – 1454. Characterization and development of particles using Raman and FBRM technology in manufacturing. **C. Orihuela**
16:00 – 1455. Fluorometric and colorimetric methods for quantifying palladium in pharmaceuticals. **K. Koide***, M. Tracey, X. Bu, J. Jo, M. Williams, C. Welch*
16:25 – 1456. Novel method of detecting very low levels of polymorphs and other solid forms using high resolution X-ray powder diffraction (XRPD) with a synchrotron light source which allows the detection and quantification of contaminants (of different solid state forms). **L. Cotarca***
16:50 Questions and Answer Session

Hilton Hawaiian Village
Kalia Tower, Hibiscus 2

Molecular Self-Assembly and Functional Organic Nanostructures (#263)

Organized by: J. Parquette, M. Lee, J. Badjic, F. Huang
Presiding: J. Parquette

13:00 Introductory Remarks
13:10 – 1457. Supramolecular design of self-delivering drugs and imaging agents. **H. Cui***
13:40 – 1458. Stimuli-responsive metal–organic frameworks. **S. Saha***
14:10 – 1459. Self-assembly of highly-crystalline and stable nanosheets from peptide-mimetics. **C. Chen***, Y. Chen, H. Jin, f. Jiao, M. Daily
14:40 – 1460. Aromatic gain as a driving force for supramolecular polymerization. **R. Kieltyka***
15:10 Coffee Break
15:25 – 1461. Polar self-assembled molecular materials. **D. Gonzalez Rodriguez***, J. Guilleme, T. Torres, M. Mayoral
15:55 – 1462. Self-assembly of tripodal triptycenes into a highly ordered "2D + 1D" structure. **N. Seiki**, Y. Shoji, T. Kajitani, F. Ishiwari, T. Fukushima*
16:25 – 1463. Fabrication of asymmetric constructions via predesigned chiral mediums . Y. Zhang, **J. LIU***

Hilton Hawaiian Village
Rainbow Tower, Rainbow 3

Molecular Probes and Fluorophores for Biological Imaging (#280)

Organized by: C. Fahrni, C. Cairo, C. Yip, Y. Hori
Presiding: C. Fahrni

13:00 Opening Remarks
13:05 – 1464. Hip to be square: Building better fluorophores with azetidine. **L.D. Lavis***
13:35 – 1465. Development of luminescent transition metal complexes as bioimaging and cellular reagents. **K. Lo***
14:05 – 1466. Development of protein-labeling probes with fluorogenic switches for imaging cellular events. **Y. Hori***
14:35 – 1467. Fluorescent monitoring of siRNA by modification with dye pairs in cell. **Y. Kamiya**, A. Ito, H. Kashida, H. Asanuma
14:55 Session Break
15:10 – 1468. Tailoring chromophore dark states for improved fluorescence microscopy. **R. Dickson**
15:40 – 1469. Super-resolution fluorescence imaging by *d*STORM. **M. Sauer***
16:10 – 1470. Super-resolution imaging in cells using single molecules places new requirements on fluorophore labels. **W. Moerner***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 2

Fluorinations and Fluoroalkylations (#310)

Organized by: S. Prakash, T. Ritter, K. Mikami, S. Fustero, J. Hu
Presiding: J. Hu

13:00 – 1471. New frontier in fluorine chemistry. **K. Mikami***
13:25 – 1472. Difunctionalization-type trifluoromethylation of alkenes. **M. Sodeoka***
13:50 – 1473. Ingenious eecarboxylative route to organofluorine compounds. **H. Amii**

*** Principle Author**

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14:15 – 1474. Copper catalyzed methane and primary C-H bonds functionalization: The role of fluorine in the $Tp^{(CF3)2,Br}$ ligand. A. Olmos, B. Noverges, R. Gava, D. Bellezza, T. Varea, A. Caballero, P. Perez*, **G. Asensio***
14:40 – 1475. Transformation of tetrafluoroethylene via transition metal intermediates. **S. Ogoshi***
15:05 Break
15:15 – 1476. Stereochemically defined C-F fluorine as a new probe of protein-ligand binding sites and enzyme mechanisms. **C.E. McKenna***
15:40 – 1477. $SF_5(CF_2)_n$-containing reagents for synthesis of new fluorinated building blocks. **G. Haufe***, P. Dudzinski, A.V. Matsnev, J.S. Thrasher
16:05 – 1478. Preparation and reactions of trifluoromethyl-λ^6-tetrafluorosulfanes. **J.T. Welch***, L. Zhong, C.N. von Hahmann, K.A. Gordon
16:30 – 1479. New developments to introduce the difluoromethylene phosphonate fragment. **G. Roeschenthaler***
16:55 Closing Remarks

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 2

Organic Solid-State Chemistry: Structure, Property & Reactivity (#398)

Organized by: M. Sakamoto, L. MacGillivray, J. Vittal
Presiding: M.D. Hollingsworth, S. Kohmoto

13:00 break
13:10 – 1480. Thiosemicarbazones: The potential candidates for crystal engineering applications. **M.M. Naseer***
13:30 – 1481. Anion networks (evt. chiral) based on halogen bonding interactions. **M. Fourmigue**, J. Lieffrig, O. Jeannin
13:50 – 1482. Reaction kinetics in photomechanical molecular crystals. **C. Bardeen***, M. Hanson, R. Al-Kaysi, f. tong, l. zhu, t. kim
14:20 – 1483. Size-dependent mechanical properties of organic cocrystals. **A.V. Tivanski**
14:50 break
15:00 – 1484. Hierarchical construction of diamond porous organic salts (*d*-POS) and their versatile functions. **N. TOHNAI***, A. YAMAMOTO, I. HISAKI, M. MIYATA
15:30 – 1485. Color-tunable solid-state emission of multicomponent crystals by cooperative electron donor-acceptor complexation. **T. Ono***, Y. Hisaeda
16:00 – 1486. Gases transform organic solids from one crystal form to another. **J.L. Atwood***, S.J. Dalgarno, P. Thallapally
16:30 – 1487. Solid state photo polymerization via [2+2] cycloron reaction. **J.J. VITTAL**, I. Park, S. Lee

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 3 & 4

New Organosulfur Chemistry (#436)

Organized by: E. Block, E. Juaristi, A. Schwan, X. Jiang, C. Lee
Presiding: C. Lee, A.L. Schwan

13:00 – 1488. Electrogeneration, characterization, and reactions of cationic organosulfur intermediates in organic synthesis. **J. Yoshida***
13:30 – 1489. Electron transfer through alternating S-π chains: A biological molecular wire?. **R. Glass***, N. Monney, T. Yamamoto, T. Bally*
14:00 – 1490. Influence of heavier group 14 elements on [FeFe] dithiolate hydrogenase model complexes. **W. Weigand***
14:30 – 1491. Rhodium-catalyzed synthesis of organosulfur compounds. **M. Arisawa***
15:00 Break
15:10 – 1492. Changes in properties of sulfur containing microbial chelator by nanoconfinement. P. Chatterjee*, I. Sanchez-Lombardo, **D.C. Crans***
15:30 – 1493. Topochemical polymerization of S_2N_2 to $(SN)_x$ and the quest towars selenium-containing analogs of chalcogen nitride polymer. O.J. Pakkanen, T.T. Takaluoma, J.M. Rautiainen, **R.S. Laitinen***
15:50 – 1494. Polyimido sulfur scorpionates in metal coordination. **D. Stalke***
16:10 – 1495. Versatility of thiocarbonyl compounds in the synthesis of chiral sulfur heterocyles. **M. Gulea***
16:35 – 1496. Thioamides for new reactions and new fluorescent molecules. **T. Murai***

Thursday Evening

Hawaii Convention Center
Halls I, II, III

Reactive Intermediates and Unusual Molecules (#7)

Organized by: R. Sheridan, M. Abe, W. Leigh

Poster Session
19:00 – 21:00

1497. Synthetic challenges and characterization during the realization of polyyne metalloporphyrin complexes consisting of axial binding . **V. Walter**, N. Grzegorzek, N. Jux, F. Hampel, R.R. Tykwinski*
1498. Photochemical generation of 4,4-dialkoxy- 1,2-diazacyclopentane- 3,5-diyls and their reactivity. **S. Yoshidomi**, M. Abe
1499. Reaction of alkoxy radicals with pyridine bases yields pyridinyl radicals that chain amplify photochemical fragmentation of *N* alkoxypyridinium salts. **D. Shukla***, S. Farid, J.P. Dinnocenzo
1500. Excited state C–C bond cleavage–luminescence phenomenon of diarylmethylenecyclopropanes. **Y. Matsui**, T. Kido, E. Ohta, H. Ikeda
1501. Stannyl lithium: Facile preparation leading to further synthetic applications. **D. WANG**, C. WANG, M. Uchiyama
1502. Hypervalent sulfur compound in protein reaction. **T. Nakamura***, M. Abe, T. Inoue
1503. Substituent effect on the ground state spin-multiplicity and molecular structure in cyclobutan-1,3-diylidene dicarbenes: Formation of the bicyclo[1.1.0]but-1(3)-ene structure. **Y. Fujita***, M. Abe, T. Suzuki, Y. Shiota, K. Yoshizawa
1504. Stretch effect induced by planar skeleton in a macrocyclic system on the chemistry of diradicals. **K. Onishi***, M. Abe, S. Hatano
1505. Development of cross-coupling reaction between enol derivatives and silyl ketene acetals catalyzed by gallium trihalides. Y. Nishimoto*, **Y. Kita**, M. Yasuda, A. Baba
1506. Hypervalent diaryl-λ^3-bromane-mediated iodine/triflate exchange of iodoalkanes: Direct arylation of iodoalkanes with diaryl(triflato)-λ^3-bromane. **R. Kawasumi***, K. Miyamoto, Y. Masumoto, M. Uchiyama
1507. 1,1-Dichloro-2-nitroethene: A reactive intermediate for heterocycle construction and nitroacetylization of amines. **X. Shao**
1508. Silicon analog of the smallest bridgehead alkene. **N. Akasaka***, S. Ishida, T. Iwamoto
1509. Generation of arynes and cycloalkynes via a sulfoxide–magnesium exchange reaction of readily synthesized precursors. **S. Yoshida**, K. Uchida, F. Karaki, T. Hosoya*
1510. Mechanistic study on direct aryl transfer of diaryliodane(III) with aryl iodide. **Y. Masumoto***, T. Iuchi, M. Ochiai, K. Miyamoto, M. Uchiyama
1511. Fate of NHC-stabilized dicarbon. **D.C. Georgiou**, J.L. Dutton*
1512. Quinoidal heteroacenes with bipolar character. **X. Shi**, C. Chi*
1513. Synthesis of organobismuth compounds by carbobismuthination of alkynes and alkenes using bismuth trihalides and ketene silyl acetals. **Y. Nishimoto**, M. Takeuchi, M. Yasuda, A. Baba*
1514. Development of a fast spin-state switching system triggered by photolysis. **C. Shimokawa**, S. Hatano, M. Abe
1515. Transition metal-free regioselective α–C–H amination of ethers at ambient temperature: Radical-induced amination using (diacetoxyiodo)benzene–sulfonamide. **J. Yamashita***, K. Miyamoto, M. Uchiyama
1516. Iodoarene-catalyzed Hofmann rearrangement of primary amides. **Y. Sakai***, K. Miyamoto, S. Goda, J. Yamashita, M. Ochiai, M. Uchiyama
1517. Triboluminescence and functional properties of trifluoromethylphenyl substituted phthalimide derivatives. **J. Nishida***
1518. Structure and chemistry of multiply-charged fluorenyl cations. A. Sumita, Y. Otani, T. Ohwada, K. Giuffre, K. Boblak, M. Gasonoo, **D.A. Klumpp**
1519. Efficient generation method and remarkable reactivities of 3-triflyloxyaryne. **K. Uchida**, S. Yoshida, K. Igawa, K. Tomooka, T. Hosoya*
1520. Unexpected formation of a phenonium ion-containing salt in SET reaction of a cage compound. **Y. Kuramoto**, Y. Matsui, E. Ohta, H. Ikeda*
1521. Reaction mechanism and solvent effect in diastereoselective hydride reduction of α-substituted propiophenones. **D. Kaneno**, H. Saigo
1522. Regio- and stereoselective carboindation of ynol ethers using indium tribromide and silyl enolates. **K. Kang**, Y. Nishimoto, M. Yasuda*
1523. Chemistry of tetra-, penta-, and hexacationic systems. **M. Gasonoo**, R. Naredla, D.A. Klumpp*
1524. Palladium catalyzed cross coupling reactions with verdazyl free radicals. **D.J. Brook**, **T. Le**, **T. Hom**, M. Tran, J. Chou
1525. Mechanism of 4-substituted pyrazolones from morita-baylis-hillman adducts elucidated by ESI-MS monitoring. **B.V. Ferreira**, R.C. Barcelos, L.A. Zeoly, M.T. Rodrigues Jr, M.N. Eberlin*, F. Coelho*
1526. Barrier to phenyl rotation in fluorinated *cis*-azobenzene. **W. Brittain***, P. Rinaldi, A. Rogers, S. Rastogi

Hilton Hawaiian Village
Kalia Tower, Lehua Suite

Chemistry of Nanocarbons: Fullerenes, Carbon Nanotubes, Nanographenes and Related Materials (#41)

Organized by: T. Akasaka, F. Wudl, L. Echegoyen, X. Lu, C. Wang
Presiding: L. Echegoyen

19:00 – 1527. Phthalocyanine- and subphthalocyanine-containing carbon nanoestructures. **T. Torres***, O. Trukhina, M. Ragoussi, M. Medel, G. Lavarda, M. Revuelta, L. Mateo, D. Medina, B. Kuhn, G. de la Torre, G. Bottari
19:30 – 1528. Fabrication and photoproperty of coaxial nanowires having carbon nanotube core. **Y. Takaguchi***
19:50 – 1529. Methane as a reactive gas in the synthesis of endohedral metallofullerenes. K. Junghans, **A. Popov***
20:10 – 1530. Synthesis and properties of substituted sumanenes. **H. Sakurai**
20:30 – 1531. Tumor-targeting diagnosis/therapy multifuntional gadofullerene materials based on $Gd@C_{82}$. **C. Wang***, C. Shu

Hawaii Convention Center
Halls I, II, III

Electrochemical Reactions and Mechanisms in Organic Chemistry (#104)

Organized by: K. Chiba, S. Suga, K. Moeller, C. Frontana

Poster Session
19:00 – 21:00

1532. Electrochemical hydrogenation of toluene and *o*-xylene using a PEM reactor. **K. Takano**, T. Kashiwagi, K. Nakabayashi, S. Mitsushima, M. Atobe
1533. Synthesis of polyaniline-poly(methyl methacrylate) core-shell nanocomposites and their application to novel electro-responsive structural colored materials. **T. Kuno**, K. Nakabayashi, M. Atobe
1534. Stereoselective synthesis of piperidine derivatives using the indirect cation pool method. **J. Yamamoto**, T. Akagi, M. Haisa, K. Mitsudo, S. Suga*
1535. Iridium-catalyzed dehydrogenative cyclization leading to dithienosilole derivatives and their electrochemical properties. **R. Isobuchi**, K. Mitsudo*, S. Suga*
1536. Dye-sensitized solar cells based on ellipsoid titanium dioxide nanoparticles. **A. Seki**, Y. Shimoyama, T. Kikuchi, K. Tomita, Y. Kunugi
1537. New water-soluble NIR luciferin analog for in vivo imaging. **S. Higashi***, R. Saito, M. Kiyama, S. Iwano, N. Kitada, T. Hirano, H. Niwa, S. Maki
1538. Unique cyclization–aromatization reactions of bis(dithienylethenyl)thiophene derivatives promoted by photoinduced electron transfer. **A. Yamamoto**, T. Ogaki, E. Ohta, Y. Matsui, K. Mizuno, H. Ikeda*
1539. Ionic liquid tags for electrochemical glycosylation. **N. Sasaki**, Y. Isoda, Y. Fukaya, T. Nokami*, T. Itoh*
1540. Anodic approach toward intermolecular carbon-carbon bond formations in lithium perchlorate/nitromethane electrolyte solution. **Y. Okada**, K. Chiba*

Hilton Hawaiian Village
Mid-Pacific Center, Coral 4

Recent Trends in Organocatalysis (#122)

Organized by: M. Terada, M. Shi, J. Antilla, K. Maruoka
Presiding: T. Akiyama, K. Nagasawa

19:00 – 1541. Transition-state stabilization through multiple attractive non-covalent interactions in organocatalysis: A computational study. **M. Yamanaka**
19:20 – 1542. Activation of the leaving group in the chiral phosphoric acid-catalyzed intramolecular asymmetric S_N2' reaction. **K. Yamada***
19:40 – 1543. Enantioselective phase transfer catalysis using pentanidiums. **C. Tan**
20:00 – 1544. Boron tribromide-assisted chiral phosphoric acid catalysts for highly enantioselective Diels–Alder reaction of 1,2-dihydropyridines. **M. Hatano**, Y. Goto, K. Ishihara*
20:20 – 1545. Asymmetric halofunctionalization of olefins with novel bifunctional organocatalysts. **Y. Hamashima**

*** Principle Author**

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Hawaii Convention Center
Halls I, II, III

The Science and Strategy of Pharmaceutical Process Chemistry: Adapting to Global Regulatory Development Guidance on Process Impurities (#242)

Organized by: H. Okuda, T. Watson, G. CHAE

Poster Session
19:00 – 21:00

1546. Verifying dehydration of hydrolysis compound of thalidomide. **K. Otogawa**, Y. Ogino, K. Ishikawa, T. SHIMOZAWA, M. Tanaka, H. Koshima, M. Shiro, T. ASAHI*

Hawaii Convention Center
Halls I, II, III

Molecular Self-Assembly and Functional Organic Nanostructures (#263)

Organized by: J. Parquette, M. Lee, J. Badjic, F. Huang

Poster Session
19:00 – 21:00

1547. Accumulation control of polyaromatic molecules through incorporation into single-walled bilayer membrane nanotubes. **Y. Okazaki**, R. Sakaguchi, M. Takafuji, H. Ihara*
1548. Towards electronic communication in redox-active nanotubes. **J.J. Henkelis**, J. Stoddart*
1549. Preparation of water-soluble porphyrin derivatives carrying oligoethylene glycol chains and self-assembly behaviors in water. **T. Tateyama**, S. Karasawa*, N. Koga*
1550. Entropically dominated rotaxanes from rigid pyrene macrocycles. **A. Prokofjevs**, J. Stoddart
1551. Synthesis of rigid triangular molecular prisms. **I. Popovs**, J. Stoddart*
1552. Novel approach to prepare long-range crystalline ultrathin films for organic electronics. **R.H. Fink***, N. Zeilmann, X. Du, S. Pechmann
1553. Conformational dynamics and self-assembly of folded discotic mesogens. **V.E. Williams***
1554. Catalysis of the inversion of bowl-shaped aromatics within cationic receptors. **E.J. Dale***, N.A. Vermeulen, I.C. Gibbs-Hall, K.K. Baldridge, J. Siegel, J. Stoddart
1555. Ruthenium complex-bound amino acid-catalyzed oxidation of methoxyarenes. **R. Yoshida***, K. Isozaki, Y. Yokoi, H.R. Takaya, M. Nakamura
1556. Chemical conversions of hexadecyl self-assembled monolayers based on vacuum ultraviolet irradiations in an atmospheric condition. **A.I. Soliman***, T. Utsunomiya, T. Ichii, H. Sugimura
1557. Concerted pericyclic thermally controlled reactions as a route to design surface-confined functional polymers. **B. Cirera**, G. Nelson, J. Björk, F. Peña, A. Martín-Jiménez, J. Rodríguez-Fernández, A. Pizarro, R. Otero, J. Gallego, R. Miranda, P. Ballester, J. Galan-Mascaros, D. ECIJA
1558. Formation of a 2D C_{60} sheet directed by a tripodal triptycene scaffold. **F. Leung**, F. Ishiwari, T. Kajitani, Y. Shoji, A. Saeki, S. Seki, T. Fukushima*
1559. Effect of the substituted groups at the terminal position of the fluorine-based organic gelators. **Y. Kaneshige**, Y. MORITA, H. OKAMOTO
1560. Characterization of phospholipid vesicles prepared in CO_2/H_2O system at high pressure. K. Suga, **S. Taguchi**, K. Hayashi, Y. Okamoto, H. Nakamura, H. Umakoshi*
1561. Optical properties of supramolecular gel functionalized by rhenium complexes. **A. Kamo**, Y. Kuwahara*, M. Takafuji, H. Ihara*
1562. Synthesis and phase behavior of nucleobase-containing block copolymers . **E. Kim**, J. Kim*
1563. Preparation of urenylary derivatives carrying one and two amphiphilic chains and their self-assembly behaviors in water. **Y. Okamoto**, E. Ohashi, S. Karasawa*, N. Koga*
1564. Synthesis and gelation ability of 4-perfluoroalkylbutoxybenzene derivatives. **B. Cao**, Y. MATSUE, Y. MORITA, H. OKAMOTO
1565. Mannitol-based amphiphiles (MNAs) for membane protein structural study. **H. Hussain***, P. Chae
1566. Novel and accessible xylene-linked maltoside amphiphiles (XMAs) for membrane protein manipulation. **K. Cho**, P. Chae
1567. Radical templated catenation. **I.C. Gibbs-Hall**, J. Stoddart*
1568. Solid-state polymerization and physical properties of butadiyne derivatives with gelation ability. **K. Kikuchi**, Y. Tatewaki, S. Okada*
1569. Preparation of artificial monosaccharide with benzyl group modified cyclodextrins. **S. Iida**, S. Fujiwara, K. Takahashi
1570. Cascading effect of copper in click reaction between radical species. **Y. Wang**, J. Sun, Z. Liu, J. Stoddart*
1571. Interaction between hesperidine and various cyclicoligoglucoside in aqueous solution. **A. Hosaka**, K. Ozawa, K. Takahashi
1572. Water-soluble hydrogen-bonded supramolecular assemblies of perylene bisimide. **I. Fukuda**, S. Yagai
1573. Influence of alkali metal ions on aggregation behavior of crown-ether surfactants. **M. Suzuki**
1574. Preparation of amylose-polypeptide inclusion complexes by vine-twining polymerization. **R. Gotanda**, K. Yamamoto, J. Kadokawa*
1575. Design and synthesis of an effective-volume controllable molecule by redox reaction to trigger the macroscopic motion of self-assembly. **Y. Kurokome**, Y. Kageyama, S. Takeda*
1576. Photoresponsive supramolecular assemblies of azobenzene-linked perylene bisimide dyads. **T. Suzuki**, S. Yagai
1577. Self-assembly of noncovalent supermacrocycles of oligothiophenes in aqueous system. **H. Ouchi**, S. Yagai
1578. Naphthalene diimide-based electronically active molecular aggregate. **S. Egami**, N. Fujita*
1579. Synthesis of multiporphyrin assembly using cyclodextrin-bound tetraphenylporphyrin conjugate. **T. Yamashiro**, K. SASAKI
1580. Control over pathway complexity in supramolecular polymerization through modulating the energy landscape by molecular design. **T. Fukui**, S. Ogi, K. Sugiyasu*, M. Takeuchi*
1581. Novel strategy of structure determination of the complicated molecular packing structure of foldectrue with PXRD. **J. Gong***, J. Eom, R.W. Driver, H. Lee*
1582. Photothermal assembling of porphyrin dimers. **Y. Yamamoto**, Y. Nishimura, T. Tanaka, H. Yorimitsu, A. Osuka, S. Tokonami, T. Iida*
1583. Abundant mesostructures in self-assembled LC minidendrons. **Y. Liu***, G. Ungar, V. Percec
1584. Reverse amphiphiles having a lipophilic ion pair as the hydrophobic part. **T. Yamada**, K. Kokado*, K. Sada*
1585. Barbiturated naphthalenes with flexible oligo(ethyleneglycol) side chains. **K. Aratsu**, S. Yagai
1586. Comparative analysis of correlation between the secondary structures and self-association behavior of α-peptides. **L. Baek**, R.W. Driver, S. Kwon, H. Lee*
1587. Aggregation behavior of amphiphilic calix[4]rsorcinarene. **S. Bingo**, T. Ogoshi, T. Yamagishi
1588. Self-assembly and structural transformation of amphiphilic perylene bisimide dyads. **M. Ogasawara**, X. Lin, S. Yagai
1589. Water-induced helical aggregation of alkylene-tethered perylene bsimide dyads with hydrophilic swallow-tails. **X. Lin**, S. Yagai
1590. Self-assembly of barbiturated oligophenylene: Spontaneous transition of nanostructures from coil to ribbon. **K. Wakita***, S. Yagai*
1591. Supramolecular self-assembled smart dendritic organogels: Rational design and their multiple stimuli-responsive properties. **Y. Feng**, Z. Liu, Q. Fan
1592. Synthesis of porphyrin dimer toward construuction of multi porphrin assembly with molecular *recognition* sites. **K. Takimoto**, K. SASAKI
1593. Fabrication and self-assembly of resonance core assisted gelators derived from cyclohexanone. **Y. Zhang**, J. LIU

Hawaii Convention Center
Halls I, II, III

Molecular Probes and Fluorophores for Biological Imaging (#280)

Organized by: C. Fahrni, C. Cairo, C. Yip, Y. Hori

Poster Session
19:00 – 21:00

1594. New technology platforms to enable delivery of the immunoPET small molecule G-605. **D.E. Carrera***
1595. Development of dipolar dyes for two-photon imaging of tissues with suppressed autofluorescence. H. Moon, D. Kim, **S. Cho**, K. Ahn*
1596. Bioimaging of HER-2 specific affibody conjugated two-photon fluorescent probe for detection of breast cancer. **J. Choi**, C. Lim, D. Kang, B. Cho*
1597. Design and synthesis of a Gd(III) contrast agent that targets folate receptors. **M. Gil**, **C.L. Molina**, C.G. Gutierrez*
1598. Development of luminescent imaging probes for visualizing peroxynitrite. **M. Go**
1599. Janelia fluor dyes: Azetidinyl rhodamines as tunable bright fluorophores and caged dyes for live-cell and single-molecule microscopy. **J.B. Grimm**, A.K. Muthusamy, B.P. English, Z. Liu, W.R. Legant, J. Chen, J.P. Slaughter, R.H. Singer, T. Lionnet, L.D. Lavis*
1600. Two-photon dual-color imaging of mitochondria and lysosomes in live tissues. **S. Hong**, C. Lim, S. Ryu, D. Kang, B. Cho*
1601. Syntheses and characterisation of new fluorescent boron difluoride complexes. A.C. Try*, **M. Howden**
1602. Detection of hydrogen sulfide by using two-photon excitable fluorescent probe. S. singha, **y. Jun**, K. Ahn*
1603. Water soluble verdazyls as probes for biological systems. D.J. Brook, **T. Le**, **D. Matteo**, **H. Grewal**, **V. Changcoco**, V. Truong
1604. Development of activity-based probes for imaging human α-L-fucosidases in cells. **L. Lo***, Y. Hsu, M. Nandakumar, C. Lin
1605. Synthesis of Gd-MRI contrast agents bearing TTTA ligands and their structure-MRI properties relationship. **Y. Makita***, S. Fujiwara, A. Ogawa
1606. Long wavelength fluorescent probe for a highly sensitive quick detection of ascorbic acid. **Y. Matsuoka***, K. Ohkubo, T. Yamasaki, S. Fukuzumi, K. Yamada
1607. Mitochondrial selective efficient two-photon induced fluorescent probes possessing alkyl pyridinium group. **H. Moritomo**, A. Fujii, T. Shiraishi, K. Satomi, H. Sugihara, Y. Suzuki, J. Kawamata*
1608. Fluorogenic, hypoxia-activated prodrug strategy for targeted compound delivery and imaging. **L.J. O'Connor**, E.M. Hammond, S.J. Conway
1609. General labeling method of cell surface via azaelectrocyclization. **A. Ogura**, K. Tanaka*
1610. Synthesis and properties of photoresponsive molecule localizing to organelles of living cell. **M. Ozaki***
1611. Ratiometric detection and imaging of biothiols with BODIPY-based fluorescent probes. D. Ma, **H. Ryu**, K. Ahn*
1612. Two-photon fluorescent probes for detection of nucleus and mitochondria in human colon tissues. C. Lim, **S. Ryu**, D. Kang, B. Cho*
1613. Development of molecular probes for ^{19}F NMR/fluorescence bimodal detection of DNAs in living cells. **T. Sakamoto***, D. Hasegawa, K. Fujimoto*
1614. Induction, detection, and mechanistic study of cell death induced by luminescent tris-cyclometalated iridium(III) complex-peptide hybrids. **N. Suzuki**, Y. Hisamatsu, A. Shibuya, H. Tanaka, A. Masum, S. Aoki
1615. Novel lysine-linked anthracenophanes used as cellular imaging agents to discriminate cancer cells from normal cells. **K. Takimoto***, Y. Kitayama, T. Takeuchi
1616. Novel azofluorescein for selective detection of zinc ion. **P. Thongyoo***, N. Choengchan, K. Chantalakhana
1617. In-silico rule-based models for design of fluorophores. **Y.J. Tseng**, B. Su*, Y. Tu, O. Lin, Y. Harn, M. Shen
1618. Naphthalimide-based fluorescent probe for highly selective and sensitive detection of cadmium ions. **K. Tsukamoto***, S. Shimabukuro, H. Maeda
1619. Investigations of 2,7-diaminonaphthyridine conjugates for monitoring the hairpin probe PCR. **R.K. Verma**, F. Takei, K. NAKATANI*
1620. Probing the activation of T-cells by analogs of (*E*)-4-hydroxy-3-methyl-but-2-enyl diphosphate and their prodrugs. R.R. Shippy, D.P. Stockdale, A.M. Kilcollins, J. Li, C.C. Hsiao, R.J. Barney, A.J. Wiemer, **D.F. Wiemer***
1621. Labeling oligonucleotides and carbohydrates with BODIPY fluorophores. **T. Yan***, R. Yalagala, L. Yang, K. Tram

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 3 & 4

New Organosulfur Chemistry (#436)

Organized by: E. Block, E. Juaristi, A. Schwan, X. Jiang, C. Lee
Presiding: E.L. Clennan, C. Lee

19:00 – 1622. Sulfur atom tTransfer (SAT) reaction. **X. Jiang**
19:25 – 1623. Fluorinated hypervalent sulfur compounds. **J.T. Welch***, P.R. Savoie, L. Zhong, C.N. von Hahmann
19:50 – 1624. Computational studies of sulfur incorporation into poly(hexahydrotriazine) (PHT) rings. **G.O. Jones**
20:10 – 1625. Recent advances in the study of the anomeric effect with second-row elements sulfur and phosphorus. **E. Juaristi***, R. Notario*
20:35 – 1626. Recent developments in the sulfination of (hetero)aromatic rings: Direct access to sulfones and sulfonamides of medicinal chemistry relevance. **V. Mascitti***

*** Principle Author**

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Friday Morning

Hilton Hawaiian Village
Mid-Pacific Center, Coral 5

Designed pi-Electronic Systems: Synthesis, Properties, Theory and Function (#25)

Organized by: T. Kubo, Y. Tobe, M. Haley, G. Bodwell, K. Wong
Presiding: Y. Tobe

8:00 – 1627. Mathematical control in the self-assembly of giant M_nL_{2n} polyhedra. **M. Fujita***
8:40 – 1628. Bottom-up organic synthesis of carbon nanotubes. **R. Jasti***
9:05 – 1629. Adding multiple electrons to π-bowls: Structural outcomes. **M.A. Petrukhina***
9:30 – 1630. Multi-interactive azaphenalenes. **Y. Yakiyama**, J. Koo, G. Lee, M. Kawano*
9:45 – 1631. Extended yet disjointed π-conjugation: Shape-dependent electronic properties of strings, branches, and macrocycles. **D. Lee***, K. Seyong, M. Lee, S. Kim
10:00 – 1632. Controlling the spacings separating adjacent aromatic linkers in ladderphanes. **T. Luh**
10:40 – 1633. (2,11)Teropyrenophanes as springboards to nanographenophanes. **G.J. Bodwell***, K. Unikela, P. Ghods Ghasemabadi
11:05 – 1634. Novel fluorenyl-based hydrocarbon radicals. **T. Kubo***
11:30 – 1635. Optically active conjugated compounds based on planar chiral [2.2]paracyclophane. **Y. Morisaki***
11:45 – 1636. Probing electron transfer in the NapBox^{4+} family. **K.R. Hermann**, R. Young, J. Stoddart*

Hilton Hawaiian Village
Kalia Tower, Lehua Suite

Chemistry of Nanocarbons: Fullerenes, Carbon Nanotubes, Nanographenes and Related Materials (#41)

Organized by: T. Akasaka, F. Wudl, L. Echegoyen, X. Lu, C. Wang
Presiding: A.L. Balch, T. Torres

8:00 – 1637. Searching for fullerene electron conductors for perovskite solar cells. **S. Xie***, S. Dai, L. Deng, C. Tian, M. Zhang, R. Huang, L. Zheng
8:40 – 1638. Modification of work function of graphene by functionalization. **F. Langa**, M. Barrejon*, M. Gomez-Escalonilla, A.M. Rodriguez, J.R. Carrillo, M. Prieto
9:10 – 1639. Nanocarbons for optoelectronic applications. **D.M. Guldi**
9:40 – 1640. Syntheses of π-conjugated tubes and cages and their properties. **S. Yamago**
10:00 – 1641. Functionalization of exfoliated graphene with electron donors. **N. Tagmatarchis***
10:20 – 1642. Synthesis, isolation, and crystallographic characterization of oxide clusterfullerenes $Sc_2O@C_{2n}$ (n=38-41). **N. Chen***, L. Feng*, T. Yang, Y. Hao, Q. Tang
10:35 – 1643. Cluster vs. exohedral addend controlled Prato additions to endohedraml metallofullerenes. **S. Osuna**, M. Garcia Borràs, M.R. Cerón, Y. Yamakoshi, L. Echegoyen
10:50 – 1644. Fullerene supramolecular assemblies. **A.L. Balch***, A. Aghabali, M.M. Olmstead
11:20 – 1645. Uranium-based endohedral fullerenes. **L. Echegoyen***

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 3

Natural Product-based Drug Discovery (#66)

Organized by: B. Baker, R. Kerr, Y. Qin, D. Uemura, B. Littlefield
Presiding: T. Eguchi, B. Moore

8:00 – 1646. Characterization of monoclonal antibodies against the toxic turn of amyloid β42 and their application to diagnosis for Alzheimer's disease. **K. Murakami***, M. Hanaki, M.L. Moro, G. Giaccone, F. Tagliavini, K. Akagi, R. Ishii, T. Tokuda, M. Maeda, N. Izuo, T. Shimizu, K. Irie
8:30 – 1647. Biosynthesis of Aminoglycoside antibiotics. **T. Eguchi***
9:00 – 1648. Elucidation of pyranonigrin biosynthetic pathway reveals mechanism of fused γ-pyrone, *exo*-methylene and spiral cyclobutane formation. **K. Watanabe***
9:40 – 1649. Developing next generation antibiotics and discovery tools. **B. Moore***
10:20 – 1650. Incorporating biosynthetic starting materials with rational drug design to optimize natural product drug leads for the control of cancer. **M.T. Hamann**
10:50 – 1651. Fairy chemicals – a candidate for a new family of plant hormones and for a new agrochemical. **H. Kawagishi**
11:20 – 1652. Pateamine analog developments for inhibition of translation initiation. **P. Teesdale-Spittle**, H. Cumming, J.E. Harvey
11:30 – 1653. Phytochemical investigation of northern Quebec lichens. **C. Carpentier***, N. Voyer, E. Ferreira-Queiroz, J. Wolfender, M. Cuendet
11:40 – 1654. Novel bioactive natural products from medicinally important plants. **A. Ata***
11:50 – 1655. Total synthesis and structure-activity relationship of geranyl resorcylates derived from *Hericium erinaceum*, an edible mushroom with an antidementia effect. **S. Kobayashi***, K. Nagai

Hilton Hawaiian Village
Tapa Tower, Iolani Suite 1 & 2

Molecular Containers (#99)

Organized by: S. Mitsuhiko, L. Isaacs, H. Yang
Presiding: R. Hooley, M. Yoshizawa

8:00 – 1656. Molecular containers based on functionalized calixpyrroles. **J.L. Sessler***
8:30 – 1657. Guest sequestration, packing, and folding within water-soluble nanocapsules. **B. Gibb**
9:00 – 1658. Nanostructures prepared from self-assembly of pillararene-based amphiphiles and supra-amphiphiles. **F. Huang***, G. Yu, Y. Yao
9:25 – 1659. Gated molecular recognition and reactivity. **J. Badjic**
9:50 – 1660. Reversible structural transformations of nanocavities in crystalline peptide Ni(II)-macrocycles and their effects on adsorption behaviors. **R. Miyake***, C. Kuwata, Y. Masumoto, M. Shionoya
10:10 coffee break
10:20 – 1661. Application of cucurbit[n]urils to the separation and sensing of proteins and the control of enzymatic catalysis. W. Li, L. Smith, O. Ali, L.A. Logsdon, **A. Urbach***
10:40 – 1662. Synthesis and applications of mechanically chiral rotaxanes. **S. Goldup**
11:00 – 1663. Dual host approaches to salt and amino acid transport. **P. Gale**
11:30 – 1664. Biomedical applications of acyclic cucurbit[n]uril type receptors. **L. Isaacs***

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

Organoboron Chemistry: Applications in Organic Synthesis, Biology, and Materials (#100)

Organized by: D. Hall, B. Wang, P. Duggan, M. Suginome
Presiding: P. Duggan

8:00 – 1665. Novel molecular transformations based on catalytic activation of boron-containing σ-bonds by transition metals or 4,4'-bipyridines. **T. Ohmura***
8:30 – 1666. Application of lithiation-borylation methodology to the synthesis of natural products. **C. Brown***, V.K. Aggarwal
8:50 – 1667. Enantioselective allylboration of ketones using allylbornic acids. **R. Alam***, T. Vollgraff, K.J. Szabo
9:10 – 1668. Boronic acids as catalytic activators of (hetero)benzylic and allylic alcohols: More than simple Lewis acids. **A. McCubbin***
9:30 – 1669. Diels-Alder reactions of unsaturated boronic esters: Rational design, development, and mechanistic studies using experimental and computational methodologies. N. Grimblat, M.M. Vallejos, **S.C. Pellegrinet***
9:50 Break
10:00 – 1670. Development of a rapid assay for measuring gut permeability by recognition of biomarkers via a fluorescent probe based on boronic acids. **A. Resendez**, B. Singaram*, D. Webb
10:20 – 1671. Facile amidination reaction of 2-aminophenylboronic acid for development of carbohydrate receptors. **B.B. Pappin**, T. Garget, P.C. Healy, M. Kiefel, T.A. Houston*
10:40 – 1672. Boronate-based pyrophosphate-specific molecular recognitions. **D. Iizuka**, M. Sanjoh, T. Goda, A. Matsumoto, Y. Miyahara
11:00 – 1673. Boron-containing compounds in drug discovery and chemical biology. J. Zhang, F. Yang, **H. Zhou***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 4

Recent Trends in Organocatalysis (#122)

Organized by: M. Terada, M. Shi, J. Antilla, K. Maruoka
Presiding: J. Antilla, L. Deng, Y. Iwabuchi, T. Ooi

8:00 – 1674. Asymmetric trienamine catalysis. **Y. Chen***
8:30 – 1675. Anion-recognition/ion-pairing approaches to asymmetric catalysis. **D. Seidel***
9:00 – 1676. Design and applications of organic ion-pair catalysts. **T. Ooi***
9:30 – 1677. Activation of nucleophiles for asymmetric reactions with organic molecules. **L. Deng***
10:00 – 1678. Asymmetric organocatalysis combined with metal catalysis: From concept to a general strategy. **L. Gong***
10:30 – 1679. New develpments in asymmetric catalysis: Phosphoro-boronate mediated reactions. **J. Antilla***
11:00 – 1680. Selective functionalization of aromatics and heteroaromatics using organocatalytic systems. **Y. Kondo***
11:30 – 1681. Catalytic asymmetric oxidation using organocatalysts. **H. Yamamoto***

Hilton Hawaiian Village
Kalia Tower, Hibiscus 2

Organic Reactions in Aqueous Media (#131)

Organized by: S. Kobayashi, B. Lipshutz, C. Cai
Presiding: C. Cai, S. Kobayashi

8:00 Break
8:30 Opening Remarks
8:35 – 1682. Organic reactions in water different from organic reactions in organic solvents. **S. Kobayashi**
9:00 – 1683. Barbier-Grignard reaction of aldehydes with aromatic halides in water. **C. Li***, F. Zhou
9:30 – 1684. Palladium-catalyzed conjugate addition of arylboronic acids to β,β-disubstituted enones on water: Improving reactivity to enable the synthesis of diaryl-substituted, quaternary stereogenic centers. **L.M. Stanley**
9:50 – 1685. Lanthanide-promoted aqueous monoacylation of diols by acyl phosphate monoesters on the way to unnaturally aminoacylated tRNA. **R. Kluger***, Y. Li
10:10 Break
10:25 – 1686. Molecular architecture-based administration of catalysis in water via self-assembly of an amphiphilic palladium pincer complex. **Y. Uozumi**
10:55 – 1687. Expansion of bioorthogonal space: Development of biocompatible reactions with new functionalities. **J. Kim**, C.R. Bertozzi*
11:15 – 1688. Micelle catalytic performance of newly designed surfactants based on Guerbet alcohols. **W. Dong***, J. Li

Hilton Hawaiian Village
Mid-Pacific Center, Coral 2

Applications of C-H Functionalization (#169)

Organized by: P. Vachal, Z. Shi, C. Li, H. Davies, K. Itami, H. Lebel

8:00 – 1689. Tunable, catalyst-controlled chemo- and site-selective nitrene transfer reactions. **J.M. Schomaker***
8:30 – 1690. Phosphine-cross-linked polystyrenes as platforms for producing C–H functionalization catalysts. **M. Sawamura***
9:00 – 1691. Understanding of aerobic oxidation α-triazoylacetophenone by copper(II) acetate. **H. Cha***, D. Chi
9:20 – 1692. Selective functionalization of C-H bonds with main group reagents. **J.F. Hartwig***
9:50 – 1693. Manganese-catalyzed C-C bond formation from inert C−H bonds. **C. Wang**
10:10 – 1694. Ligand development in Rh(III) catalysis for C-H activation. **T. Rovis***
10:40 – 1695. Cross-dehydrogenative-coupling: From chemical synthesis to energy applications. **C. Li***
11:10 – 1696. Novel Cu-catalyzed oxidative C(sp^3)–H bond functionalization–ring expansion tandem reactions. **O. Garcia Mancheno***
11:30 – 1697. C-H bond functionalization based on metal carbene migratory insertion. **J. Wang**

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 1

Strategies and Tactics for Complex Molecule Synthesis (#174)

Organized by: C. Forsyth, C. Lee, L. Barriault, J. Cha
Presiding: C. Forsyth, S.E. Reisman

8:00 Introduction
8:05 – 1698. Concise synthesis of diterpenes via gold catalyzed processes: From complexity to simplicity. **L. Barriault***, G. Bellavance, P. Mcgee, A. Canillo
8:35 – 1699. Function- and diversity-driven total synthesis of natural products. **M. Dai***
9:05 – 1700. Nitrimines as reagents for complex molecule construction. **A.E. Mattson**
9:35 break
9:40 – 1701. Cascade approach to the total synthesis of virosaine. **J. Gleason**, J. Hughes
10:00 – 1702. Diversity-oriented synthesis of *Streptomyces* antibiotic natural products. **J.H. George**
10:15 – 1703. Bioinspired platform for the synthesis of lignan natural products. **J. Lumb***, A. Albertson

*** Principle Author**

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10:35 – 1704. General route to antifeedant sesterterpenoids: Enantioselective synthesis of leucosceptroid natural products. **T. Magauer***, C.L. Hugelshofer
10:55 break
11:00 – 1705. Catalytic methods for simplifying synthesis. **D.J. Dixon***
11:30 – 1706. Catalytic approach to the synthesis of novel natural products. **C. Lee**

Hilton Hawaiian Village
Rainbow Tower, Rainbow 3

Molecular Probes and Fluorophores for Biological Imaging (#280)

Organized by: C. Fahrni, C. Cairo, C. Yip, Y. Hori
Presiding: C.M. Yip

8:00 Opening Remarks
8:05 – 1707. Cyanine fluorophores: From two-photon imaging to inhibition of amyloid peptide aggregation. **M. Wong***, L. Guo, D. Xu, S. Ho, H. Li
8:25 – 1708. Fluorescent labeling strategies for phospholipids and cellular glycans. **C. Cairo**
8:55 – 1709. From chemoselective fluorescence imaging of ROS to controlled delivery of cytotoxic agents enabled by activatable probes. **G. Cosa***
9:25 – 1710. Red fluorescent proteinaceous probes for visualization of neuronal activity. **R.E. Campbell**
9:55 Session Break
10:10 – 1711. Molecular probes for continuous monitoring of ATP/ADP ratio. **V. Pierre**
10:40 – 1712. Tailored zwitterionic near-infrared fluorescent contrast agents for in vivo imaging. **M. Henary***, E. Owens, H. Choi
11:10 – 1713. Development of far-red to near-Infrared fluorophores and their application to fluorescence probes to detect hypoxia in vivo. **K. Hanaoka***

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 2

Organic Solid-State Chemistry: Structure, Property & Reactivity (#398)

Organized by: M. Sakamoto, L. MacGillivray, J. Vittal
Presiding: N. TOHNAI, J.J. VITTAL

8:00 – 1714. Nonporous but yet gas-sorbing molecular crystals. **H. Tsue***, H. Takahashi, R. Tamura
8:20 – 1715. Nanoporous materials for confined polymerization and molecular rotor dynamics. **P. Sozzani***, S. Bracco, M. Forani, D. Piga, A. Comotti
8:40 – 1716. Crystal crosslinking method: The third kind of crystalline polymerization. **K. Kokado***, T. Ishiwata, Y. Furukawa, K. Sada*
9:00 – 1717. Single-crystal-to-single-crystal transformation of metallosupramolecules with cyclic and acyclic thioethers. **S. Lee***
9:30 – 1718. Insight into the formation of covalent organic frameworks. **W. Dichtel**
10:00 break
10:10 – 1719. Molecular materials exhibiting zero-dimensional pores. **K.T. Holman***
10:40 – 1720. Formation, transformation of organic crystals, and the characterization. **R. Kuroda***
11:10 – 1721. Solid-state properties of CBPQT^{4+}, CBPQT$^{2(\bullet+)}$, CBPQT^{0}, and catenanes containing these different redox states of CBPQT^{4+}. Z. Liu, M. Frasconi, I. Fernando, **J.F. Stoddart**
11:40 – 1722. Crystal engineering: Solid-state reactivity via principles of supramolecular chemistry. **L.R. MacGillivray**

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 3 & 4

New Organosulfur Chemistry (#436)

Organized by: E. Block, E. Juaristi, A. Schwan, X. Jiang, C. Lee
Presiding: X. Jiang, W. Weigand

8:00 – 1723. Transition-metal-catalyzed C-S bond cross-coupling reaction. **C. Lee**
8:30 – 1724. Design and synthesis of chiral oxathiozinone scaffolds: Efficient synthesis of hindered enantiopure sulfinamides and their applications to chiral amine synthesis. **C. Senanayake**
9:00 – 1725. Smelling sulfur. **E. Block***, H. Zhang
9:25 – 1726. Role of metals in the olfactory detection of sulfur compounds. **H. Zhuang***, E. Block
9:50 – 1727. Sulfur mediated allylic C-H alkylation reaction. **P. Li***
10:10 Break
10:20 – 1728. Synthesis of 3,3'-diaryl-1,1'-binaphthalene-2,2'-disulfonic acids and design of chiral 3,3'-Ar2-BINSA salt catalysts. **K. Ishihara***, M. Hatano, K. Nishikawa
10:40 – 1729. Palladium-catalyzed C-S bond activation of alpha-oxo ketene dithioacetals for C-C couplings: Construction of carbo- and heterocyclic compounds. **M. Wang**, J. Chang, Y. Yang, P. Chen
11:05 – 1730. Journey from discovery of new extended Pummerer chemistry to catalytic C-S bond cleavage. **H. Yorimitsu***
11:30 – 1731. Asymmetric sulfa-Michael reaction: Catalysis by an iron(III) complex. S. Shaw*, **J. White**
11:55 Closing Remarks by Eric Block

Friday Afternoon

Hilton Hawaiian Village
Mid-Pacific Center, Coral 5

Designed pi-Electronic Systems: Synthesis, Properties, Theory and Function (#25)

Organized by: T. Kubo, Y. Tobe, M. Haley, G. Bodwell, K. Wong
Presiding: G.J. Bodwell

13:00 – 1732. From azapentacenes to azaheptacenes - synthesis, properties, and applications. **U. Bunz***, J. Engelhart, P. Biegger , F. Paulus
13:40 – 1733. Synthesis and properties of imide derivatives with polycyclic conjugated systems involving five-membered ring systems. **T. Kawase**
14:05 – 1734. Zethrene, its substituted and π-extended derivatives: Synthesis, structural analysis, and properties. **Y. Wu**
14:30 – 1735. Benzobisoxazole cruciforms: New tunable cross-conjugated materials for organic electronics. **M. Jeffries-EL**, R. Chavez, A. Burney-Allen, B. Tlach, A.L. Tomlinson
14:45 – 1736. Synthesis and complexation with C_{60} of electron-donating thiacalix[n-]dithiophene. **M. Hasegawa***, R. Inoue, Y. Honda, Y. Mazaki
15:00 – 1737. Functionalized acenes in organic electronics. **J. Anthony**
15:40 – 1738. Boron cations and poly-dentate divalent group 14 ligands. **C. Chiu**
16:05 – 1739. From nonplanar polycyclic arenes to carbon-rich materials. **Q. Miao***, K. Cheung, L. Shan, X. Gu
16:30 – 1740. *Protoisomerization* of Nindigo: Mechanistic and spectroscopic studies of the acid/base chemistry. **E.C. Nicholls-Allison**, G. Nawn, R. Hicks, B. Patrick
16:45 – 1741. Fluorescence enhancement of covalently linked fluorescent chromophores with naphthalene-1,8-diyl linker units: Analysis based on kinetic constants. **T. Hirose**, Y. Tsunoi, Y. Fujimori, K. Matsuda*

Hilton Hawaiian Village
Rainbow Tower, Rainbow 3

Anion Receptors (#31)

Organized by: B. Hay, F. Pfeffer, B. Wu, C. Jia, R. Custelcean
Presiding: M. Albrecht, B. Hay

13:00 Opening Remarks
13:05 – 1742. Anion recognition with shape persistent macrocycles. **A. Flood***
13:35 – 1743. Anion receptors based on triazole-containing cyclic pseudopeptides. **S. Kubik***, D. Mungalpara
14:05 – 1744. Steroid-inspired transmembrane anion carriers. **A. Davis***
14:35 – 1745. Arylacetylenes as modular scaffolds for anion recognition: Water-soluble hosts and insights into aryl CH●●●X$^-$ hydrogen bonds. B.W. Tresca, R.J. Hansen, M.M. Haley, **D.W. Johnson**
15:05 Break
15:20 – 1746. Molecular recognition of anionic cell surfaces using Zn-DPA complexes. **B. Smith***
15:50 – 1747. Anion recognition by silanol-based receptors. **S. Kondo**
16:20 – 1748. Extending the reach of polynorbornane based hosts for anions . **F.M. Pfeffer***, R. Robson, J.R. Engstrom, L. O'Dell

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 3

Natural Product-based Drug Discovery (#66)

Organized by: B. Baker, R. Kerr, Y. Qin, D. Uemura, B. Littlefield
Presiding: S. Band Horwitz, M. Uesugi

13:00 – 1749. Natural products: An opportunity for discovery in chemistry and biology. **J.K. De Brabander***, W. Li
13:40 – 1750. Small molecule tools for cell biology and cell therapy. **M. Uesugi**
14:20 – 1751. Taxol®, tubulin and tumors. **S. Band Horwitz***
15:00 – 1752. Endogenous nitrated nucleotide is an autophagy inducer. **H. Arimoto***
15:20 – 1753. Synthesis of acylquinic acids and their functional studies toward drug discovery. **K. Yoshida***, K. Oyama, T. Yamada, T. Kondo
15:40 – 1754. Marine hydroquinone zonarol prevents inflammation and apoptosis in dextran sulfate sodium-induced mice ulcerative colitis. **T. Koyama***, S. Yamada, T. Sato
16:00 – 1755. Natural product derivatives with potent and selective activity vs. fluoroquinolone-resistant pathogens. **P.J. Hergenrother**
16:10 – 1756. Aculeatin and toddaculin from *Toddalia asiatica* (L.) Lam. suppress lipopolysaccharide induced inflammation of RAW264 macrophages through different modes of action. **M. Kumagai**, A. Watanabe, T. Mishima, I. Yoshida, K. Koizumi, M. Ide, K. Fujita, M. Watai, K. Nishikawa, Y. Morimoto
16:20 – 1757. Alkaloidal content of *Rauvolfia nukuhivensis*: New inhibitory hERG channel compounds. **P. Raharivelomanana***, N. Martin, S. Fernandez-Ferreiro, F. Barbault, M. Nicolas, G. Lecellier, C. Paetz, M. Gaysinski, E. Alonso, O. Thomas, L. Botana
16:30 – 1758. Synthetic and biomechanistic investigations of agelastatin A. **M. Jouanneau**, B. McClary, J.O. Liu, D. Romo*
16:40 – 1759. Isolation of tomuruline, a novel thiazole containing polyketide with selective cytotoxicity under glucose-restricted conditions. **O. Ohno***, K. Same, C. Kudo, S. Sumimoto, T. Teruya, E. Tashiro, S. Simizu, M. Imoto, K. Suenaga
16:50 – 1760. Duocarmycins to nitroCBIs: From toxic DNA alkylators to hypoxia-selective antitumour agents. **M. Tercel***, F.B. Pruijn*, R.J. Stevenson, S.P. McManaway, H.S. Liyanage, H.H. Lee, A. Ashoorzadeh, P. O'Connor, S.Y. Mehta

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

Organoboron Chemistry: Applications in Organic Synthesis, Biology, and Materials (#100)

Organized by: D. Hall, B. Wang, P. Duggan, M. Suginome

13:00 – 1761. Allylboronic acids in organic synthesis. **K.J. Szabo***
13:30 – 1762. Pd-catalyzed sequential arylation of methyl sulfone derivatives toward straightforward synthesis of di- and triarylmethanes. **M. Nambo***, E.C. Keske, J.P. Rygus, C. Crudden
13:50 – 1763. Enantioselective borylative dearomatization of indoles by copper(I) catalysis. **K. Kubota***, K. Hayama, H. Iwamoto, H. Ito*
14:10 – 1764. 1,1-Carboboration route to phospholes - mechanistic insight and applications. **J. Mobus***, G. Erker
14:30 – 1765. Combination of boron and C_1 chemistries at transition metal centers. **A.F. Hill***, J.S. Ward, R. Shang, C.D. Stewart
14:50 Break
15:00 – 1766. α-Boryl aldoximes: Novel reagents for the synthesis of drug-like small molecules. **S.K. Liew**, A.K. Yudin*
15:20 – 1767. Novel routes to boron allylation reagents derived from propargyl esters. **R. Melen***
15:40 – 1768. Facile preparation of aryne–nickel complexes from *ortho*-borylaryl triflates and their synthetic applications. **Y. Sumida**, T. Sumida, T. Hosoya
16:00 – 1769. Stereoselective preparation of 2,3,3-triarylacrylic acid esters using Suzuki-Miyaura coupling reactions. **S. Cardinal**, N. Voyer*
16:20 – 1770. Cross-coupling and addition reactions of trifluoromethyltriolborate salt. **Y. Yamamoto***

Hilton Hawaiian Village
Mid-Pacific Center, Coral 4

Recent Trends in Organocatalysis (#122)

Organized by: M. Terada, M. Shi, J. Antilla, K. Maruoka
Presiding: Y. Hayashi, Y. Kita, L. Kurti, M. Terada

13:00 – 1771. Toward new activation modes via carbene organocatalysis. **Y. Chi***
13:30 – 1772. Pushing the limits of aminocatalysis: Enantioselective transformations of α-branched ketones. **S. Luo***
14:00 – 1773. Metal-free oxidative biaryl coupling reactions by hypervalent iodine reagent. **Y. Kita**
14:30 – 1774. Amidine-based catalysts and their applications in enantioselective acyl transfer. **V. Birman***
15:00 – 1775. Enantioselective transformation of cationic intermediates mediated by chiral phosphoric acid catalyst. **M. Terada***
15:30 – 1776. Atroposelective synthesis of functionalized biaryls. **L. Kurti***
16:00 – 1777. Pot-economy and organocatalysis in total synthesis. **Y. Hayashi***
16:30 – 1778. Anion-binding catalysis. **E.N. Jacobsen***

Hilton Hawaiian Village
Kalia Tower, Hibiscus 2

Organic Reactions in Aqueous Media (#131)

Organized by: S. Kobayashi, B. Lipshutz, C. Cai
Presiding: S. Kobayashi, B.H. Lipshutz

*** Principle Author**

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13:00 – 1779. Chemistry in water using micelles: Applications in the pharmaceutical industry. **W.M. Braje***
13:30 – 1780. Copper-catalyzed borylation and silylation reactions in water. **W.L. Santos**
14:00 – 1781. Sustainable gold catalysis in water. **N. Krause***
14:20 – 1782. Multicompount and palladium-catalyzed coupling reactions in aqueous media. **C. Cai**
14:50 Break
15:05 – 1783. Ruthenium catalyzed C-H bond functionalization in water. **P.H. Dixneuf***, F. Pozgan, P.B. Arockiam, B. Li, K.S. Devaraj, K.S. Singh
15:35 – 1784. Organic reactions with strong acids: Role of water as acid switch from Lewis acid to Brønsted acid, solvent and reagent. P. Prakash, **T. Mathew***, P.A. Olah
15:55 – 1785. Reactivity of pyrite and dazomet, a hydraulic fracturing additive . N. Consolazio, G. Lowry, **A. Karamalidis**
16:15 – 1786. Transitioning organic synthesis from organic solvents to water. **B.H. Lipshutz***
16:45 Closing Remarks

Hilton Hawaiian Village
Mid-Pacific Center, Coral 2

Applications of C-H Functionalization (#169)

Organized by: P. Vachal, Z. Shi, C. Li, H. Davies, K. Itami, H. Lebel

13:00 – 1787. Transition metal-mediated direct couplings on heteroarenes. **M. Miura***
13:30 – 1788. Advances, challenges, and opportunities for direct C-H bond functionalization in materials chemistry. **S.R. Marder**, J. Zhang, A. Rojas, T. Parker, S.B. Blakey, Q. Shi, C.N. Scott
14:00 – 1789. Direct arylation polymerization synthesis of a series of new silole-benzazole copolymers. **C.N. Scott***, M. Bisen
14:20 – 1790. Direct transformation of unreactive C-H bonds. **Z. Shi***
14:50 – 1791. Hydrogen bond-controlled *meta*-selective C-H borylation of aromatic compounds. **Y. Kuninobu***, H. Ida, M. Nishi, M. Kanai*
15:10 – 1792. Asymmetric C-H bond functionalizations: A quest for efficient ligand systems. **N. Cramer***
15:40 – 1793. Stereoselective C-H aminations. **H. Lebel***, J. Bartholoméüs, M. Khalifa
16:10 – 1794. Development of transition-metal-catalyzed imidation for adding handles to functional molecules. **K. Murakami**, T. Kawakami, K. Itami*
16:30 – 1795. Ligand-accelerated C-H activation reactions: Near and far. **J. Yu***

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 1

Strategies and Tactics for Complex Molecule Synthesis (#174)

Organized by: C. Forsyth, C. Lee, L. Barriault, J. Cha
Presiding: C. Lee, L. Xiao

13:00 Introduction
13:05 – 1796. New alkaloid synthesis by ring opening of functionalized cyclopropanols. **J.K. Cha**
13:35 – 1797. Adventures in unnatural and natural product synthesis. **M. Sherburn***
14:05 – 1798. Towards the synthesis of the brasilinolides using 1,5-*anti* selective aldol reactions. **M. Housden**, C. Cordier, P. Burton, F. Muehlthau, I. Paterson
14:25 – 1799. Synthetic studies on catechin-class polyphenols: Monomers and oligomers. **K. Suzuki**, K. Ohmori
14:50 break
14:55 – 1800. Synthetic studies on tetrodotoxin. **T. Fukuyama***, T. Maehara, K. Motoyama, T. Toma, S. Yokoshima
15:25 – 1801. 1,2-Rearrangement reaction and its application to natural product synthesis. **Y. TU***
15:55 – 1802. Strategies for construction of the bis(indole) alkaloid isatisine A and unnatural analogs via a dual catalysis process. **F. West***
16:25 – 1803. Asymmetric methods for the synthesis of pyran-based natural products. **T.E. Smith***
16:45 – 1804. Towards the synthesis of the macrolide glycoside biselyngbyaside. **L. Kaemmler**, M.E. Maier*

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 2

Chemical Glycosylation: Methods and Mechanisms (#306)

Organized by: T. Lowary, X. Huang, S. Hung, K. Tanaka
Presiding: T. Lowary

13:00 – 1805. *N*-Glycosides with uses from protecting-group-free glycosidations to site-specific protein modifications. **M. Nitz**
13:30 – 1806. New methods and strategies for the glycan synthesis. **X. Li***
14:00 – 1807. One-pot glycan conjugation to protein via azaelectrocyclization: Dynamics analysis of neoglycoproteins in live animal. **A. Ogura**, K. Tanaka*
14:15 – 1808. Partially unprotected *N*-acetyl sialyl donors undergoing α-sialylation without the nitrile effect. T. Aoyagi, S. Ohira, S. Fuse, **H. Tanaka***
14:30 – 1809. Stereodirecting participation from near and far. **D. Crich***, P. Wen, S. Dharuman
15:00 Break
15:10 – 1810. Glycosylation using 3,6-*O*-(*o*-xylylene)-bridged glucosyl donor. **H. Yamada***, Y. Okada, N. Asakura, M. Bando, Y. Ashikaga, A. Motoyama, A. Fukumoto, T. Arai
15:40 – 1811. What is the origin of high stereoselectivity in the DTBS-directed α-galactosylation?. **A. Imamura***, H. Ando, H. Ishida, M. Kiso*
15:55 – 1812. TMSOTf-catalyzed per-*O*-trimethylsilylation reaction for concise synthesis of glycoconjugates. **C. Wang**

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 3 & 4

New Horizon of Process Chemistry by Scalable Reactions and Technologies (#426)

Organized by: K. Tomioka, R. Williams, R. Hwu, H. Sajiki, T. Shioiri, N. Yasuda
Presiding: K. Tomioka

13:00 – 1813. Short step asymmetric synthesis of complex molecules. **K. Tomioka***
13:20 – 1814. Catalytic ruthenium carbenes: New modes of cyclization. **J.A. Varela***, F. Cambeiro, D. Padín, C. Saá*
13:40 – 1815. Efficient synthesis of pyrimidine derivative, CH5132799: Control of residual palladium and overall process optimization. **Y. Hosoya**, A. Kawase, K. Maeda, T. Ichige, M. Murakata
13:55 – 1816. Dinuclear iron complex-catalyzed transesterification: Synthesis of *tert*-butyl esters and unprecedented chemoselectivity. **T. Ohshima***, R. Horikawa, C. Fujimoto, R. Yazaki
14:15 – 1817. Development of the novel *kokimi* peptide. **Y. Tahara***, T. Ohsu, Y. Amino, H. Nagasaki, T. Yamanaka, S. Takeshita, T. Hatanaka, Y. Maruyama, M. Kaneko, M. Nakazawa, S. Suzuki, N. Miyamura, Y. Eto
14:30 – 1818. Development of scalable synthesis and quality control strategy for ER-403812-09. **A. Kayano***, T. NAKAMURA, M. Matsuda, M. ISOMURA, K. YOSHIZAWA, M. OMORI, S. IWASHITA, T. KODERA, T. SASAKI, H. KUMOBAYASHI, Y. OKADA, K. TAGAMI, G. Moniz, J. Del Vecchio, F. Fang
14:50 Break
15:00 – 1819. Design and analysis of a continuous gas-phase process for the production of hexafluoropropene oxide. **D. Lokhat***, M. Starzak, D. Ramjugernath
15:15 – 1820. A challenging synthesis of the highly functionalized echinocandin ASP9726, a successor of micafungin: How can we achieve the large-scale synthesis?. **S. Yoshida***
15:35 – 1821. Vortex fluidic device – thin film processing technology gets a new spin. **J. Britton**, C. Raston
15:50 – 1822. Process development of GS-9669. **S. Fujimori**
16:10 – 1823. New horizon of lipase-catalyzed dynamic kinetic resolution of alcohols for producing optically active compounds. **S. Akai***
16:30 – 1824. Enabling sustainable organic synthesis via electrochemistry. **D.G. Blackmond***, A. OBrien, B. Rosen, O. Luca, P.S. Baran

Hilton Hawaiian Village
Kalia Tower, Kahili 1 & 2

Synthetic Modulators of Protein-Protein Interactions (#461)

Organized by: P. Arora, D. Fairlie, A. Kennan, K. Kumar, S. Sidhu, ,
Presiding: K. Kumar

13:00 Opening Remarks
13:05 – 1825. Approaches to modulating protein-protein interactions. **D.P. Fairlie***
13:30 – 1826. New computational tools to target protein-protein interaction interfaces. **Y. Zhang***
13:50 – 1827. Allosteric modulators of the PD1–PDL1 interaction: Small molecule agonists and antagonists from a unified structural dynamics approach. **J.E. Wulff**, R. Hanley
14:10 Break
14:20 – 1828. Structure-based development of potent small molecule inhibitors of the menin-MLL interaction for cancer therapies. **J. Grembecka***, D. Borkin, H. Miao, J. Pollock, T. Purohit, T. Cierpicki
14:45 – 1829. Small molecules that induce influenza nucleoprotein oligomerization and inhibit virus replication in vitro and in vivo. **S.W. Gerritz**, C. Cianci, S. Kim, B.C. Pearce
15:10 – 1830. Structure based design of allosteric inhibitors of hypoxia inducible factor. **U.K. Tambar**
15:30 Break
15:40 – 1831. Discovery of small molecule inhibitors targeting the SUMO-SIM interaction using a protein interface consensus approach. A.R. Voet, A. Ito, M. Hirohama, S. Matsuoka, N. Tochio, T. Kigawa , M. Yoshida, **K. Zhang***
16:05 – 1832. Synthesis and structure function relationship study of fusicoccin/cotylenin analogs. **Y. Higuchi***, F. Yesil, T. Yoneyama, C. Ottmann, J. Ohkanda, N. Kato*
16:25 – 1833. Inhibition of MDM4-p53 interactions for retinoblastoma. **R. Guy***

Friday Evening

Hawaii Convention Center
Halls I, II, III

Designed pi-Electronic Systems: Synthesis, Properties, Theory and Function (#25)

Organized by: T. Kubo, Y. Tobe, M. Haley, G. Bodwell, K. Wong

Poster Session
19:00 – 21:00

1834. X-ray spectroscopic characterization of organic semiconductor nanowires. **A. Mazaheripour**, N. Husken, J. Jocson, G. Kladnik, A. Cossaro, L. Floreano, A. Verdini, A. Burke, K. Miller, A. Masurkar, J. Kymissis, D. Cvetko, A. Morgante, A.A. Gorodetsky
1835. Photochemical synthesis of phenacenes and acylphenacenes, and the optical properties studied by emission and transient absorption measurements. **M. Yamaji***, H. Okamoto
1836. Recent progress in chemistry of subporphyrins. **A. Osuka***
1837. Synthesis, two-step equilibrium, and optical properties of fused dimeric rhodamine dyes with near-IR emission. **Y. Shirasaki***, A. Muranaka, S. Kamino, D. Hashizume, D. Sawada, M. Uchiyama
1838. Supramolecular interaction of fullerenes with a curved π-surface of a monomeric quadruply ring-fused porphyrin. **T. Ishizuka***, Y. Saegusa, T. Kojima, S. Mori, M. Kawano, T. Kojima
1839. Theoretical study on the optical response properties of molecular aggregates of open-shell polycyclic aromatic hydrocarbons. **R. Kishi***, M. Saito, N. Matsushita, K. Yoneda, M. NAKANO
1840. Development of a dendritic donor-acceptor structure with potential gradient. **T. Heeger***, K. Albrecht, K. Yamamoto
1841. Design and synthesis of pentacene-based acceptors for organic photovoltaics. **M. Gruber**, A. Waterloo, A. Kunzmann, R. Casillas, R.D. Costa, D.M. Guldi, R.R. Tykwinski*
1842. Synthesis and properties of novel overcrowded quinone having various structures with close energies. **T. Suzuki***, T. Nishiuchi, Y. Hirao, T. Kubo
1843. Photophysical and structural chemistry of 5-arylamino thiazoles as new pi-electron systems. **K. Yamaguchi***, T. Murai
1844. Synthetic bacteriochlorins – tunable molecules for capturing near-infrared light. **J. Lindsey***
1845. Syntheses and basic pProperties of tetrathienonaphthalene: Photoinduced electron-transfer cyclization–dehydrogenation reactions of tetra(3-thienyl)ethane. **A. Yamamoto**, E. Ohta, Y. Matsui, K. Mizuno, H. Ikeda*
1846. Syntheses and crystallographic studies of an *angularly*-fused thienobis[1]benzothiophene and its CT cocrystal with TCNQ. **T. Ogaki**, A. Yamamoto, E. Ohta, Y. Matsui, K. Mizuno, H. Ikeda*
1847. Crystal structures of 4-(diethylboryl)pyridine pentamer and hexamer. **S. Wakabayashi***, S. Komeda, Y. Shimizu, Y. Ohki, K. Tatsumi
1848. Control of conformational isomers showing distinct colors for nitrogen-contained bis(tricyclic) aromatic ene. **T. Suzuki**, H. Okada, T. Nakagawa, Y. Matsuo
1849. Mechanochromic luminescence properties of D-A-D type dibenzo[*a,j*-]phenazine derivatives. **M. Okazaki**, Y. Takeda, S. Minakata
1850. Synthesis and properties of acid- and base-responsive molecules containing conjugated phenolic substituents bridged by heterocycles. **T. Kawano***, T. OHASHI, H. MURAOKA, S. OGAWA
1851. Synthesis and properties of zwitterionic singlet biradicaloid bisphenalenyl. **K. Furukawa**, T. Nishiuchi, Y. Hirao, T. Kubo*
1852. Synthesis and property of carbazole-based BODIPYs. **T. Todaka**, C. Maeda, T. Ema
1853. Synthesis of carbazole-based porphyrins. **C. Maeda**, M. Takata, A. Honsho, T. Ema
1854. One-step synthesis of [16]helicene by multiple photocyclization. **T. Murase***

*** Principle Author**

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1855. 18π-Electron tautomeric benziphthalocyanine: A functional near-infrared dye with tunable aromaticity. **N. Toriumi**, A. Muranaka*, K. Hirano, K. Yoshida, M. Uchiyama*

1856. Syntheses and properties of trinaphtho[3.3.3]propellane based threefold symmetric molecules aimed at construction of distinctive 2D honeycomb electronic structure. **T. Kodama**, T. Nishiuchi, Y. Hirao, T. Kubo*

1857. Aryne polymerization: Straightforward synthesis of elusive poly(*ortho*-arylene)s. **Y. Mizukoshi**, K. Mikami*, M. Uchiyama*

1858. Novel fluorocarbon–functionalized small molecules for organic field-effect and light-emitting transistors. **M.L. Denti**, H. Usta, W.C. Sheets, G. Generali, R. Capelli, S. Lu, X. Yu, M. Muccini, A. Facchetti

1859. Structural characterization and luminescent properties of indolo[3,2-*b*]carbazoles. **M. Hirano**, T. Moriuchi, T. Hirao*

1860. Metallocenes with sumanenyl ligand. **S. Katoh**, T. Amaya, Y. Takahashi, T. Moriuchi, T. Hirao

1861. Photochemical synthesis and photophysical studies of condensed coumarin derivatives that could be potential for blue emission and semiconductor devices. **Y. Hakoda**, H. Okamoto, M. Yamaji*

1862. Toward the realization of "Molecular n-Bit Memory": Preparation and dynamic redox behaviors of novel electron donors containing multiple dyrex units. **H. Tamaoki**, R. Katoono, K. Fujiwara, T. Suzuki*

1863. Synthesis and fluorescence properties of symmetric and asymmetric diazolo[1,2-*a*:2′,1′-*c*]quinoxaline derivatives in solution and in the solid state. **S. Matsumoto***, K. Sakamoto, E. Batmunkh, S. Qu, T. Kobayashi, M. Kanehiro, M. Akazome

1864. Synthesis and investigation of unsymmetrically substituted [*n*]cumulenes. **M.U. Bühringer**, H. Maid, F. Hampel, R.R. Tykwinski*

1865. Nonplanar *meso*-trifluoromethyl substituted β-octaalkylporphyrins. **M. Suzuki***, K. Okinaga, T. Hoshino, S. Neya, Y. Nishigaichi

1866. Theoretical investigation of open-shell singlet nature, aromaticity and nonlinear optical properties of π-conjugated condensed-ring systems involving antiaromatic rings. **K. Fukuda**, M. NAKANO

1867. Phenalenyl-fused porphyrin biradicaloids. Z. Wangdong, **J. Wu***

1868. Structure-property relationships and applications of π-conjugated boron difluoride formazanate dyes. **S.M. Barbon**, J.B. Gilroy*

1869. 20π-Electron benziphthalocyanines: Reduced-symmetry antiaromatic porphyrinoids that exhibit intense near-infrared absorption. **S. Yanagi**, N. Toriumi, A. Muranaka*, M. Uchiyama*

1870. Rh-catalyzed efficient synthesis for condensed polycyclic compounds by [2+2+2] cycloaddition of benzothiophene dioxides and α,ω-diynes. **Y. Tahara**, M. Gake, R. Matsubara, T. Shibata*

1871. Synthesis and properties of acrylamide polymers having carbazole moieties. **K. Tani***, K. Hori, H. Takemura, K. Sakakibara, Y. Tsujii

1872. Acid/base-regulated reversible electron transfer disproportionation of hydrazinohelicenes. **S. Higashibayashi***

1873. Computational design of denzobisaxozole materials for use in organic electronics. **A.L. Tomlinson**, M. Jeffries-EL

1874. Efficient synthesis of multisubstituted dibenzothiophene derivatives by catalytic [2+2+2] cycloaddition. **R. Matsubara**, Y. Tahara, T. Shibata*

1875. Towards novel BODIPY cyclophanes for advanced materials applications. **B.A. Hussein**, B.D. Koivisto*

1876. Synthesis of phenyl viologen type molecular wire toward construction of electrochemical responsible Au-nanoparticles network. **Y. Kobayashi**, K. Suzuki, T. Sugawara*

1877. Structures and properties of bis(trioxytriphenylamine) and its cationic species. **N. Tanaka**, S. Suzuki, M. Kozaki, K. OKADA*

1878. Micromolding in capillaries for the fabrication of high performance of organic ambipolar field effect transistors. **S. Watanabe**, T. Fujita, T. Aoyama, J. Riviere, M. Uchiyama, M. Matsumoto

1879. Conversion of 2-iodobiaryls to 2,2'-diiodobiaryls via oxidation–iodination sequences: A versatile route to ladder-type heterofluorenes. **B. Wu**, N. Yoshikai*

1880. Bottom-up synthesis of highly soluble and very narrow armchair edge graphene nanoribbons. **W. Yang**, W.A. Chalifoux

1881. Proton-mediated chromatic system of octaethylporphyrin derivatives with highly sensitive, stable, and dramatic behaviors in their spectral changes. H. Kempe, J. Yamamoto, M. Ishida, J. Yoshino, N. Hayashi, **H. Higuchi***

1882. Studies on syntheses and properties of open-shell molecular system ligated with pi-conjugated phosphines. **S. Kira**, S. Suzuki, M. Kozaki, K. OKADA*

1883. Theoretical study on open-shell singlet nature and nonlinear optical properties of π-stacked thiazyl radical multimers. **H. Matsui**, K. Fukuda, K. Yoneda, M. NAKANO*

1884. Convenient synthesis of benzocarbazole derivatives and evaluation of organic EL property. **C. Akazaki***, H. Nishino

1885. Synthesis of the new cyclobutadiene derivatives by photoisomerization of tetrahedranes. **Y. Kobayashi**, M. Nakamoto, A. Sekiguchi*

1886. Synthesis of substituted thiophene-containing multicyclic compounds by intramolecular [2+2+2] cycloaddition. **S. Kita**, T. Shibata*

1887. Direct mono- and difunctionalization of perylenediimides. **F. Fernandez-Lazaro***, N. Zink-Lorre, D. Gutierrez-Moreno, E. Font-Sanchis, Á. Sastre-Santos

1888. Synthesis of twisted PAHs by cyclization of bis(10-arylnaphthalene-9-yl) substituted benzenes or naphthalenes. **A. Oishi**, Y. Tokoro

1889. Theoretical study on singlet fission in polyaromatic hydrocarbon dimers: Electronic and vibronic coupling. **S. Ito**, M. NAKANO*

1890. Dithiaquinoidal–[n]thienoacenes with biradical character. **X. Shi**, C. Chi*

1891. Self-assembled conjugated polymer microspherical optical resonators. **Y. Yamamoto***, K. Tabata, D. Braam, S. Kushida, J. Kuwabara, T. Kanbara, A. Lorke

1892. Allosteric inhibition of the ligand-binding ability of zinc porphyrin using the regulatory molecule. **Y. Sasaki**, M. Kozaki*, S. Suzuki, K. OKADA

1893. Chirality and fluorescent properties of photochromic pirazino-annelated dihydropyrene. **T. Sawada***, S. KUBO, K. Nanamura

1894. π-Electronic systems that provide various anion complexes and resulting ion-pairing assemblies. **R. Yamakado**, H. Maeda*

1895. Syntheses and properties of metal salen complexes for dye sensitized solar cells. **Y. Ueda**, S. Suzuki, M. Kozaki, K. Iso, A. Konno, K. OKADA*

1896. Synthesis and properties of azulene-fused polycyclic aromatic hydrocarbons. **M. Murai***, S. Iba, K. Takai*

1897. Synthesis and characterization of 3D-oligothiophenes. **p. choong**, **S. Valiyaveettil***

1898. Long-lived and bright excimer emission of 9,10-bis(thienylethynyl)anthracene macrocyclic dimer. **H. Osaki**, C. Chou, M. Taki, Y. Sato, S. Saito, F. Aiko, T. Higashiyama, S. Yamaguchi*

1899. Study toward living polymerization of aryne. **Y. Okada**, Y. Mizukoshi, K. Mikami*, M. Uchiyama*

1900. Structural and electronic control of metal complexes by the use of π-systems. **A. Konishi**, R. Yasunaga, M. Yasuda*

1901. Controlling of ICT fluorescence intensity of phenyldisilane with aza-crown ether. **D. Masuno**, Y. Inagaki, W. Setaka*

1902. Oriented alignment and dichroism of a *p*-benzoquinone according to macrocage structure in crystal. **K. Sato**, Y. Inagaki, K. Yamaguchi, W. Setaka*

1903. Graphite functionalization using electrochemically generated aryl radicals featuring various substituents. **B.D. Lindner**, T. Ishikawa, K. Tahara, J. Greenwood, T. Phan, S. De Feyter, Y. Tobe

1904. Series of heterofluorenes containing four-coordinated group 13 elements. **T. Matsumoto**, K. Tanaka, K. Tanaka, Y. Chujo*

1905. Molecular design of *cis* indigo and *cis* Nindigo. **H. Hong**, E.C. Nicholls-Allison, R. Hicks*

1906. Two-photon excited NIR emissive dye with ESIPT behavior. **N. Suzuki**, F. Aiko, M. Taki, K. Kamada, S. Yamaguchi*

1907. Synthesis and properties of a doubly *N*-confused porphyrinoid with pyrrolo[3,4-*f*]isoindole skeleton. **S. Hiraoka***, H. Uno, M. Takase, S. Mori, T. Okujima

1908. Construction of hydrogen atom sandwich structure toward the reversible and effective proton and electron exchanging. **M. Teraoka**, Y. Hirao, T. Nishiuchi, T. Kubo

1909. Photochemical and electrochemical properties of anthranol-acridine dyad. **Y. Hirao***, K. Hosoi, T. Nishiuchi, T. Kubo

1910. Synthesis and photophysical properties of a pyrene-bridged molecular gyrotop. **H. Shionari**, Y. Inagaki, K. Yamaguchi, W. Setaka*

1911. Synthesis of condensed polycyclic compounds based on an acenaphthylene unit. **J. Nishida***, T. Kawase

1912. Nonlinear absorption of polycyclic aromatic hydrocarbons with open-shell singlet character. **K. Kamada***

1913. Material design for mechanochromic luminescence: 1,3,6,8-tetra(trialkylsilylethyny)pyrenes. **A. Orita***, T. Nishida, F. Xu, K. Shinohara, I. Kasuga, J. Otera

1914. Synthesis and anti-aromaticity of 16π anthracene-fused porphyrins. **R. Kuramasu**, S. Sugawara, Y. Yamamoto, S. Hiramatsu

1915. Synthesis of distorted compounds by oxidation of aminophenanthrene derivatives. **H. Yokoi***, S. Hiroto, H. Shinokubo

1916. Synthesis, structure, and optical properties of substituted tetracenes. **C. Kitamura***, G. Ohe, A. Takenaka, T. Kawase, T. Kobayashi, H. Naito

1917. Rhodium-catalyzed enantioselective synthesis of benzopicene-based [9]helicene derivatives. **K. Murayama**, K. Tanaka*

1918. Molecular design and some properties of stimuli-responsive brush-shaped π-conjugated polymers. **T. Ishikawa**, J. MOTOYANAGI, M. MINODA*

1919. Theoretical study on the relationship between the open-shell singlet nature and the second hyperpolarizabilities of corannulene derivatives with two phenoxyl radical moieties. **Y. Minamida**, K. Fukuda, K. Yoneda, M. NAKANO

1920. Generation and characterization of monoanion and dianion of a tetracyclopenta[*def,jkl,pqr,vwx*]tetraphenylene derivative. **H. Miyoshi**, T. Kubo, Y. Tobe*

1921. Significant enhancement of two-photon absorption probabilities by a substituent on the building block diphenylacetylene. **T. Isozaki***, S. Kinoshita, R. Takuechi, T. Suzuki

1922. Synthesis of multisubstituted dibenzophosphole oxides by intermolecular [2+2+2] cycloaddition. **T. Sato**, Y. Tahara, T. Shibata*

1923. Synthesis and photophysical properties of pyrene-based blue light-emitting monomers. **T. Yamato***, X. Feng, H. Tomiyasu

1924. Synthesis and unique optical properties of thiophene-BODIPY oligomers. **M. Saikawa**, S. Saino, M. Yamamura, T. Nabeshima

1925. Synthesis of dihydroacridine derivatives with two pyridyl groups and their photophysical properties. **N. Maeda***, R. Suzuki, Y. Miura, N. Yoshioka

1926. Chemical modification to 3-*tert*-butyl-1,5-diphenyl-6-oxoverdazyl radical by using Suzuki-Miyaura cross coupling reaction; crystal structure, optical and magnetic properties. **Y. Miura***, S. Ooshima, N. Yoshioka

1927. Synthesis of asymmetric dinaphtho[2,3-b:2′,3′-f]thieno[3,2-b]thiophene (DNTT) derivatives. **S. Lee**, H. Lee*

1928. Synthesis of bis(anthroxyl) diradicals with proton coupled electron transfer activity. **I. Hattori**, Y. Hirao*, T. Nishiuchi, T. Kubo*

1929. Synthesis, self-association, and anion recognition of conjugated macrocycles composed of carbazole and triazole moieties. **J. Satoshi**, S. Kato, Y. Nakamura*

1930. Synthesis and photophysical properties of partially and fully overlapped [3.3](3,9)carbazolophane-alcohol derivatives. **T. Yashima**, K. Tani, K. Hori, K. Kubono, K. Sakakibara, Y. Tsujii

1931. Synthesis and properties of [3.5](3,9)carbazolophane derivatives. **M. Asai***, K. Tani, K. Hori, H. Takemura, K. Sakakibara, Y. Tsujii

1932. Ni(II) and Fe(III) complexes with pyridone ligands: Synthesis and PCET reactivity. **N. Tachibana**, Y. Hirao*, T. Nishiuchi, T. Kubo*

1933. Synthesis and property of anti-aromatic ring by using the strain energy of non-planar pi-conjugated system. **K. SHIMIZU**, T. Nishiuchi, Y. Hirao, T. Kubo

1934. Synthesis and properties of tetracene derivatives having diester groups on one terminal benzene ring. **M. Tsumura***, M. Takehara, Y. Inoue, C. Kitamura, T. Kawase, T. Kobayashi, H. Naito

1935. Synthesis and quantum chemical calculations of sigmalene. **K. Sahara**, T. Nishiuchi, Y. Hirao, T. Kubo*

1936. Synthesis and photophysical properties of carbazole chromophore containing Schiff bases and azo compounds. **K. Hori***, K. Tani

1937. Synthesis and properties of anthracene-based cyclic Pi-cluster. **T. Nishiuchi***, Y. Hirao, T. Kubo

1938. Lateral π-extensions of bisanthene toward a synthesis of oligo*peri*acenes. **R. Ohkita***, T. Nishiuchi, Y. Hirao, T. Kubo

1939. Synthesis and physical properties of oxygenated cycloparaphenylenes. **H. Onishi**, E. Kayahara, S. Yamago

1940. Design and synthesis of solution processable, narrow band gap, near-IR absorbing small molecules. **A. Payne**, G. Welch*

1941. Computational π-figuration of thiophene oligomers. **M. Sugimoto***

1942. Synthesis, structures, and properties of biphosphinines tethered by aromatic system. **N. Nagahora**, H. Tokumaru, I. Takemoto, K. Shioji, K. Okuma

1943. Synthesis of novel hydrogen-bonded charge-transfer complexes aimed at formation of PET state. **S. Seo**, Y. Hirao*, T. Nishiuchi, T. Kubo*

1944. Construction of 3D architectures using alkyne metathesis. **S. Lee***, A. Yang, T. Moneypenny, J.S. Moore

1945. Synthesis and properties of binuclear paddlewheel-type complexes with azulene ligand. **R. Kawano**, T. Tsuchiya, S. Noro, Y. Mazaki

*** Principle Author**

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1946. Synthesis and properties of viologen derivatives extended with azulene. **Y. Sano**, T. Tsuchiya, M. Hasegawa, Y. Mazaki
1947. Facile synthesis for cyclic oligothiophene macrocycles by sulfides. **Y. Honda***, R. Inoue, M. Hasegawa, Y. Mazaki
1948. Electron deficient tetrabenzo-fused pyracylene and conversions into curved and planar π-systems with distinct emission behaviors. **L. Chao***, M. Murata, Y. Sugano, A. Wakamiya, Y. Murata
1949. Synthesis and optical properties of donor-acceptor molecules with aza[7]helicenes. **K. TAKASE**, K. Nakano*
1950. Synthesis, properties, and OFET characteristics of π-conjugated systems having tetrazolopyridine. **S. Tamba**, K. Hagiya, Y. Ie, Y. Aso
1951. Synthesis of 9-aza-10-boraanthracene bearing transformable boron-chlorine bond synthesis of 9-aza-10-boraanthracene bearing transformable boron-chlorine bonds. **K. Suzuki***, K. Hayashi, S. Nema, M. Yamashita
1952. Intramolecular carboannulatuion of 2-(arylethynyl)benzyl halide to indene derivatives: Toward a facile synthesis of *s*-indacene. **K. Fujii***, T. Nishiuchi, Y. Hirao, T. Kubo
1953. Functionalization of the stable P-heterocyclic open-shell unit by the direct arylation. **Y. Ueta**, K. Mikami, S. Ito*
1954. Synthesis and properties of anthracene bisimides incorporating triphenylamine donor units. **T. Iwanaga**, M. Ogawa, S. Toyota
1955. Programmable arrangement of a metallo-phthalocyanine and a metallo-porphyrins inside triply-stacked arrays. **N. Mihara**, Y. Yamada, K. Tanaka*
1956. Construction and properties of azulene templated binuclear metal complexes. **I. Kashiwagi**, T. Tsuchiya, Y. Mazaki
1957. Design and synthesis of n-type donor-acceptor small molecules for use in organic solar cells. **A.D. Hendsbee**, A. Namespetra, E. Kitching, J. Sun, G. Welch*, I.G. Hill*
1958. Synthesis of higher homologues of fused donors containing vinylogous TTF units and application to organic rechargeable batteries. K. Kawamoto, K. Hosoi, M. Kato, M. Yao, **Y. Misaki***
1959. Synthesis and properties of a cyclophane-type redox-responsive host containing two tetrathiafulvalene units. **A. Ohta***, T. Kagami

Hawaii Convention Center
Halls I, II, III

Anion Receptors (#31)

Organized by: B. Hay, F. Pfeffer, B. Wu, C. Jia, R. Custelcean

Poster Session
19:00 – 21:00

1960. Fluorescence probes for the detection of reactive oxygen species (ROS) and cyanide. **M. Atar**, A.G. Griesbeck*
1961. Synthetic chloride transporters activated by enzymatic hydrolysis. **Y. Choi**, K. Jeong
1962. Family of anionic LMOGs based on a phenylalanine-functionalised norbornene. **J.R. Engstrom***, F.M. Pfeffer
1963. Indolocarbazole-pyridine foldamers: Helical folding and chloride transport ability. **H. Jeon**, **K. Jeong**
1964. Selective colorimetric chemosensor with an electron-withdrawing group for multi-analytes CN^- and F^-. **T. Jo**, Y. Choi, S. Lee, J. Jung, H. Jang, J. Yun, K. Bok, C. Kim*
1965. Highly selective fluorescent probe for detection of iodide ions. M. An, C. Lim, H. Seo, **H. Kim***
1966. Helical bias of indolocarbazole/pyridine oligomers with chiral segments. **J. Kim**, K. Jeong
1967. Anion binding by ureido-substituted calixarenes. **O. Kundrat***, P. Curinova
1968. Rational design, synthesis of reaction-based cyanide chemosensor in aqueous solution. **J. Li***, W. Dong
1969. Design and synthesis of intramolecular charge transfer based fluorescent anion sensors. **S.M. Schutz**, J.B. Anderson, R.S. Muthyala
1970. Anion recognition properties of macroyclic bisurea derivative based on 2,2-binaphthalene. **A. Satake***, S. Kondo
1971. Synthesis and evaluation of anion receptors having halogen bond donors. **S. Shibuya***, S. Kondo
1972. Novel 1,8-naphthalimide-based anion sensor with an open space for an anion. **S. Nishino**, S. Ifuku, M. Morimoto, H. Saimoto, H. Izawa*
1973. Anion recognition using fused [*n*]polynorbornane hosts and solid state examination of the host:guest complexes. **R. Robson**, F.M. Pfeffer*, L. O'Dell, J. Hook, A. Rawal
1974. Fluorimetric detection of (chiral) anions by new urea-pthalimide dyads. **M. Vollmer**, S. Hanft, A.G. Griesbeck*
1975. Can anion receptors control cation-exchange selectivity?. **N.J. Williams**, C.O. Reynolds, L.W. Gill, R. Custelcean, B.A. Moyer
1976. Strong binding affinity of triazole-bearing zinc porphyrin for anions by C-H hydrogen bonds. **D. Yim**, W. Jang*, C. Lee

Hawaii Convention Center
Halls I, II, III

Natural Product-based Drug Discovery (#66)

Organized by: B. Baker, R. Kerr, Y. Qin, D. Uemura, B. Littlefield

Poster Session
19:00 – 21:00

1977. Synthesis and structure activity relationship study of Intervenolin and NBRI16716 B, modulators of tumor-stroma interaction of natural origin. **H. Abe***, C. Sakashita, M. Kawada, J. Yoshida, H. Inoue, S. Ohba, T. Masuda, A. Nomto, T. Watanabe, M. Shibasaki
1978. Isolation of a pigment from a metagenomic library derived from the marine sponge *Halichondria okadai*. **T. Abe***, K. Miyamoto, Y. Sakakibara, T. Naito, D. Uemura
1979. From genes to new molecules: Expression of silent fungal gene clusters in *Fusarium graminarium*. **D. Adpressa***, L. Connolly, M. Freitag, S. Loesgen
1980. Metabolomics approach to study the effect of *Andrographis paniculata* in improving chemotherapy treatment in colon cancer. **S. Ahmadi**, K. Shaari*, J. Stanslas
1981. Search for amyloid β aggregation inhibitors from *Inonotus obliquus*. **Y. Aihara***, A. Kawaguchi, M. Takase, H. Shigemori
1982. Alpha-glucosidase inhibitory activity and chemical analysis of the medicinal halophyte *Tamarix gallica*. **A. Ben Hmidene***, C. Abdelly, H. Isoda, H. Shigemori
1983. Chemical investigation on the secondary metabolites of the aeolid nudibranch *Phyllodesmium lizardensis* . **A.S. Dewi***, K. Cheney, J.T. Blanchfield, M.J. Garson
1984. GC-MS analysis of the *β-N*-acetylglucosaminidase inhibitor pochonicine and its analogs produced by a fungal strain. **K. Emoto**, **Y. Mushiake**, A. Tsuchida, T. Okuda, H. Kanzaki, T. Nitoda*
1985. Potential antidiabetic complications of isolated compounds from Indonesian traditional medicines. **S. Fatmawati***, W.D. Fitriana, M.D. Hidayati, F. Arianto, T. Ersam, K. Shimizu
1986. Synthesis of biotin-introduced probe and analysis of target biomolecules of bisebromoamide. **S. Fujikura**, O. Ohno, K. Suenaga
1987. Chemopreventive activity of trichothecenes from *Trichothecium roseum* and their derivatives. **M. Fujiwara** , K. Shimoura, Y. Fukuda, M. Yamashita, A. Iida*
1988. Proteasome inhibitors based on the natural product TMC-95. **M.G. Gotz**, D.L. Wilson, D. Krappmann, I. Meininger
1989. Toward the total synthesis of (+)-neopeltolide: An oxa-conjugate route to the disubstituted 2,6-*cis*-tetrahydropyran ring system. **T.P. Hari***, B.I. Wilke, C.N. Boddy
1990. Side-chain analogs of TAN-2483B as kinase inhibitors. **J.E. Harvey***
1991. Search for new bioactive substances from discomycete. **M. Haneda***, S. Seiki, T. Hosoya, H. Shigemori
1992. Anti-oxidative constituents of the Brazilian traditional medicine, *Tabebuia avellanedae*. **R. Hidaka**, Y. Fukuda, M. Yamashita, A. Iida*
1993. Use of principal component analysis Of ^1H-^{15}N NMR spectra of amyloid-β (1–42) peptide for characterization of fibril formation inhibitors. **H. Hiroaki***, N. Iwaya, M. Matsuzaki, Y. Shigemitsu, N. Goda, Y. Abe, M. Hoshi, A. Narita
1994. Stereocontrolled total synthesis of a stereoisomer of laurenidificin: Prediction of the stereochemistry of the natural product. **Y. Hori**, T. Yokoi, T. Inoue, T. Saka, A. Masuyama, S. Kobayashi
1995. Synthesis and radical scavenging activity of C-methylated quercetin analog. **K. Imai**, I. Nakanishi, Y. Ohba, K. Matsumoto, K. Fukuhara*
1996. Anti-allergic compounds from herbal medicines using newly developed assay method for stress-enhanced allergy. **K. Ishiguro***, H. Oku
1997. Search of the excitative substances to primary sensory neurons from natural resources using Ca^{2+} imaging method. **E. Iwaoka***, S. Yoshiyama, M. Nakaguchi, S. Fujigaki, Y. Dai, S. Aoki
1998. Kurahyne, a novel ER stress-inducer isolated from marine cyanobacterial assemblages of *Lyngbya* sp. **A. Iwasaki**, O. Ohno, S. Sumimoto, K. Suenaga
1999. Versicolamide B and 6-*epi*-stephacidin A isolated from *Aspergillus amoenus*: Biogenic implications. **H. Kato**, D. Sherman, R. Williams, S. Tsukamoto*
2000. Synthesis and aldose reductase inhibitory activity of botryllazine B analogs having bicyclic heterocycles on the C6 position: A structure-activity relationship study. R. Saito*, **A. Katoh**, K. Hitotsumatsu, K. Sasaki, T. Komatsu
2001. Isolation and structure analysis of novel 9,11-*seco*-steroids from the sea hare *Aplysia kurodai* . **A. Kawamura**, M. Kita, H. Kigoshi
2002. Efforts towards the total synthesis of azaspiracid-3. D. Adu-Ampratwum, A. Okumu, **N. Kenton**, C. Forsyth*
2003. Total synthesis and biological activity of sarcophytonolide H. **T. Kikuchi**, H. Takamura, I. Kadota
2004. Synthesis of aminocyclopentitol analogs via stereoselective amination of cyclic polybenzyl ether with chlorosulfonyl. **Y. Kim***, J. JUNG, Y. Jung
2005. Convergent synthesis of the HIJKLM ring segment of ciguatoxin CTX3C. **T. Kimoto**, S. Hara, H. Takamura, I. Kadota*
2006. Synthesis of *O*-methylated flavonoids and the studies on physiological functions of flavonoids. **Y. Kimura**, T. Kondo, K. Yoshida*
2007. Stimulating a transcription in *Penicillium* sp. FKI-2140 activates a silent biosynthetic pathway to produce novel natural product. **S. Kishimoto**, M. Shimizu, N. Ishikawa, H. Noguchi, K. Watanabe
2008. Total synthesis of (−)-lepistine. **Y. Kitabayashi**, S. Yokoshima, T. Fukuyama*
2009. Studies on the search for bioactive substances from marine organisms. **S. Kobayashi**, Y. Kawazoe, D. Uemura*
2010. Hydrolysis of a baker's yeast reduction product of oleuropein aglycon from olive leaf extracts. **M. Koga**, A. Takatsu, M. Jyo, K. Kikuchi, T. Nitoda, H. Kanzaki*
2011. Bioactivity-guided isolation and structure elucidation of an anti-amyloid substance from *Psychotria stenostachya*. **A.V. Krivoshein***, A. Shottek
2012. Neurotrophic compounds from Indonesian ginger bangle, *Zingiber purpureum*. **M. Kubo***, M. Nakai, K. Harada, N. Matsui, M. Akagi, M. Suenaga, Y. Matsunaga, Y. Fukuyama
2013. Synthetic study on tomuruline. **C. Kudo**, O. Ohno, K. Same, K. Suenaga
2014. Mutasynthesis of macrolactam antibiotics. **F. Kudo***, T. Eguchi
2015. Isolation and structure of a novel and potent cytotoxic peptides from the marine cyanobacterium *Symploca* sp. **T. Kudo**, K. Sueyoshi, K. Fukumoto, S. Sumimoto, S. Suda, T. Teruya*
2016. Development of curcumin-inspired hybrid molecules for the treatment of Alzheimer's disease. **A.A. Kulkarni***, E. Nwulia, S. Nekhai
2017. Syntesis and inhibitory activity of ascofuranone derivatives against trypanosome alternative oxidase. **I. Kumamoto**, H. Saimoto*, H. Izawa, S. Ifuku, M. Morimoto, K. Kita*, D.K. Inaoka, M. Yamamoto
2018. Synthetic study of a marine macrolide koshikalide and determination of absolute configuration. **K. Kunifuda***, A. Iwasaki, K. Suenaga
2019. Isolation and structure elucidation of bioactive compounds from Sada cape. **M. Kuramoto***, M. Sakamoto, Y. kurokawa, S. Mori, h. uno
2020. Production of chemopreventive furanonaphthoquinones by callus cultures of the Brazilian medicinal plant, *Tabebuia avellanedae*. **S. Kusakabe**, Y. Fukuda, M. Yamashita, A. Iida*
2021. Antiplatelet effect of indothiazinone. **S. Kwon**, M. Jeong, M. Ryu, J. Jung
2022. Synthesis and biological evaluation of antiangiogenic homoisoflavanone, cremastranone, and its analogs. **B. Lee**, X. Fei, H.D. Basavarajappa, D. Shin, T.W. Corson*, S. Seo*
2023. Novel benzoates from traditional Chinese medicine prevent memory deficits. **J. LI***, L. Gao, L. Xiang
2024. Parishin, an anti-aging phenolic glucoside from *Gastrodia elata*. **Y. Lin**, Y. Weng, L. Xiang, J. Qi*
2025. Wewakazole B, a new cyclic dodecapeptide from the Red Sea cyanobacterium *Moorea producens*. **J.V. Lopez**, S.S. Al-Lihaibi, W.M. Alarif, A. Abdel-lateff, K. Washio, M. MORIKAWA, T. Okino*
2026. Saccharothriolides A-C, novel phenyl-substituted 10-membered macrolides from a rare actinomycete *saccharothrix* sp. **S. Lu**, S. Nishimura, G. Hirai, M. Ito, T. Kawahara, M. Izumikawa, M. Sodeoka, K. Shin-ya, T. Tsuchida, H. Kakeya*
2027. Discovery of biologically active natural products from Philippine Annonaceae plants and their associated fungi. **A.G. Macabeo***, P. RUBIO, A. LETADA, R. MENDOZA, I. MALALUAN, I. FLORES, J. ABANTO, F. MARTINEZ, A. LOPEZ, F. TUDLA, E. PARAGAS, M. KNORN, P. KOHLS, C. FADERL, H. DAHSE, G.D. ALEJANDRO, S. FRANZBLAU
2028. Phytochemical and pharmacological evaluation of *Sida rhombifolia*. **S. Mah***, S. Teh, G.C. Ee
2029. Chemical approaches to selective elimination of human pluripotent stem cells. **D. Mao**, T. Kuo, E. Kawase, S. Sato, M. Uesugi*
2030. New coumarin analogs and their antimicrobial activity. **A. McElrea**, A. Ata*

*** Principle Author**

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2031. Phytochemical analysis of *Rhamnus caroliniana*. **A. Mekala**, W.N. Setzer
2032. Study on the enzymatic construction of polycyclopropane skeleton in jawsamycin biosynthesis. **A. Minami**, T. Hiratsuka, H. Oikawa*
2033. New naphthoquinone and monoterpenoid from *Plumbago zeylanica*. **T. Mitsui**, C. Miyachi, Y. Ishimura, K. Oda, K. Hayashi, A. Kuboki, S. Ohira, N. Matsuura, I. Munekazu, H. Nozaki*
2034. Synthesis and biological evaluation of hydroxamate amides as HDAC inhibitors. **H. Mok**, K. BAEK, H. SON, Y. Jung
2035. Synthetic study of enigmazole A. **Y. Murai**, T. Kishi, Y. Fujisawa, H. Takamura, I. Kadota*
2036. Synthesis and biological activity of citridone A and its analogs. K. Shimoyama, T. Fukuda, H. Tomoda, **T. Nagamitsu***
2037. Synthesis of novel pentacyclic derivatives with propellane skeleton and their structure-activity relationships. **R. Nakajima***, N. Yamamoto, S. Hirayama, T. Iwai, T. Nemoto, H. Fujii, H. Nagase
2038. Solvent effect on the radical-scavenging mechanism of ascorbic acid and its derivatives. **I. Nakanishi***, K. Ohkubo, K. Inami, S. Nomura, K. Fukuhara, K. Matsumoto, T. Ozawa, S. Fukuzumi, M. Mochizuki
2039. Isolation of new metabolites from a microbial metabolites fraction library by NPPlot screening. **T. Nogawa**, A. Okano, J. Jang, T. Shimizu, S. Takahashi, H. OSADA*
2040. Novel screening approach for drug discovery from virtual mirror-image library of natural products. **T. Noguchi**, S. Oishi, K. Honda, Y. Kondoh, T. Saito, H. Ohno, H. Osada, N. Fujii
2041. *Diospyros macrocarpa*: An endemic plant of New Caledonia with biological activities. C. Thieury, R. Le Guével, C. Antheaume, G. Herbette, V. Monnier, N. Lebouvier, E. Hnawia, T. Guillaudeux, **M. Nour**
2042. Janadolide, an apoptosis-inducing cyclic lipopeptide possessing a *t*-Bu group from the marine cyanobacterium *Okeania lorea*. **H. OGAWA**, A. Iwasaki, S. Sumimoto, O. Ohno, K. Suenaga
2043. Highly efficient synthesis of unnatural spinasterol glucose analogs and repressed expression of the skin inflammatory mediators in human keratinocytes. h. kim, t. lee, T. Kim, **H. OH**
2044. Biosynthesis of a cancer–inducing compound in *Escherichia coli*. **M. Ohashi**, Y. Sasa, N. Ishikawa, H. Noguchi, K. Watanabe*
2045. Production of chemopreventive naphthoquinones by callus cultures of *Catalpa bungei*. **M. Ohmiya**, Y. Fukuda, M. Yamashita, A. Iida*
2046. Structure-activity relationship study and total synthesis of pyripyropene A as a potent ACAT2-selective inhibitor. **M. Ohtawa**, T. Ohshiro, S. Omura, H. Tomoda, T. Nagamitsu*
2047. Total synthesis of mycalolide B, an actin-depolymerizing marine macrolide. **H. Oka**, M. Kita, H. Kigoshi
2048. Total synthesis of kurahynes: A new acetylene-contaning lipopeptide from marine cyanobacterial assemblage. **S. Okamoto**, A. Iwasaki, O. Ohno, K. Suenaga
2049. Highly efficient synthesis of β-Lapachone and its derivatives. h. kim, H. Lee, T. Han, G. Lee, B. Kim, **s. park**
2050. Total synthesis of (+)-hyacinthacine A2 via regioselective and diastereoselective amination with chlorosulfonyl isocyanate. **S. Park***, I. JIN, M. Choi, Y. Jung
2051. Total synthesis of conduramine D-1 via a highly regioselective and diastereoselective allylic amination using chlorosulfonyl isocyanate. **S. Park***, Y. Jung
2052. Chemical synthesis and preliminary PK/PD studies of PBRM, a novel inhibitor of 17β-hydroxysteroid dehydrogenase type 1. **D. Poirier**, R. Maltais, J. Roy, A. Trottier
2053. Isolation of antileishmanial compound from *Sassafras albidum*. **D. Pulivarthi**, **K.M. Steinberg**, L. Monzote, W.N. Setzer
2054. Synthesis of indothiazinone via direct 3-acylation. **M. Ryu**, S. Kwon, M. Jeong, J. Jung
2055. Design and synthesis of a molecular shuttle to transport cargo into Gram-negative bacteria. **J.A. Saboury**, **C. Bezjian**, **A. Davidian**, **A. Avanes**, **B. Ulloa**, M. Pinto, C. Gutierrez*
2056. Isolation, purification, and structure identification of cytotoxic compound(s) from *Piper nigrum* black peppercorns. **V.S. Santiago***, I.M. Villaseñor
2057. Synthesis of biselyngbyasides. **E. Sato**, Y. Tanabe, N. Nakajima, A. Ohkubo, K. Suenaga*
2058. Total- and semi-synthetic approaches towards new analogs of colchicine. **W. Schlundt***, H. Schmalz
2059. Secondary metabolites from *Achyranthes aspera* (chirchitta). **R. sehrawat**
2060. Induction of hepatocyte growth factor production in human eermal ribroblasts by caffeic acid derivatives. **H. Shigemori***, M. Kurisu, R. Nakasone, Y. Miyamae, D. Matsuura, H. Kanatani, S. Yano
2061. Kuji amber extract has anti-allergic effect and a spirolactone compound is also involved in the activity. **E. Shimizu***, M. Kobayashi, H. Koshino, T. Uchida, Y. Okawa, H. Shinden, S. Uesugi, K. Kimura
2062. New modified total synthesis and modular derivatisation of indolactam. **J.E. Stein**, **H. Schmalz***
2063. Synthetic approach toward the natural product, suberedamine A. **N.T. Stessman***, K. Chan, C. Cerpas, B. Gill, E. Grolle, B. Ishaya, C. Stessman
2064. Odoamide, a novel cyclodepsipeptide from marine cyanobacterium *Symploca* sp. **K. Sueyoshi**, M. Kaneda, S. Oishi, N. Fujii, S. Sumimoto, S. Suda, T. Teruya*
2065. Structure of novel linear lipopeptides which contained unique fatty acid, isolated from a marine cyanobacterium. **S. Sumimoto***, A. Iwasaki, O. Ohno, T. Teruya, T. Inuzuka, K. Suenaga
2066. Study on the search for natural products from dinoflagellate which inhibit protein kinase GSK-3β. **T. Suzuki**, J. Yabe, Y. Kawazoe, D. Uemura*
2067. Structure determination of proanthocycnidins by combination of H/D exchange and MS/MS. **H. Takahashi**, K. Hamaoka, T. Kusumi, K. Ohmori, K. Suzuki
2068. Synthetic study on the antitumor cyclodepcipeptide metabolite, verucopeptin. **N. Takahashi**, H. Hayashi, H. Kakeya*
2069. Comparative studies on the hydroperoxide compounds and the endoperoxide compound isolated from *Cacalia delphiniifolia*. **Y. Takahashi***, S. Uesugi, Y. Takano, N. Usukhbayar, E. Tsuchiya, H. Koshino, K. Kimura
2070. Insecticidal and growth inhibitory activities of metabolites of fungal strains producing β-*N*-acetylglucosaminidase inhibitors against larvae of sheep blowfly. **E. Takatsuji**, T. Okuda, H. Kanzaki, T. Nitoda*
2071. Total syntheses of the nonpeptide bradykinin B1 receptor antagonist velutinol A and its derivatives, the *seco*-pregnanes with cage-like moiety. M. Tamiya*, N. Isaka, T. Kitazawa, **M. Ishiguro***
2072. Promising drug candidates from natural sources: Amphidinolide H, eudistomin C, and biyouyanagin A. **N. Tanaka***, J. Kobayashi
2073. Synthetic study of (-)-dactylolide. **T. Tanaka**, Y. Murai, H. Takamura, I. Kadota*
2074. Neuroprotective effect of biflavones isolated from leaves of *Sciadopitys verticillata*. **Y. Tanaka**, Y. Hirata, D. Iibata, S. Kitayama, M. Tamano, Y. Yoshimoto, N. Fukata, T. Sumiyoshi, Y. Nagaoka*
2075. Structure modification and structure-activity relationships of bioactive sporogen AO-1. **C. Tansakul***, V. Rukachaisirikul, C. Daengrot, N. Supantanapong, C. Tantisuwanno, S. Phongpaichit, J. Sakayaroj
2076. Synthesis of α,α-disubstituted hydantoins through chemoselective derivatization of natural product extracts. **K. Tomohara***, A. Kato, I. Adachi
2077. Novel cytotoxic diterpene from a marine myxobacterium, *Enhygromyxa* sp. **T. Tomura**, R. Fudou, T. Iizuka, M. Ojika*
2078. Overcoming natural product purification Co-eluting peaks with recycling prep HPLC. **K. Tseng**, I. Hideto
2079. Fungal simplifungin and valsafungin, new antifungal antibiotics targeting serine palmitoyltransferase. **R. Uchida**, H. Ishijima, M. Ohtawa, A. Kondo, K. Nagai, K. Nonaka, R. Masuma, S. Iwamoto, H. Onodera, T. Nagamitsu, H. Tomoda
2080. Study on biological activities and molecular targets of allantopyrone A and pyrrocidine A isolated from endophytic fungi. **S. Uesugi***, M. Muroi, Y. Kondoh, Y. Shiono, H. OSADA, K. Kimura
2081. Design, synthesis, and biological evaluation of photosensitizer bearing a high water solubility. **Y. Uruma**, T. Nonomura, M. Edatani, K. Onuma, F. Okada
2082. New phenylethanoid glycosides from *Magnolia officinalis* fruits. **Y. Wang***, L. Ge, B. Ma, G. Zhou, W. Zhang, L. Chen, Z. Zhou
2083. Novel physiological roles of mango seed oil using proteomic analysis of differentially expressed proteins. **s. WU***, k. Matsumoto, s. TACHIBANA, t. INOUE, m. NOMURA
2084. Studies towards the total synthesis of palhinine type of *Lycopodium* alkaloids. **S. Xu***, Y. Gong, X. Wang, S. Zhang
2085. Synthetic studies of biologically active mannosilated 3-acyltetramic acids. **A. Yajima***, C. Ida, A. Kawajiri, R. Katsuta, T. Nukada
2086. Structures and bioactivities of okeaniamide and chlorookeaniamide from marine cyanobacterium *Okeania sp*. **M. Yamada**, K. Sueyoshi, T. Yonezawa, B. Cha, J. Woo, S. Sumimoto, S. Suda, T. Teruya*
2087. Elucidation of pyranonigrin biosynthetic pathway reveals mechanism of fused γ-pyrone, *exo*-methylene and spiral cyclobutane formation. **T. Yamamoto**, Y. Tsunematsu, H. Noguchi, K. Hotta, K. Watanabe*
2088. Marine natural products with protein tyrosine phosphatase 1B inhibitory activity. **H. Yamazaki***, S. Kanno, O. Takahashi, R. Kirikoshi, D.B. Abdjul, K. Ukai, H. Rotinsulu, D.S. Wewengkang, D.A. Sumilat, R.E. Mangindaan, M. Namikoshi
2089. Induced production of new epidithiodiketopiperazines by the Palauan marine-derived fungus *Trichoderma* sp. TPU199. **H. Yamazaki***, O. Takahashi, R. Kirikoshi, M. Namikoshi
2090. Synthetic study of optically active valerenic acid analogs for development of sedative active compounds. **S. Yato**, Y. Izu, T. Shirai, H. Tsumagata, T. Kitayama
2091. Effect of the Brazilian medicinal plant *Myrcia sphaerocarpa* on hyperglycemia and its active constituents. **M. Yoneda**, Y. Fukuda, M. Yamashita, A. Iida*
2092. Synthetic studies on ecteinascidin 743. **E. Yoshida**, T. Toma, S. Yokoshima, T. Fukuyama*
2093. Ethnomycology directed discovery: Expanding the chemistry of *p*-terphenyl natural products. **M. Zhang***, A.M. Beekman, R. Barrow

Hawaii Convention Center
Halls I, II, III

Molecular Containers (#99)

Organized by: S. Mitsuhiko, L. Isaacs, H. Yang

Poster Session
19:00 – 21:00

2094. Gating of catalysis by self-assembled nanospheres with multiple endohedral binding sites. **Q. Wang**, J.N. Reek*
2095. Metallo molecular containers with tetrakis(2,2'-bipyridyl)porphyrin ligands. **H. Ube**, T. Nakamura, R. Miyake, S. Watanuki, K. Endo, M. Shiro, M. Shionoya*
2096. Construction of a transformable coordination capsule/tube with polycationic frameworks. **K. Yazaki**, Y. Sei, M. Akita, M. Yoshizawa*
2097. Cationic ligands as building blocks for molecular containers: Guest binding through host-anion-guest interactions. **A. Peuronen***, A. Taponen, S. Forsblom, M. Lahtinen*
2098. Dinuclear-Ag(I)-macrocycle: Recognition of ditopic aromatic molecules through multipoint Ag-π interactions. **K. OMOTO**, S. Tashiro, M. Kuritani, M. Shionoya*
2099. Selective recognition of steroid hormones by using an M_2L_4 coordination capsule. **M. Yamashina**, M. Akita, M. Yoshizawa*
2100. Synthesis of self-assembling biscavitands for molecular recognition and guest complexation. **M. Escamilla***, J.P. Buenaflor, L. Tunstad
2101. Polyaromatic capsule capable of detecting natural fragrance compounds. **A. Suzuki**, Y. Sei, M. Akita, M. Yoshizawa*
2102. Multiresponsive metal-organic lantern capsules in solution. **J.K. Klosterman**
2103. Facile synthesis, structures, and guest binding properties of resorcinol-bridged cofacial porphyrin dimers. **N. Kuramochi**, K. YAMASHITA*, Q. PHAM, K. KATAOKA, K. SUGIURA
2104. Enzymatic activity of CLE confined within $M_{12}L_{24}$ spherical complex. **Y.E. Fujii**, D. Fujita, M. Fujita*
2105. Inclusion ability of cyclic porphyrin dimers directed toward preparation of π-conjugated molecular tube. **Y. Chiba**, J. Terao, T. Fujihara, Y. Tsuji*
2106. Inverse electron demand Diels-Alder reactions for tuneable post-assembly modification . **B.S. Pilgrim**, D.A. Roberts, J.D. Cooper, J.R. Nitschke*
2107. Shape-selective solid state host-guest complexation between pillar[5]arene and *n*-alkanes with gate opening pressure. **R. Sueto**, T. Ogoshi, T. Yamagishi
2108. Synthesis and evaluation of new functional materials using hyperbranched polymer. **R. Sato**

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 3 & 4

Recent Trends in Organocatalysis (#122)

Organized by: M. Terada, M. Shi, J. Antilla, K. Maruoka
Presiding: S. Takizawa, M. Terada

19:00 – 2109. Synthetic study of biologically active piperidine alkaloids using asymmetric organocatalytic reactions. **H. Ishikawa***
19:20 – 2110. Catalyst control of diastereoselectivity in chiral amine-catalyzed asymmetric conjugate additions of aldehydes. **T. Kano***, K. Maruoka*
19:40 – 2111. Novel bifunctional phosphonium(or ammonium) salts based on amino acids: cooperative phase-transfer catalysis in asymmetric C-C bond forming reaction. **G. Zhao**

*** Principle Author**

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20:00 – 2112. Asymmetric catalysis of *P*-spiro chiral tetraaminophosphonium salts. **D. Uraguchi***
20:20 – 2113. Enantioselective organocatalyzed formal [n+2] cycloaddition using allenoates. **S. Takizawa***, H. Sasai
20:40 – 2114. Development of organocatalyst and its application toward the synthesis of bioactive natural product. **T. Yamada**, T. Hirose, S. Omura*, T. Sunazuka*

Hawaii Convention Center
Halls I, II, III

Organic Reactions in Aqueous Media (#131)

Organized by: S. Kobayashi, B. Lipshutz, C. Cai
Presiding: S. Kobayashi

Poster Session
19:00 – 21:00

2115. Quantitative reaction monitoring of heterogeneous reactions in water by using DART-MS. **K. Masuda**, S. Kobayashi
2116. Development of catalytic construction of hydrogen isotope chirality in deuterium oxide. **T. Kitanosono**, S. Kobayashi
2117. Chiral copper(II) catalysis for enantioselective silyl conjugate additions in water. **T. Kitanosono**, C. Liu, L. Zhu, P. Xu, S. Kobayashi
2118. Design of novel catalysts in water utilizing interaction between Lewis acid-surfactant-combined catalyst and single-walled carbon nanotube. **P. Xu**, T. Kitanosono, S. Kobayashi
2119. Palladium(II)-catalyst mixed with surfactant for Michael reactions in water. **M. Miyo**, T. Kitanosono, S. Kobayashi
2120. Development of asymmetric Mukaiyama aldol reactions without use of organic solvent. **L. Zhu**, T. Kitanosono, S. Kobayashi
2121. Conversion of nitroalkanes into carboxylic acids via iodide catalysis. **P. Marce-Villa***, J. Lynch, J.M. Williams
2122. Photocatalytic carbon-carbon bond forming reaction in aqueous media. **H. Miyabe**
2123. Green protocol for the synthesis of vesicular acetycholine transporter inhibitors and beta blockers. **J. Agarwal***
2124. Synthesis of an amphiphilic *N*-heterocyclic carbene ligand applicable to the aqueous cross coupling reaction. **T. Yanagimoto***
2125. Organic reactions in aqueous Triton X-100 (TX100) micelles. **G. Lu**
2126. Hydrophobic effect in the reaction of amphiphilic thioesters with alkyl amines in water. **I. Otomo**, C. Kuroda
2127. Asymmetric reduction in aqueous aggregates formed from a chiral surfactant. **Y. Ono**, Y. Takahashi, Y. Kondo*
2128. Asymmetric aldol reaction of hydroxyacetone and dihydroxyacetone derivatives catalyzed by chiral Zn^{2+} complexes of aminoacyl 1,4,7,10-tetraazacyclododecane. **M. Yasuda**, S. Itoh, S. Aoki
2129. Catalytic hydration of organonitriles catalyzed by O-donor ligated iridium complexes. **T. Oshiki***
2130. Synthesis of *N*-heterocyclic carbine-based surfactants and their catalytic activities in aqueous solution. **T. Taira***, T. Yanagimoto, K. Sakai, H. Sakai, A. Endo, T. Imura
2131. Design of nano-scale platform for Diels-Alder reaction in water using liposome. **F. Iwasaki**, K. Suga, Y. Okamoto, H. Umakoshi*
2132. Green a-bromination of arylketones with HBr-$NaClO_3$ in water. **S. Ko**, J. Ban, Y. Jung, H. Rhee*

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Applications of C-H Functionalization (#169)

Organized by: P. Vachal, Z. Shi, C. Li, H. Davies, K. Itami, H. Lebel

19:00 – 2133. New stage of chelation assisted functionalization of C-H bonds. **N. Chatani***
19:30 – 2134. Directing group-free copper-catalyzed intermolecular arylation of simple primary and secondary benzylic sp^3 C–H bonds. **S. Zultanski**, S.S. Stahl*
19:50 – 2135. Access to tetrahydroisoquinolines via intramolecular direct functionalization of alpha-cyclopropyl amino acid-derivatives. **C.L. Ladd**, A.V. Belouin, A.B. Charette*
20:10 – 2136. Development of novel iridium complexes for enantioselective atom transfer C-H functionalization reactions. **S.B. Blakey***
20:40 – 2137. Transition metal-free direct functionalization of arene C-H bonds: Rapid synthesis of biaryls, aryl ketones as well as fused N- and O-heterocycles. **L. Kurti***

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 4

Strategies and Tactics for Complex Molecule Synthesis (#174)

Organized by: C. Forsyth, C. Lee, L. Barriault, J. Cha
Presiding: A.E. Mattson, M. Visco

19:00 introduction
19:00 – 2138. Synthetic studies on the *Galbulimima* alkaloid GB17. **R. Thomson***
19:25 – 2139. Catalytic enantioselective vinylogous Pictet-Spengler reaction: Toward the total synthesis of the Kopsia alkaloids. **U.K. Tambar**
19:50 – 2140. Efforts towards the total synthesis of bibselyngbyolide a. **K. Nostadt**, M.E. Maier*
20:00 – 2141. Progress toward the total synthesis of Ivorenolide A. **M. de Leseleuc**, E. Godin, S. Parisien-Collette, S. Collins*
20:10 – 2142. Analog-oriented synthesis of bioactive natural products. **C. Vanderwal**
20:35 – 2143. Catalytic enantioselective carbon-carbon bond formation reactions with diazocompounds. **D. Ryu***, B. Kang, S. Shin, S. Shim

Hawaii Convention Center
Halls I, II, III

New Organosulfur Chemistry (#436)

Organized by: E. Block, E. Juaristi, A. Schwan, X. Jiang, C. Lee
Presiding: R. Glass

Poster Session
19:00 – 21:00

2144. Novel preparation of cyclic vinyl sulfones and alkylalkynyl sulfones. **A. Rodríguez Menéndez***
2145. Stereoselective synthesis of chiral sulfilimines and sulfoximines. **H. Piras**, H. Lebel*
2146. Reaction scheme for ''pinking'' of onion. M. Kato, T. Kamoi, **S. Imai***
2147. Access to thiacycles via Pd-catalyzed cascade cyclizations. T. Castanheiro*, M. Donnard, J. Suffert, **M. Gulea***
2148. Biobased thioethers as metal-absorbing ligands. R.E. Murray*, **G.B. Bantchev***, R.O. Dunn, K.L. Ascherl, K.M. Doll
2149. Thiol-ene chemistry of vinyldimethylazlactone in $CDCl_3$. **F. Azemar***, J. Pinaud, S. MONGE
2150. Exceptionally simple chiral sulfur-based olefin ligands for broad-scope asymmetric catalysis. **M. Xu***
2151. Copper-catalyzed aerobic oxidation of thiols for the synthesis of thiocarbonyl compounds. **H. Jang***
2152. Stereoselective synthesis of *cis*-α,β-unsaturated sulfones and sulfonates using new Peterson reagents. **K. Ando***, M. Okumura, H. Sumida, T. Wada, K. Fujimoto
2153. Ruthenium complex-controlled catalytic addition of organic disulfides to terminal alkynes. **K. Sawase***, Y. Kimura, A. Toshimitsu, T. Kondo
2154. New insights into the electronic structures and electrochemical behavior of 2-benzothio- and 2-benzoselenopyrylium tetrafluoroborates. **N. Nagahora**, I. Takemoto, M. Fujii, H. Tokumaru, K. Shioji, K. Okuma
2155. Ferrocene-fused sulfur heterocycles. S. Banks, B. Maharjan, **J.P. Selegue***, S. Parkin
2156. Synthesis of sodium sulfinates and their application in palladium(II) catalyzed addition reactions. **B. Skillinghaug**
2157. Copper-catalyzed preparation of thiosulfonates using sodium sulfinates with thiols or disulfides. **N. Taniguchi***
2158. Selective S-deacetylation: Practical syntheses of glycosylthiols and drug mercapto-analogs. P. Shu, J. Zeng, J. Tao, Y. Zhao, **Q. Wan***
2159. Tandem reactions leading from simple sulfones to complex bicycles andt tricycles: Applications as enzyme inhibitors. **J.E. Wulff***, M.G. Brant
2160. Thio-click and domino approaches to thioglycomimetics. **Z. Witczak***

Saturday Morning

Hilton Hawaiian Village
Mid-Pacific Center, Coral 5

Designed pi-Electronic Systems: Synthesis, Properties, Theory and Function (#25)

Organized by: T. Kubo, Y. Tobe, M. Haley, G. Bodwell, K. Wong
Presiding: K. Wong

8:00 – 2161. Insulated oligothiophene molecular wires and tripodal anchors for molecular electronics . **Y. Aso***
8:40 – 2162. Selenium and tellurium-containing organic electronic materials. **D.S. Seferos**
9:05 – 2163. Thiophene-fused dehydroannulenes: An isolable, but reactive scaffold for polycyclic 2D π electron systems. **F. Aiko***
9:30 – 2164. Contorted aromatics and polymers from cyclopenta-fused polycyclic aromatic hydrocarbons. **K.N. Plunkett**
9:45 – 2165. Thiophene-containing macrocyclic arylenes: Synthesis and photophysical properties. **T. Shibata***, S. Kita, M. Fujimoto, Y. Suzuki, D. Yokoyama
10:00 – 2166. Designing aromatic structures to help control molecular organization in thin-layer devices. **J. Wuest***, A. Heskia, S. Langis-Barsetti, V. Lachapelle
10:40 – 2167. 2D polymers as lattice templates for designer surfaces. **B.T. King**
11:05 – 2168. From open-shell singlet diradicaloids to polyradicaloids. **J. Wu**
11:30 – 2169. Copper-catalyzed efficient route to 2-halo-substituted imidazo[1,2-a]pyridines and its application in designed pi-electronic systems. **H. Jiang***, Y. Gao, W. Wu
11:45 – 2170. Synthesis and characterization of 3,3'-5,5' doubly linked corrole dimers. **T. Tanaka**, S. Ooi, A. Osuka*

Hilton Hawaiian Village
Rainbow Tower, Rainbow 3

Anion Receptors (#31)

Organized by: B. Hay, F. Pfeffer, B. Wu, C. Jia, R. Custelcean
Presiding: R. Custelcean, P. Gale

8:00 – 2171. Power of the chelate and macrocyclic effects in anion coordination. **K. Bowman-James***, H. Telikepalli, P. Metola, V. Day
8:30 – 2172. Hydrogen bond host for fluoride and (maybe) hydride . **J. Jackson**, T. Kakeshpour, P. Nandi
9:00 – 2173. Ion pair-based molecular recognition of biological targets by supramolecular ligands. **C. Schmuck***
9:30 – 2174. Pseudo-bicyclic guanidinium-based scaffold for binding anions in a symmetric planar conformation. **V. Bryantsev**, C.A. Seipp, N.J. Williams, R. Custelcean, B.A. Moyer
10:00 Break
10:15 – 2175. Calixpyrroles as anion and ion pair receptors. **J.L. Sessler***
10:45 – 2176. Peptidic receptors for selective anion recognition in aqueous solution. **K.A. Jolliffe***
11:15 – 2177. Cooperativity and complexity in the binding of anions and cations to a tetratopic ion-pairing host. **P. Thordarson***, E. Howe

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 3

Natural Product-based Drug Discovery (#66)

Organized by: B. Baker, R. Kerr, Y. Qin, D. Uemura, B. Littlefield
Presiding: H. Kigoshi, D. Romo

8:00 – 2178. Microtubule-stabilizing natural products: potential agents for neurodegenerate disease. **A.B. Smith, III**, V.M. Lee, J.Q. Trojanowski, K.R. Brunden, I. Paterson, C. Ballatore
8:35 – 2179. Aplyronine A, an antitumor marine macrolide that promotes protein-protein interaction. **H. Kigoshi***
9:05 – 2180. Bioactivity-guided retrosynthesis: "Upping the ante" for natural product-based drug target and lead discovery . **D. Romo***
9:40 – 2181. Isolation and total synthesis of microbial natural products. **T. Sunazuka***, T. Hirose, S. Omura
10:00 – 2182. Discovery of bioactive lead compounds from plants. **H. Zhang***
10:20 – 2183. Formal total synthesis of sarain A. **S. Yokoshima**
10:40 – 2184. Convergent approach to the synthesis of ciguatoxin CTX3C. **I. Kadota***
11:00 – 2185. "Re-tooling" natural products for drug discovery. **C.L. Chai**
11:10 – 2186. Discovery of novel orexin receptor agonists for controlling sleep/awake cycle. **T. Saitoh**, T. Nagahara, N. Kutsumura, Y. Irukayama, Y. Ogawa, H. Fujii, M. Yanagisawa, H. Nagase
11:20 – 2187. Unified total synthesis and biological activity of sarcophytonolides. **H. Takamura***, K. Iwamoto, E. Nakao, N. Harada, T. Kikuchi, O. Ohno, K. Suenaga, N. Endo, Y. Fukuda, I. Kadota
11:30 – 2188. Construction of congested bridged bicyclic systems: Progress toward the first total synthesis of an antithrombotic natural product. S.L. Maki, E.J. St.Germain, K.P. Yadavalli, P. Maity, **S.D. Lepore***

Hawaii Convention Center
Halls I, II, III

Recent Trends in Organocatalysis (#122)

Organized by: M. Terada, M. Shi, J. Antilla, K. Maruoka

Poster Session
10:00 – 12:00

2189. Stereoselective aldol reactions using organocatalysts having a 2,6-difluorophenyl group derived from (L)-valine. Y. Tanimura, **K. Ishimaru***
2190. Phosphine oxide-catalyzed enantioselective cross-aldol reactions between ketones. **S. Kotani***, S. Aoki, M. Sugiura, M. Ogasawara, M. Nakajima

*** Principle Author**

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2191. Fluorogenic probes for chemical transformations: Turn-on aldol, Mannich, and Diels-Alder reaction sensors for evaluation of both enamine and iminium catalysis. **N. Mase***, T. Masuda, K. Sato, T. Narumi, N. Watanabe

2192. Activation of boron compounds by chiral α-hydroxy carboxylic acid catalysts. **M. Sugiura***, Y. Kuboyama, W. Ishikawa, M. Tokudomi, R. Kinoshita, M. Nakajima

2193. Regio- and stereoselective conjugate addition of aldehydes to β-tosyl enones catalyzed by binaphthyl-modified chiral amine. **H. Maruyama**, H. Sugimoto, T. Kano, K. Maruoka

2194. Development of 1,4-addition reaction of 2-formylthioesters to vinylketones involving an all-carbon quaternary carbon atom construction. **T. Misaki***, T. Tatsumi, T. Sugimura

2195. Enantioselective phase-transfer catalytic alkylation of (*E*)-4-bromobenzylideneamino *tert*-butyl malonates. **C. Park***, M. Ha, D. Kim, S. Hong, Y. Park, M. Kim, H. Park

2196. Novel method for synthesis of cyclic ether using transition metal catalysts. **R. Nakaya**, H. Yokoyama, M. Miyazawa*

2197. Chemoselective two-directional reaction induced by acidic zwitterions bearing highly stabilized carbanion moiety. **H. Yanai**, Y. Sasaki, Y. Yamamoto, T. Matsumoto

2198. Synthesis of novel quaternary ammonium salts derived from quinine and their application to asymmetric hydrolysis of amino acid esters. **Y. Furutachi***, Y. Hidani, T. ISHIDA, M. Tokunaga, A. Hamasaki

2199. Theoretical study on enantioselective alkylation by binaphthyl chiral phase-transfer catalysts: A DFT-based conformational analysis. **T. Kamachi**, K. Yoshizawa

2200. Final-stage site-selective acylation for the total syntheses of multifidosides A-C by organocatalysis. **Y. Ueda**, T. Furuta, T. Kawabata*

2201. Oxy-allyl cation mediated asymmetric nucleophilic substitution of α-tosyloxy cyclopentanones. **C. Liu***, E.Z. Oblak, M. Vanderwal, D. Almstead

2202. Straightforward synthesis of 1,2-dicyanoalkanes from nitroalkenes and silyl cyanide mediated by tetrabutylammonium fluoride. **T. Nagata**, K. Kiyokawa, S. Minakata*

2203. Phase-transfer catalyzed asymmetric synthesis of γ,γ-disubstituted unsaturated γ-lactams. **H. Toyama**, a. arlt, T. Hashimoto, K. Maruoka

2204. Chiral Brønsted acid catalyzed asymmetric Mannich-type reaction of aldehydes with *N*-carbamate-protected aminals. **Y. Aota**, T. Kano, K. Maruoka*

2205. Diaziridination of cyclic secondary amines using haloamide salt. S. Tanaka, **S. Minakata***

2206. Iodine-catalyzed diamination of olefins using haloamide salt. S. Minakata*, **A. Hirayama**, S. Tanaka

2207. Novel NHC-catalyzed synthesis of silyl dienol ethers via 1,4-Brook rearrangement. **H. Amano**, K. Sugimoto, Y. Matsuya*

2208. Chemoselective catalytic oxidation of 1,2-diols to α-hydroxy acids. **M. Shibuya***, K. Furukawa, Y. Yamamoto

2209. Construction of vicinal quaternary chiral centers by asymmetric Mannich type reaction using optically active bis(guanidino)iminophosphorane organosuperbase catalyst. **T. Takeda**, M. Terada*

2210. Development of oxidative kinetic resolution of β-substituted tetralones based on asymmetric α-hydroxylation using guanidine-bisurea bifunctional organocatalyst. **M. Odagi**, M. Sato, M. Yamanaka, K. Nagasawa*

2211. Iodoarene-catalyzed cyclization reactions. **W.J. Moran***

2212. Organocatalysis in confined space for the chemical valorization of carbon dioxide. **V. Dufaud***, B. Chatelet, A. Martinez, J. Dutasta

2213. Novel L-prolinamide based bifunctional chiral organo-catalyst: Synthesis and its application in direct organo-catalytic asymmetric aldol reaction. **P.K. Jaiswal***, D. Dikshit, A. Mishra, S. Chaudhary

2214. Bioinspired organocatalytic enantioselective decarboxylative aldol reaction of malonic acid half thioesters with aldehydes and trifluoromethyl ketones. **J. Sim**, H. Bae, J. Lee, B. List, C. Song*

2215. Thiourea-catalyzed generation of trityl cation species: Application to carbonyl-ene cyclization reaction. N. Nishiyama, **R. Horinouchi**, H. Kotsuki

2216. Quinonediimine-catalyzed oxidative coupling of organomagnesium reagents. **T. Amaya***, R. Suzuki, T. Hirao*

2217. Development of chiral aryl phosphinic acid catalyst and its application to catalytic enantioselective hetero Diels-Alder reaction. N. Momiyama*, **T. Narumi**, M. Terada*

2218. Asymmetric organocatalytic Michael addition reaction of α-aryl-substituted lactams by phase transfer catalyst: A new short synthesis of (+)-mesembrine. **S. Nunokawa**, M. Minamisawa, H. Kotsuki*

2219. Brønsted acid catalyzed asymmetric silylation of alcohols. **K. Hyodo***, B. List

2220. Efficient enantioselective synthesis of all-carbon-substituted quaternary carbon stereogenic centers through the primary amine-based organocatalytic Michael addition reaction of α-substituted cyclic ketones at high pressure. **R. Horinouchi**, K. Kamei, R. Watanabe, N. Hieda, N. Tatsumi, H. Kotsuki*

2221. Synthesis of architecturally complex block copolymers consisting of oligosaccaride and polyester via organocatalytic ring-opening polymerization. **T. Isono***, T. Satoh*

2222. Asymmetric synthesis of phosphite triesters using chiral Brønsted acid catalysts. **N. Oka***, T. Oshima, K. Ori, T. Sakai, N. Seo, K. Ando

2223. Design and development of C_1 symmetric bis phosphoric acid catalyst. N. Momiyama*, **K. Funayama**, M. Terada*

2224. Catalytic asymmetric synthesis of *anti*-α,β-diamino acid derivatives. **S. Izumi**, Y. Kobayashi, Y. Takemoto*

2225. Enantioselective synthesis of [2.2]-paracyclophanes by chiral phosphoric acid-catalyzed kinetic resolution of PHANOLs. **H. Kishi**, T. Akiyama*, K. Mori

2226. Enantioselective reaction of enamide with azlactone or thiazolone catalyzed by chiral Brønsted acid catalyst. **J. Kikuchi**, N. Momiyama, M. Terada

2227. New and efficient generation of perfluoroalkyl radicals using highly electrophilic hypervalent iodine(III) reagent under metal-free conditions. **H. Kashiwagi***, K. Maruoka

2228. Migrative cyclization of propargylsulfones using N-heterocyclic carbenes. K. Yamada, **Y. Wang**, R. Oriez, Y. Yamaoka, K. Takasu

2229. Organophosphate-catalyzed bulk ring-opening polymerization of cyclic esters. **T. Saito**, T. Isono, K. Tajima, T. Kakuchi, T. Satoh*

2230. Metal-free C-H arylation of arenes with diazonium salts induced by polyaniline. **D. Hata**, T. Amaya, T. Hirao

2231. Efficient photolytic C–H bond functionalization of benzylic compounds with hypervalent iodine(III) reagent. **T. Inada**, K. Maruoka

2232. Flavin-catalyzed photoinduced thioacetalization of aldehydes. **Y. Arakawa**, T. Mihara, K. Minagawa, Y. Imada*

2233. Visible light-induced α-oxyamination of aldehydes with flavin organocatalysts. **T. Tagami**, Y. Arakawa, K. Minagawa, Y. Imada*

2234. Facile preparation of flavinium organocatalysts utilizing cation-exchange resins. **T. Oonishi**, Y. Arakawa, K. Minagawa, Y. Imada*

2235. Exploiting intramolecularity: Reaction development using aldehydes as organocatalysts. **A.M. Beauchemin***

2236. Motif for the recognition of phosphonate monoester for the ester hydrolysis catalyst. **A. Shiratori***, N. Kihara

2237. Synthetic study of *trans*-dihydrolycoricidine utilizing 1,4-type catalytic asymmetric Friedel-Crafts reaction. **M. Kato**, K. Nagasawa*

2238. Asymmetric Friedel-Crafts alkylation between indoles and α,β-disubstituted acroleins catalyzed by chiral borate salt. **Y. Yagyu**, M. Ueda*, I. Ryu*

2239. A bulky thiyl radical catalyst for [3 + 2] cyclization of vinylaziridine and alkenes. **K. Takino**

2240. Organocatalytic asymmetric Michael reaction of cyclic β-ketoesters and Morita–Baylis–Hillman derivatives bearing a leaving group. **R. Takagi**, E. Fujii, H. Kondo

2241. Highly enantioselective fluorination of α-branched aldehydes with a newly developed chiral primary amine catalyst. **K. Kitahara**, T. Okimi, K. Shibatomi, S. Iwasa

2242. Tethered oligopeptides-catalyzed asymmetric conjugate addition reactions. **A. Ueda**, T. Umeno, R. Eto, M. Tanaka*

2243. N-heteroarenesulfonylated cinchona alkaloid amide catalysts: Asymmetric reaction of some nucleophiles with ketimines. **S. Nakamura***

2244. Control of difluorocarbene generation by organocatalyst and its applications. **K. Fuchibe**, Y. Koseki, T. Aono, M. Bando, R. Takayama, J. Ichikawa

2245. Total synthesis of ellagitannins via site-selective sequential functionalization of unprotected glucose. **H. Takeuchi**, K. Mishiro, Y. Ueda, Y. Fujimori, T. Furuta, T. Kawabata*

2246. Enantioselective route to chiral biaryl chloride/Iodide by chiral phosphoric acid catalyzed sequential halogenation strategy. **T. Itakura**, K. Mori, T. Akiyama*

2247. First nonenzymatic dynamic kinetic resolution of racemic α-amino acid derivatives by the asymmetric esterification using chiral acyl-transfer catalyst. **E. Tokumaru**, I. Shiina

2248. Betaine-type electron-transfer catalyst: Design and application. **M. Torii**, D. Uraguchi, T. Ooi

2249. Aerobic alcohol oxidation using AZADOs-NO_x catalysis. **S. Nagasawa**, Y. Osada, Y. Sasano, M. Shibuya, Y. Iwabuchi*

2250. Screening of peptide libraries for discovering efficient aminocatalysts. **K. Akagawa**, J. Satou, K. Kudo*

2251. Development of highly active bifunctional organocatalyst having quaternary ammonium as a key functional group. **K. Dan**, A. Kondoh, M. Terada*

2252. Catalytic asymmetric carbon-heteroatom bond-forming reactions at α-position of carbonyl compounds. **Y. Ando**, K. Ohmatsu, T. Ooi*

2253. Water-compatible prolinamide catalysts for stereoselective aldol reaction in aqueous solution. **T. Machinami***, D.M. Miura, T. Fujimoto, M. Tashiro, M. Baba

2254. Chiral binol-based polyethers: Multipurpose chiral organocatalysts. **S. Park**, C. Song*

2255. Asymmetric heterocycle syntheses utilizing multipoint activation by organocatalysts. **K. Asano***, S. Matsubara

2256. Enantioselective desymmetrization of *meso* 1,2-diols by chiral nucleophilic catalyst containing a 1,1′-binaphthyl unit. **H. Mandai***, H. Yasuhara, K. Fujii, S. Suga*

2257. Planar chiral [2.2]paracyclophane-based phosphine-phenol catalysts bearing exceptionally high reactivity for aza-Morita-Baylis-Hillman reaction. s. kitagaki*, S. Adachi, **A. Furusawa**, N. Takenaga, Y. Ohta, C. Mukai

2258. Development of length-selective acylation catalyst using hydrogen bonding between amides. **J. Yabe**, N. Kihara*

2259. Enantioselective Steglich rearrangement of oxindole derivatives and kinetic resolution of secondary alcohols by chiral nucleophilic catalyst containing a 1,1′-binaphthyl unit. **K. Fujii**, H. Mandai, T. Korenaga, S. Suga

2260. Synthesis of strong chiral Brønsted acids bearing an adjacent sulfonimide and its catalitic ability in hydroamination. **T. Ichiki**, R. Takagi, M. Abe

2261. Oxidative homocoupling reaction of aryl Grignard reagents using perfluorocyclopentene derivatives. **T. Korenaga***, K. Nitatori, K. Shimada

2262. Enantioselective Brønsted acid-catalyzed hydroboration of α,β-unsaturated ketones. **S.S. Lopez***, L.W. Hernandez, J. Antilla

2263. Kinetic resolution of racemic amino alcohols through intermolecular acetalization catalyzed by chiral Brønsted acid. **T. Yamanaka**, A. Kondoh, M. Terada*

2264. Synthesis of 5 to 8-aroylquinazolines by NHC-catalysis. **M. Nakagawa***, Y. Suzuki

2265. Regioselective synthesis of substituted quinoxalines via iminoethanones prepared by *N*-heterocyclic carbene catalysis. **R. Takehara**, M. Shinozaki, Y. Suzuki*

2266. Enviromentally-benign glycosylation reaction using thioglycosides prepared with an odorless thiol and phenyliodine bis(trifluoroacetate) (PIFA). **T. Kajimoto**, K. Morimoto, T. Dohi, Y. Kita

2267. Kinetic resolution of alcohols with chiral *N*-aryl imidazole-acid combined catalysts. **K. Suzuki**, A. Hirose, Y. Kiyota, R. Irie, T. Imahori*

2268. Phenyliodine bis(trifluoroacetate) (PIFA) as an excellent promoter of thioglycosides in glycosylation reaction. T. Kajimoto, **K. Morimoto**, R. Ogawa, T. Dohi, Y. Kita*

2269. Organic reactions in water using catalysts tethered on thermoresponsive copolymers. **R. Akebi**, T. Inoue, M. Rikukawa, Y. Masuyama, N. Suzuki

2270. Enantio- and diastereoselective phase-transfer alkylation of 3-substituted oxindoles with racemic secondary halides. **Y. Furukawa**, K. Ohmatsu, T. Ooi*

2271. Cooperative catalysts for activation of acid anhydrides. N. Banden, A. Tamaki, J. Itou, **S. Kojima***, Y. Yamamoto

2272. Development of the organocatalyst for efficient generation of carbon-centered radical. **T. Shimada**, R. Matsubara, M. Hayashi

2273. Asymmetric desymmetrization of *meso*-aziridines catalyzed by cinchona alkaloidamides-metal complexes. **N. Shiomi**

2274. Synthesis of biologically active flavonoids by Lewis base-catalyzed regioselective cyclization of *o*-alkynoylphenol derivatives. **K. Saito**, M. Yoshida, T. Doi*

2275. Asymmetric hydrolysis of 2-arylpropanic acid esters catalyzed by chiral phase-transfer catalyst. **A. Murakami***, K. Takehisa, A. Hamasaki, T. ISHIDA, T. Kamachi, K. Yoshizawa, M. Tokunaga

2276. Development of chiral iodine-catalyst assisted with NH-hydrogen bonding. **T. Arai**

2277. Development of main-chain polymer of chiral organocatalyst for asymmetric reaction. **N. Haraguchi***, S. Itsuno

2278. Brønsted base-catalyzed formal [3+2] cycloaddition of β,γ-epoxy esters with imines. **A. Kondoh**, K. Odaira, M. Terada*

2279. Chiral phosphoric acid catalyzed 1,2-sulfur rearrangement/enantioselective nucleophilic addition of dithioketal derivatives. **F. Li**, M. Terada*

*** Principle Author**

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2280. Organocatalytic coupling of carbon dioxide with epoxides: The unexpected booster effect of fluoroalcohols. **B. Grignard***, S. Gennen, M. Alves, T. Tassaing, C. Jérôme, C. Detrembleur
2281. Organocatalytic asymmetric synthesis of potentially bioactive 3-aminooxindole derivatives. **S.S. Chimni**
2282. Diazapane carboxylates in the catalysis of the Cope rearrangement, Diels-Alder cycloaddition and Michael addition. **J. Gleason**, D. Kaldre, N. Haggman, F. Larnaud, B. Zank
2283. *E*/*Z*-selective asymmetric conjugate addition to electron-deficient internal alkynes. **K. Yamada**, D. Uraguchi, T. Ooi*
2284. Guanidinium-hypoiodite catalyzed umpolung type coupling reaction of β-ketoamide with oxindoles. **T. Kato**, K. Yasui, K. Nagasawa*
2285. Organocatalysis via halogen-bond interaction. **X. Mi***, S. Guo
2286. Catalytic asymmetric Pictet-Spengler reaction using chiral supramolecular complex. **K. Yamashita**, S. Handa, H. Sugimoto*
2287. Stereoselective intramolecular direct cross-aldol and desymmetrization of aliphatic dials enabled by axially chiral aniline. **R. Yella**, T. Baba, Y. Tanaka, S. Yamamoto, T. Furuta*, T. Kawabata
2288. DFT study of chiral phosphoric acid catalyzed 1, 4-reduction of α, β- unsaturated ketones. **E. Yamamoto**, M. Yamanaka*
2289. Chiral tetraaminophosphonium salts mediated highly regio- and stereoselective 1,6- and 1,8-additions. **K. Yoshioka**, D. Uraguchi, T. Ooi*
2290. Theoretical study on chiral bis-phosphoric acid catalyzed asymmetric Diels-Alder reaction. **H. Noda**, N. Momiyama, M. Terada, M. Yamanaka*
2291. Synthesis of novel chiral quaternary phosphonium salts with hydrogen-bond donor and their application to asymmetric reactions. **Y. Hidani***, A. Hamasaki, T. ISHIDA, M. Tokunaga

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

New Green Techniques for Medicinal Chemistry (#148)

Organized by: W. Zhang, I. Ryu, P. Toy
Presiding: Y. Uozumi, W. Zhang

8:00 – 2292. Access to medically-relevant organoamine scaffolds via palladium-catalyzed decarboxylative allylation. **J.J. Chruma***
8:30 – 2293. Sustainable approaches to palladium-catalyzed cross-coupling reactions. **L. Vaccaro***
9:00 – 2294. Amphiphilic polymeric transition metal catalysts for coupling reactions in water. **Y. Uozumi**
9:30 – 2295. Rhodium-catalyzed direct enantioselective alkynylation of ketimines: Mechanistic studies and expansion of substrate generality. **T. Ohshima***, K. Morisaki, M. Sawa, R. Yonesaki, H. Morimoto
9:50 – 2296. Green approach to the synthesis of polycyclic compounds through rhodium-catalyzed cyclization of aromatic carboxylic acids. **T. Fukuyama***, S. Maetani, K. Miyagawa, T. Sugimori, I. Ryu*
10:10 – 2297. Methods for sultam library synthesis. **P.R. Hanson***
10:40 – 2298. Synthesis of highly and diversely substituted heterocycles from alk-3-yn-1-ones (propargyl ketones). **R. Dembinski**
11:10 – 2299. Chemical library design based on privileged structure by green chemistry . **H. Liu**
11:40 – 2300. Electroactivated heterogeneous catalytic C-H activation at sp^3 R_2NC-H and HOC-H sites: (a) Stereoretentive H/D exchange and (b) Amine alkylation with simple alcohols. **J. Jackson**, S. Bhatia, Z. Li

Hilton Hawaiian Village
Mid-Pacific Center, Coral 2

Applications of C-H Functionalization (#169)

Organized by: P. Vachal, Z. Shi, C. Li, H. Davies, K. Itami, H. Lebel

8:00 – 2301. C-H functionalization as an enabling methodology for drug discovery. **L. Hamann***
8:30 – 2302. Collaborative approach for C-H functionalization. **H.M. Davies***
9:00 – 2303. C-H functionalization: A transformative technology for drug discovery. **S.W. Krska***
9:30 – 2304. Materials- and biology-oriented C-H activation. **K. Itami**
10:00 – 2305. Isocanthine synthesis via Rh(III)-catalyzed intramolecular C–H functionalization. **H. Zhang***
10:20 – 2306. Palladium-catalyzed C–H activation of aliphatic amines. **M. Gaunt***
10:50 – 2307. High-throughput experimentation methods in the development of direct functionalization reactions. **L. Campeau**
11:10 – 2308. C-H functionalization symposium. **P.S. Baran**
11:40 – 2309. Iridium(III)-catalyzed benzylic amine-directed C-H sulfonamidation of arenes with sulfonyl azides. **M.P. Huestis***, H. Chen

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 1

Strategies and Tactics for Complex Molecule Synthesis (#174)

Organized by: C. Forsyth, C. Lee, L. Barriault, J. Cha
Presiding: A.B. Dounay, C. Forsyth

8:00 Introduction
8:05 – 2310. Novel tactics for synthesis of functionalized aryl hydroxamic acids. **A.B. Dounay***
8:30 – 2311. Unified synthetic approach toward *ent*-kaurene diterpenoids from *Isodon* species. L. Zhu, W. Ma, **C. Lee***
9:00 – 2312. Synthesis of cephalimysin A and related bioactive natural products with spiro furanone-γ-lactam core structure. **B. Wang**
9:25 – 2313. Total synthesis of apratoxin F. **L. Xiao**, M. Jackel, C. Forsyth*
9:40 – 2314. Strategic approaches in the total synthesis of complex natural products. **C. Forsyth***
10:10 break
10:20 – 2315. From alkaloids to terpenoids: Strategies and tactics for the synthesis of polycyclic natural products. **S.E. Reisman**
10:50 – 2316. Total syntheses of (-)-supinidine, (-)-isoretronecanol, (+)-elacomine, (-)-kainic acid and efforts toward (-)-domoic acid using a new annulation strategy. **J.T. Njardarson**
11:15 – 2317. Total synthesis of (+)-isoschizogamine. **H. Ueda**, A. Takada, H. Fujiwara, K. Sugimoto, H. Tokuyama*
11:30 – 2318. Synthesis of magellaninone-type *Lycopodium* alkaloids using a pyridine functionalization/reduction approach. **V.N. Lindsay***, R.A. Murphy, R. Sarpong
11:45 – 2319. Unified approach toward prenylated indole alkaloid natural products. **E.V. Mercado-Marin**, P. Garcia-Reynaga, R. Sarpong

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Cooperative Cocatalysis with Two Different Metals (#270)

Organized by: S. Blum, Y. Nakao, S. Chang

8:00 – 2320. Cooperative catalysis with gold and palladium in cross-coupling reactions. **S. Blum***
8:40 – 2321. Pd/Cu complexes: Cooperative and relay catalysis. m. lesieur, f. lazreg, f. nahra, **C. Cazin***
9:10 – 2322. Pd, Cr and Ag in C-H activation: Reactivity and selectivity control in the synthesis of biaryls. **I. Larrosa**
9:50 Break
10:00 – 2323. Progress toward dual catalytic, non-directed C-H functionalization. **J.C. Lewis**, L. Durak, J. Gair
10:40 – 2324. Cross-coupling reactions by cooperative Pd/Cu catalysis. **K. Semba***, K. Ariyama, R. Kameyama, Y. Nakao*
11:10 – 2325. Dual contemporaneous catalysis for C-C bond formation. **B.M. Trost**

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 2

Chemical Glycosylation: Methods and Mechanisms (#306)

Organized by: T. Lowary, X. Huang, S. Hung, K. Tanaka
Presiding: X. Huang

8:00 – 2326. Investigations on the chemical and chemoenzymatic synthesis of fragments of O-antigens from a variety of *Shigella* serotypes and species. **L.A. MULARD**
8:30 – 2327. Synthesis of immunomodulatory glycoconjugates based on recently developed chemical glycosylation. **Y. Fujimoto***
9:00 – 2328. Simple one-pot regioselective 6-O-phosphorylation of carbohydrates and trehalose desymmetrization. **C. Chang***, C. Wang
9:15 – 2329. Regio- and 1,2-*cis*-α-stereoselective glycosylation utilizing glycosyl acceptor-derived boronic ester catalyst. **D. Takahashi***, A. Nakagawa, M. Tanaka, K. Toshima*
9:30 – 2330. Development of structurally defined QS saponin-based immune adjuvants. **P. Wang***
10:00 Break
10:10 – 2331. Automated electrochemical assembly for oligosaccharide synthesis. **T. Nokami***, Y. Isoda, K. Takayanagi, N. Sasaki, S. Hayase, T. Itoh*
10:40 – 2332. Control of stereochemistry at anomeric centers via acyclic cation formation: The endocyclic cleavage reaction. **S. Manabe***, Y. Ito
10:55 – 2333. Direct stereoselective glycosidation using unprotected glucose. **Y. Fujimori**, H. Takeuchi, T. Furuta, Y. Ueda, T. Kawabata*
11:10 – 2334. Chemoenzymatic synthesis of *O*-sulfated sialyl Lewis x glycans. **X. Chen***, A. Santra, N. Tasnima, Y. Li, M. Muthana, H. Yu

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 3 & 4

New Horizon of Process Chemistry by Scalable Reactions and Technologies (#426)

Organized by: K. Tomioka, R. Williams, R. Hwu, H. Sajiki, T. Shioiri, N. Yasuda
Presiding: K. Tomioka

8:00 – 2335. Heterogeneous platinum-group metal catalyzed deuterium labeling methods on the basis of C-H activation. **H. Sajiki***, T. Yamada, Y. Sawama, Y. Monguchi
8:20 – 2336. Radical-based C-H functionalization of heteroarenes aimed at late-stage functionalization in drug discovery. **Y. Fujiwara***, P.S. Baran
8:40 – 2337. Practical synthesis of first-in-class MEK inhibitor trametinib (Mekinist®). **H. Abe***, S. Kikuchi, T. Iida, N. Nagahashi, N. Matsumoto, T. Miura, K. Matsumura, N. Seki, T. Ito, H. Kawasaki, T. Inaba
8:55 – 2338. Important catalytic transformations for drug development. **C. Senanayake**
9:15 – 2339. Asymmetric synthesis of efavirenz via organocatalyzed enantioselective trifluoromethylation. **N. Shibata***
9:35 – 2340. Application of Shibasaki asymmetric amination to manufacture of ASI-2. **N.N. Bhogle**, M. Toshima, S. Watanabe, T. Takasaki*, H. Zhao, M. Filios, J.R. Snoonian, K. Saranteas
9:50 Break
10:00 – 2341. Chemical modification of the 3′-dangling end of dsRNAs for the development of RNA medicines. **Y. Kitade***
10:20 – 2342. Citric acid assisted one-step synthesis for highly dispersed metallic Ru/SiO_2: As-prepared Ru/SiO_2 catalysts for Fischer-Tropsch synthesis. **S. Ishikura**, Y. Yoneyama, N. Tsubaki*
10:35 – 2343. Development of analytical standards guaranteed by qNMR. **T. Miura**, N. Sugimoto, T. Suematsu, S. Nakao, S. Takaoka, J. Hosoe, H. Nishimura, Y. Kikuchi, T. Katsuhara, T. Yamashita, Y. Yamada, Y. Goda*
10:55 – 2344. Innovative process for carbonates from CO_2. N. Miyake*, B. NISHIYAMA, M. Shinohata, K. NAKAOKA, **Y. KOSUGI**
11:10 – 2345. Catalysis in the pharmaceutical industry: Challenges and approaches. **Y. Hsiao***
11:30 – 2346. Magical power of *d*-block transition metals as catalysts for organic synthesis: Principles and examples. **E. Negishi***

Hilton Hawaiian Village
Rainbow Tower, Rainbow 1

Asymmetric Supramolecular Catalysis (#451)

Organized by: J. Takacs, S. Moteki, J. Green
Presiding: J. Takacs

8:00 Opening Remarks
8:05 – 2347. Supramolecular concepts in homogeneous catalysis. **B. Breit***
8:35 – 2348. Chirality transfer and amplification phenomena applied to asymmetric catalysis. **M. Raynal***, A. Desmarchelier, X. Caumes, M. Zimbron, A. Nouar, P. van Leeuwen, C. Thomas, L. Bouteiller
9:00 – 2349. Design and application of chiral supramolecular catalysts based on host-guest interactions. **Q. Fan***
9:30 – 2350. Supramolecularly regulated ligands in asymmetric transformations. **A. Vidal-Ferran***, H. Fernández-Pérez, L. Rovira, M. Vaquero
10:00 – 2351. Rapid identification of optimal ligand for palladium-catalyzed asymmetric allylations. **Y. Hara**, K. Ohmatsu, T. Ooi
10:20 – 2352. Switchable rotaxane catalysts. **D. Leigh***
10:50 – 2353. Enatioselective *o*-acylation of *meso*-1,2-diol with a chiral organocatalyst. **K. XU**, T. Iwase, K. Nakazono, T. Takata*
11:10 – 2354. Asymmetric radical processes through supramolecular catalysis. **P. Zhang***
11:40 – 2355. New self-assembly Co(III)-salen catalyst for asymmetric epoxide-opening reactions. **T. Imahori***, Y. Hayashi, M. Doi, M. Watanabe, Y. Kuwahara, S. Kurihara, R. Irie, M. Uchiyama

*** Principle Author**

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Mid-Pacific Center, Nautilus 1

Synthetic Modulators of Protein-Protein Interactions (#461)

Organized by: P. Arora, D. Fairlie, A. Kennan, K. Kumar, S. Sidhu, ,
Presiding: D.P. Fairlie

8:00 Break
8:30 Opening Remarks
8:35 – 2356. Membrane anchored molecules as modulators of protein-protein interactions. **K. Kumar***
9:00 – 2357. Semi-synthetic tRNA complement mediates in vitro protein synthesis. **K.A. Alexandrov**
9:25 – 2358. New encodable chemistry for protein labeling in living cells. **R. Scheck***
9:45 Break
9:55 – 2359. Display platforms for helical ligand discovery. R. Tennyson, **A. Kennan***, B. McNaughton*
10:20 – 2360. Painting proteins blue: β-(1-azulenyl)-L-alanine as a probe of protein-protein interactions. P. Gosavi, Y. Moroz, G. Caputo, **I. Korendovych**
10:40 – 2361. Design and gram-scale syntheses of small drug-like molecules actings as inhibitors of PPII helix-mediated protein-protein interactions. **S. Dohmen***, A. Soicke, R. Opitz, R. Kühne, H. Schmalz
11:00 Break
11:10 – 2362. Small molecule protein–protein interaction surrogates. **A.R. Van Dyke***, J.P. Carolan, A.K. Mapp
11:30 – 2363. Synthetic proteins for modulation of cell signaling. **S.S. Sidhu***

Saturday Afternoon

Hilton Hawaiian Village
Mid-Pacific Center, Coral 5

Designed pi-Electronic Systems: Synthesis, Properties, Theory and Function (#25)

Organized by: T. Kubo, Y. Tobe, M. Haley, G. Bodwell, K. Wong
Presiding: M.M. Haley

13:00 – 2364. From molecules to materials. **C. Nuckolls***
13:40 – 2365. New aromatic materials for highly efficient small-molecule based organic solar cells. **K. Wong***
14:05 – 2366. Fluorescent and switchable hydrazone-based hydrogel. **I. Aprahamian***, H. Qian
14:30 – 2367. Design and synthesis of novel electron donors and acceptors for high performance organic electronic materials. **Y. Liu***
14:45 – 2368. Brønsted acid promoted polyalkyne benzannulation to synthesize pyrenes, peropyrenes, and graphene nanoribbons. **W.A. Chalifoux**, K.C. Sproul, C. Sarcinella, W. Yang
15:00 – 2369. Chirality and corannulene. **J. Siegel***
15:25 – 2370. Propellers and scissors – unusual switching motifs in pi-extended isoindolinones. **S. Eisler***, P. Estey, A. Bubar
15:50 – 2371. Polycyclic aromatic azomethine ylide for the synthesis of planar and bowl-shaped nitrogen-containing PAHs. **S. Ito***, Y. Tokimaru, K. Nozaki*
16:05 – 2372. Synthesis and properties of stable [8]circulene derivatives. **A. Whalley**
16:20 – 2373. Tetracyclopentatetraphenylene: A non-benzenoid circulene. **Y. Tobe***
16:45 Closing Remarks

Hilton Hawaiian Village
Rainbow Tower, Rainbow 3

Anion Receptors (#31)

Organized by: B. Hay, F. Pfeffer, B. Wu, C. Jia, R. Custelcean
Presiding: K. Bowman-James, F.M. Pfeffer

13:00 – 2374. Anion binding by other anions: Self-assembly in real biological fluids. **F. Hof***, G. Garnett, J. Peña, K. Daze, M. Ma, L.N. Zakharov
13:30 – 2375. Anion recognition and separation from water by self-assembled guanidinium receptors. **R. Custelcean***
14:00 – 2376. Assembly of anion coordination cages and their inclusion chemistry. **B. Wu***, X. Yang
14:30 Break
14:45 – 2377. System of self-assembled anion-binding $Fe_4L_6^{8+}$ cages that adapts to external stimuli. **J.K. Clegg***, J.R. Nitschke
15:15 – 2378. Computer-aided design of anion receptors. **B. Hay***

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 3

Natural Product-based Drug Discovery (#66)

Organized by: B. Baker, R. Kerr, Y. Qin, D. Uemura, B. Littlefield
Presiding: B.A. Littlefield, D. Uemura

13:00 – 2379. Discovery and development of eribulin (Halaven®), a macrocyclic ketone analog of halichondrin B, for treatment of advanced breast cancer. **B.A. Littlefield***
13:30 – 2380. Industrialization of marine natural product-based drug total synthesis: Crystallization by design in the manufacturing of Halaven. **F. Fang***
14:00 – 2381. Accessing polyketide structures through chemical and biological technologies. **R. Taylor**
14:40 – 2382. Expanding the toolbox: Using the power of synthetic chemistry to devise new cytotoxins configured for use in antibody-drug conjugates. **J. Leighton***
15:10 – 2383. Glimpse into natural product-based drug discovery at Eisai. **M. Postema***
15:30 – 2384. Synthetic studies of manzacidins A-C based on diastereoselective hydroxymethylation of chiral nitro compounds. **A. Sakakura***, N. Miyoshi, T. Kudoh
15:50 – 2385. Synthesis of biologically active steroid-derived compounds from an edible mushroom. **T. Nishikawa***, Y. Hirata, H. Kawagishi
16:10 – 2386. Towards the total synthesis of azaspiracid-3. D. Adu-Ampratwum, A. Okumu, **N. Kenton**, C. Forsyth
16:20 – 2387. Novel synthetic triterpenoids with powerful anti-inflammatory and cytoprotective cctivity. **G.W. Gribble***
16:30 – 2388. Onionin A, a new sulfur-containing compound isolated from onion, impairs tumor development and lung metastasis by regulating macrophage activation. **Y. Fujiwara***, Y. Komohara, H. Horlad, T. Nohara, M. Takeya
16:40 – 2389. Chemical synthesis of the potent anticancer agent prunustatin A. **M. Chojnacka**, R. Batey*
16:50 Closing Remark

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

New Green Techniques for Medicinal Chemistry (#148)

Organized by: W. Zhang, I. Ryu, P. Toy
Presiding: P.R. Hanson, P.H. Toy

13:00 – 2390. Ionic liquid-mediated improved efficiency of enzymatic kinetic resolution of secondary alcohols. T. Nishihara, Y. Matsubara, Y. Fukaya, T. Nokami, **T. Itoh***
13:30 – 2391. Ionic liquid supported regioselective synthesis of imidazo[5,1-c]quioxalines and N-phenylbenzimidats via modified Pictet-Spengler reaction. **C. Sun***
14:00 – 2392. Direct construction of C-C and C-S bonds via C-H cleavage. C. Lin, J. Zhang, B. Wang, M. Yu, **Y. Zhang***
14:30 – 2393. Dealkoxylative cross coupling reactions via the direct functionalization of unactivated C_{aryl}-O bonds. **M. Leiendecker**, C. Hsiao, L. Guo, N. Alandini, M. Rueping*
14:50 – 2394. Study of organic synthesis through aerobic photooxidation. **A. Itoh**
15:20 – 2395. Organic transformations in water via fluorous catalytic systems. **Y. Lam***, W. Ang
15:50 – 2396. Recyclable organocatalysis for organofluorination and other asymmetric synthesis. **W. Zhang***
16:15 – 2397. Reengineering classic organic reactions. **P.H. Toy**
16:40 – 2398. Flash chemistry as a green technique for chemical synthesis. **J. Yoshida**, A. Nagaki

Hilton Hawaiian Village
Mid-Pacific Center, Coral 2

Applications of C-H Functionalization (#169)

Organized by: P. Vachal, Z. Shi, C. Li, H. Davies, K. Itami, H. Lebel

13:00 – 2399. Application of C–H functionalization reactions to the synthesis of novel heterocycles. **A.B. Charette**
13:30 – 2400. *N*-fluoroarylsulfonimide: Versitile aminating reagents for C–H, C=C and C'C bonds amination. **Q. Zhang**
13:50 – 2401. Iron catalyzed C-H bond amination using high-spin complexes. **T. Betley***
14:20 – 2402. Iron-catalyzed directed C-H bond activation. **L. Ilies***, E. Nakamura*
14:40 – 2403. PIP bidentate auxiliary in C–H functionalization: Synthetic application and mechanistic studies. **B. Shi***
15:00 – 2404. Rare-earth-catalyzed C-H addition to alkenes and allenes. **Z. Hou***
15:30 – 2405. Catalyst-directed C-H functionalization. **D.A. Nagib**
15:50 – 2406. Pd(II)-catalyzed enantioselective C–H oxidation for the synthesis of arylglycine derivatives. **S. Yang***, X. Wei
16:10 – 2407. Cyclic amines functionalization via sp^3C-H bond activation. **C. Bruneau***, M. Achard, B. Sundararaju, F. Jiang

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 1

Strategies and Tactics for Complex Molecule Synthesis (#174)

Organized by: C. Forsyth, C. Lee, L. Barriault, J. Cha
Presiding: L. Barriault, J. Gleason

13:00 introduction
13:05 – 2408. Symposium on strategies and tactics in complex molecule synthesis. **P.S. Baran**
13:35 – 2409. Total syntheses of members of the amphidinolide family of marine natural products. **J.S. Clark***, F. Romiti, G. Yang, A.P. Osnowski, L. Decultot
14:05 – 2410. Convergent total synthesis of leucosceptroids and other terpenoids. **D. Ma***, S. Guo
14:35 – 2411. Towards the total synthesis of the tetranortriterpene gedunin. **C.M. Williams***
14:50 – 2412. Concise formal synthesis of haouamine family using palladium-catalyzed arylative cyclization. **H. Tsukamoto***, S. Nakamura, T. Doi*
15:05 break
15:10 – 2413. Progress towards the total synthesis of callosine and related pyrrolidine alkaloids. **M.A. Kerr***, M. Vriesen
15:40 – 2414. Act like molecule transformers: Rapid creation of molecular complexity through strategy bond disconnections. **G. Liang***
16:10 – 2415. Lewis acid template-catalyzed asymmetric Diels-Alder reaction and its application towards the total synthesis of macrocyclic imine phycotoxins. **J. Ishihara**
16:30 – 2416. Asymmetric total synthesis of (−)-Lingzhiol via a novel type of Rh-catalyzed [3 + 2] cycloaddition. R. Long, J. Huang, W. Shao, J. Gong, **Z. Yang***

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Cooperative Cocatalysis with Two Different Metals (#270)

Organized by: S. Blum, Y. Nakao, S. Chang

13:00 – 2417. Synergistic Rh(II)/Pd(0) dual catalysis system for denitrogenative cross-coupling of 1-sulfonyl-1,2,3-triazoles with allyl carboxylates. **z. chen**, S. Lee
13:30 – 2418. C-C Bond forming reactions by cooperative metal catalysis. **Y. Nakao***
14:10 – 2419. Enhanced additive effects of Zn salts for ruthenium-catalyzed hydrogenation of amides. **T. Higuchi**, Y. Kita, K. Mashima*
14:40 Break
14:50 – 2420. Cooperative catalysis in deoxygenation processes. **J. Montgomery***
15:30 – 2421. Synthesis of *cis*-1,4-*b*-*trans*-1,4 polyisoprene using Nd catalyst activated by Mg/Al cocatalysts. **R. Tanaka***
16:00 – 2422. Activation of carbon-cyano bonds using nickel(0) and Lewis acid cocatalysts. **W.D. Jones***, B. Swartz

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 2

Chemical Glycosylation: Methods and Mechanisms (#306)

Organized by: T. Lowary, X. Huang, S. Hung, K. Tanaka
Presiding: S. Hung

13:00 – 2423. From stereocontrolled glycosylation to expeditious oigosaccharide synthesis. **A.V. Demchenko***
13:30 – 2424. In situ glycoconjugation on cell surface: Selective imaging of target using weak glycan/lectin interaction. **K. Tanaka***
14:00 – 2425. Application of h-bond-mediated aglycone delivery (had) in the synthesis of oligosaccharides containing challenging β-manno linkages. **S.G. Pistorio**, A.V. Demchenko
14:15 – 2426. Concise synthesis of the b-ribose-(1→5)-Gal*f*NAc moiety in a capsular polysaccharide of *Campylobacter jejuni* NCTC 11168. V.M. Dhurandhare, G.P. Mishra, **Y. Lam**, C. Wang*
14:30 – 2427. Preactivation-based oligosaccharide synthesis. **X. Ye***
15:00 Break
15:10 – 2428. Iron catalyzed stereoselective glycal aminohydroxylation and diamination reactions: New tools for glycoprotein synthesis. **H. Xu**
15:40 – 2429. Total synthesis of ganglioside PNG-2A found in the starfish *Protoreaster nodosus*. **K. Goto**, T. Suzuki, H. Tamai, J. Ogawa, H. Ando*, A. Imamura, H. Ishida, M. Kiso
15:55 – 2430. 2D oligosaccharide syntheses: Recent progress. **X. Liu***
16:10 – 2431. Chemoenzymatic synthesis of heparin and heparan sulfate. **J. Liu***

*** Principle Author**

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Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 3 & 4

New Horizon of Process Chemistry by Scalable Reactions and Technologies (#426)

Organized by: K. Tomioka, R. Williams, R. Hwu, H. Sajiki, T. Shioiri, N. Yasuda
Presiding: K. Tomioka

13:00 – 2432. New anti-infective agents and a novel delivery strategy. **J. Hwu***, S. Tsay, M. Kapoor, P. Leyssen, J. Neyts
13:20 – 2433. AJIPHASE®: Novel and high efficient liquid-phase peptides and oligonucleotides synthetic method for large scale manufacturing. **D. Takahashi***, T. Inomata, T. Torii
13:40 – 2434. Process chemistry enabling academic basic research: Curved aromatic hydrocarbons. **J. Siegel**
14:00 – 2435. Highly practical new methylenation reagent for aldehydes and ketones. **K. Ando***, T. Kobayashi, N. Uchida
14:15 – 2436. Application of engineered biocatalysts in process chemistry. **Y. Hirose***
14:35 – 2437. Parallel and (*E*)- and (*Z*)-stereocomplementary synthesis of multisubstituted α,β-unsaturated esters directed for process chemistry: Application to expeditious parallel syntheses of all four (*E*)- and (*Z*)- Zimeridine and Tamoxifen. **Y. Ashida**, Y. Sato, H. Nakatsuji, Y. Tanabe*
14:50 Break
15:05 – 2438. Cu(II)-catalyzed dissymmetrization of dithiomalonates. H. Wauke, K. Matsuo, K. Matsumoto, **M. Shindo***
15:25 – 2439. Practical synthesis of ERK inhibitor GDC-0994 on multikilogram scale. **X. Linghu**
15:40 – 2440. Practical organocatalytic kinetic resolution of a chiral bicyclic ketone for synthesis of a pharmaceutical key intermediate. **Y. Nakamura***, T. Kitawaki, T. Kaneda, K. Nakayama
16:00 – 2441. Development of efficient syntheses of drug candidates and intermediates exploiting novel asymmetric Phase Transfer Catalysed (PTC) reactions. **G.R. Humphrey***
16:20 – 2442. Enantioselective synthesis of chiral amines based on the transfer hydrogenation of ketimines by means of chiral phosphoric acid. **T. Akiyama**
16:40 – 2443. Will new synthetic reagents open the door to the future?. **T. Shioiri***

Hilton Hawaiian Village
Rainbow Tower, Rainbow 1

Asymmetric Supramolecular Catalysis (#451)

Organized by: J. Takacs, S. Moteki, J. Green
Presiding: P. Zhang

13:00 – 2444. Supramolecular approaches to control selectivity in transition metal catalysis. **J.N. Reek**
13:30 – 2445. Helical-polymer-based, modular, chirality-switchable chiral catalysts for highly enantioselective asymmetric reactions. **M. Suginome***
14:00 – 2446. Discrete metallogels based on pincer complexes: A practical platform for molecular visual discrimination and catalysis. **T. Tu***
14:30 – 2447. Bridging the gap between homo and heterogeneous asymmetric catalysis with supramolecular organometallics. **K. Ding**
15:00 – 2448. Asymmetric catalysis in nanopores: Bridging homogeneous and heterogeneous catalysis. **Q. Yang***
15:30 – 2449. Enantioselective hydroformylation by a Rh-catalyst entrapped in a supramolecular metallocage. C. García-Simón, R. Gramage-Doria, S. Raoufmoghaddam, T. Parella, D. Costas, **X. Ribas**, J.N. Reek
15:50 – 2450. Design principles of chirally modified metal catalysts for heterogeneous asymmetric hydrogenations derived from *operando* spectroscopic studies. **F. Meemken***, K. Hungerbühler, A. Baiker
16:10 – 2451. Metallacrown ether catalysts for supramolecular asymmetric hydrogenation. **Y. He***, F. Song, Q. Fan*
16:30 – 2452. Site-selective supramolecular catalysts for catalytic asymmetric hydroboration. K. Toyama, K. Marichev, **J. Takacs***
16:50 Closing Remarks

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 1

Synthetic Modulators of Protein-Protein Interactions (#461)

Organized by: P. Arora, D. Fairlie, A. Kennan, K. Kumar, S. Sidhu, ,
Presiding: S.S. Sidhu

13:00 Opening Remarks
13:05 – 2453. Drugging the undruggable: The inhibition of MYC. **K.D. Janda***
13:30 – 2454. Fragment screening and druggability assessment for the CBP/p300 KIX domain via protein observed ^{19}F NMR. **W.C. Pomerantz***, C.T. Gee, E.J. Koleski
13:50 – 2455. Macrocyclic inhibitors of human histone deacetylase enzymes. **C.A. Olsen***
14:10 Break
14:20 – 2456. Applying structural diverse small protein libraries to the investigating of protein-protein interactions. **K. Deshayes***
14:45 – 2457. On-bead screening of proteomimetics libraries for discovery of protein-protein interaction modulators. **H. Lim***
15:05 – 2458. Small molecules that modulate protein assemblies. **M. Uesugi**
15:30 Break
15:40 – 2459. Controlling protein interaction networks with synthetic binding protein. **S. Koide**
16:05 – 2460. Synthetic proteins inhibit protein-protein interactions involving the oncoprotein gankyrin and modulate disease-relevant biochemical processes. **B. McNaughton***, A.M. Chapman
16:25 – 2461. RaPID way to discover PPI agonists and antagonists. **H. Suga***

Saturday Evening

Hawaii Convention Center
Halls I, II, III

New Green Techniques for Medicinal Chemistry (#148)

Organized by: W. Zhang, I. Ryu, P. Toy

Poster Session
19:00 – 21:00

2462. Iodide as an activating agent in acylation reactions. **C.S. Jones***, R.J. Wakeham, S.D. Bull, J.M. Williams
2463. Catalytic chemoselective conjugate addition of alcohols over amines. **R. Yazaki***, S. Uesugi, Z. Li, T. Ohshima*
2464. Quantitative determination of acetaminophen, acetylsalicylic acid, cetirizine dihydrochloride, and fexofenadine hydrochloride by quantitative NMR technique. **S. Kumar***, M. Villanueva, J.F. Zuklic, C. Flemming, S. Kumar, G.K. Webster
2465. Microwave-assist synthesis of hydroxamic acid derivatives as histone deacetylase inhibitors. **H. Shin***
2466. Catalytic asymmetric cyclization of ω-carboxy-substituted allylic alcohols to the lactone. **Y. Suzuki**, S. Tanaka, M. Kitamura*
2467. Design and synthesis of quinolone-based radioprotecting agents. **S. Aoki**, Y. Nishi, S. Ariyasu, A. Morita, W. Bing
2468. Synthesis and structure of hypervalent iodine(III) reagent containing phthalimidate and its application to oxidative amination reaction. **K. Kiyokawa**, T. Kosaka, S. Minakata*
2469. Hypervalent iodine(III)-mediated decarboxylative functionalization of β,γ-unsaturated carboxylic acids. **T. Kojima**, K. Kiyokawa, S. Minakata*
2470. Ritter-type C–H amination using *N*-hydroxyphthalimide and iodic acid. **K. Takemoto**, K. Kiyokawa, S. Minakata*
2471. Sustainable synthesis of 2-pyrrolidon-2-ones catalyzed by a polymer supported acid in solvent-free conditions. **D. Lanari***, M. Curini, L. Vaccaro
2472. Four-component radical coupling reaction using CO and sulfonyl oxime ethers. **M. Sasano**, S. Sumino, T. Fukuyama, I. Ryu*, A. Jacquet, F. Robert, . Landais*
2473. Photocatalytic N-methylation of amines with methanol for medicinal chemistry. **Y. Morioka**, L. Wang, V.N. Tsarev, J. Caner, Q. Wang, R. Ushimaru, A. Kudo, H. Naka, S. Saito
2474. Synthesis of chiral 1,2,3-triazolium ionic liquid. **J. Ryu***
2475. Photoinduced metal-free aminocarbonylation of aryl iodides. **A. Sato**, T. Kawamoto, I. Ryu*
2476. Tetraethylorthosilicate as a mild dehydrating reagent for the synthesis of *N*-formamides with formic acid. **K. Matsuda**, Y. Nishikawa, N. Ukai, E. Nakamura, W. Adachi, R. Satoh, S. Moriguchi, O. Hara

Hawaii Convention Center
Halls I, II, III

Applications of C-H Functionalization (#169)

Organized by: P. Vachal, Z. Shi, C. Li, H. Davies, K. Itami, H. Lebel

Poster Session
19:00 – 21:00

2477. Rhodium(III)-catalyzed direct alkenylation of 1,3-dithiane-protected arenecarbaldehydes. **Y. Unoh**, K. Hirano, T. Satoh, M. Miura
2478. Regioselective C–H dual functionalization of indoles using hypervalent iodine(III). **K. Moriyama**, H. Togo
2479. Cu(II)-catalyzed oxidative esterification of 2-carbonyl substituted phenols with ethers acyl equivalents. **S. Han***
2480. Chemo- and siteselective aerobic oxygenation of sp^3 C-H bonds of alcohols using *N*-oxyl radical directing activator. **K. Oisaki***, J. Ozawa, J. Ni, M. Tashiro, M. Kanai
2481. Direct arylation polymerization toward sustainable high performance polymer solar cells. **A. Dudnik**, T.J. Aldrich, N.D. Eastham, R.P. Chang*, A. Facchetti*, T.J. Marks*
2482. C-H activation with copper containing silica-based metal complexes . **A. Karkamkar***
2483. Synthesis of benzofuro[3,2-b]pyridines via Pd-catalyzed dual C-H activation of 3-phenoxypyridine 1-oxides. **P. Li***
2484. Catalytic enantioselective oxidative C-H functionalization of structurally diverse heterocycles. Z. Meng, X. Liu, S. Sun, **L. Liu***
2485. Rhodium-catalyzed slkylation of C-H bonds in aromatic amides with α,β-unsaturated lactones. **K. Shibata**, N. Chatani*
2486. Electron-deficient (η^5-cyclopentadienyl)rhodium(III) complex-catalyzed C–H Bond functionalization reactions under ambient conditions. **Y. Shibata**, Y. Hoshino, Y. Takahama, M. Fukui, M. Yamazaki, E. Kudo, K. Tanaka*
2487. One-pot oxidation and direct C-H silylation of arylmethanols catalyzed by iridium complexes with *N*-xylyl-*N'*-methylperimidine carbene. **H. Tsurugi***, G. Choi, R. Rochat, K. Mashima*
2488. Powerful Mo^V reagent for the selective oxidative coupling reaction. **S.R. Waldvogel***
2489. Oxidative cross-coupling of pyridine N-oxides and ethers between C(sp2)-H/C(sp3)-H bond under transition-metal-free conditions. **L. Wang***
2490. Development of catalytic asymmetric direct-type 1,4-addition reactions of simple amides and esters. **Y. Yamashita**, H. Suzuki, I. Sato, S. Kobayashi*
2491. Copper-catalyzed direct α-ketoesterification of propiophenones with acetophenones via C(sp^3)-H oxidative cross-coupling. **X. Zhang***
2492. Hydroaminoalkylation of olefin catalyzed by silica supported metalaziridine: Evidences for the mechanism. **J. Basset**, B. Hamzaoui, j. pelletier, M. El Eter, S. ouldchikh
2493. Palladium-catalyzed β-arylation of oximes with diaryliodonium salts through activation of inert C(sp3)-H bond. **C. Chen**
2494. Enantioselective C-H arylation for chiral phosphine synthesis. Z. Lin, W. Wang, S. Yan, **W. Duan***
2495. Nickel-catalyzed direct borylation of C-H bonds in arenes and indoles. **T. Furukawa**, M. Tobisu*, N. Chatani*
2496. Iron-catalyzed C–H amination of aniline derivatives. **Y. Aoki***, R. Imayoshi, T. Hatakeyama, H.R. Takaya, M. Nakamura
2497. Direct arylation of thiocarbonylated compound catalyzed by Pd-phenanthroline complexes. **T. Yamauchi***, T. Murai, F. Shibahara
2498. Cobalt-catalyzed sp^3 C–H amination utilizing aryl azides. **C.E. MacBeth***, S.B. Blakey, N.M. Weldy, O. Villanueva
2499. Unprecedented alkali metal amide-catalyzed formal C(sp^3)–H bond activation. **W. Bao**, H. Kossen, U. Schneider
2500. Total synthesis of myriocin and its analog using Rh(II)-catalyzed C−H amination and the following alkylation. **N. Noda**, K. Ubukata, W. Niu, T. Fujiwara, H. Nambu, T. Yakura
2501. Silver-catalyzed C–H trifluoromethylation of arenes using trifluoroacetic acid as the trifluoromethylating reagent. **G. Shi**
2502. Ruthenium-catalyzed ortho-selective arylation of sterically-congested C–H bonds of aromatic ketones. **M. Miyake**, Y. Ogiwara, T. Kochi, F. Kakiuchi*
2503. *para*-Selective C–H borylation of benzene derivatives. **Y. Saito**, Y. Segawa*, K. Itami*
2504. Palladium-catalyzed cross dehydrogenative coupling between unactivated C(sp^3)-H bonds in aliphatic amides and benzylic C-H bonds in toluene derivatives. **T. Kubo***, Y. Aihara, N. Chatani
2505. Palladium-catalyzed C-H ethoxycarbonyldifluoromethylation of electron-rich heteroarenes promoted by ligand. **C. Shao**
2506. Inverse micelle templated mesoporous manganese oxide as an efficient heterogeneous catalyst for solvent free oxidation of C-H bond. **S. Biswas***, **K. Mullick**, S. Chen, S. Suib
2507. Oxidative alkenylation and cyclization of *N*-benzyltriflamides with olefins via C-H bond activation under rhodium catalysis. **S. Han***
2508. Oxidative olefination of 1,2-disubstituted arylhydrazines with alkenes under rhodium catalysis. **M. Choi***
2509. Pd(II)-catalyzed decarboxylative acylation of highly substituted indolines with α-keto acids via C-H bond activation. **M. Choi***
2510. Pd($OAc)_2$-catalyzed lactonization of aromatic acetamides involving oxidation of C-H bonds. **T. Igarashi**, M. Noguchi, T. Uemura, N. Chatani

*** Principle Author**

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2511. Pd(II)-catalyzed oxidative C7-acylation of indolines at the C7-position with aldehydes or alcohols. **A. Kyung***
2512. Pd-catalyzed dual C-H activation of bis-biaryl alkynes and biaryl alkynes. **T. Jin***, J. Zhao, N. Asao, Y. Yamamoto
2513. Regioselective chlorination of benzamide derivatives using a combination of anodic oxidation and palladium-catalyzed cleavage of aromatic carbon–hydrogen bonds. **M. Konishi**, K. Tsuchida, T. Kochi, F. Kakiuchi*
2514. Rh(III)-catalyzed selective C7-allylation of indolines with allylic carbonates at room temperature. **T. Jeong***
2515. Rh(III)-catalyzed selective C-H allylations of indolines and indoles with 4-vinyl-1,3-dioxolan-2-one at room temperature. **M. Choi***
2516. Rh(III)-catalyzed selective cyanation of C-H bonds of indolines and indoles with an easily accessible cyano source. **T. Jeong***
2517. Rhodium-catalyzed *ortho*-selective C–H α-acylalkylation of arenes using cyclic alkenyl carbonates. **S. Onodera**, Y. Hara, T. Kochi, F. Kakiuchi*
2518. Rhodium-catalyzed direct silylation of C-H bonds in pyridine derivatives at the 3-position. Y. Fukumoto*, **M. Hirano**, N. Chatani
2519. Rhodium-catalyzed oxidative C2-alkenylation of indoles with alkynes via C-H bond activation. **A. Kyung***
2520. Rhodium-catalyzed oxidative C2-olefination of N-substituted indole and pyrroles with a range of alkenes via C-H bond activation. **T. Jeong***
2521. Ru(II)-catalyzed oxidative allylation, crotylation, and prenylation of aromatic and α,β-unsaturated carboxamides with allylic carbonates. **S. Han***
2522. Ruthenium(II)-catalyzed selective C-H amination of xanthones and chromones C-H bonds with sulfonyl azides. **A. Kyung***
2523. Efficient synthesis of 4-substituted tryptophan derivatives via Ir-catalyzed C-H bond activation: Total synthesis of *cis*-clavicipitic acid. **M. Ito**, Y. Tahara, T. Shibata*
2524. Direct hydroxylation and amination of arene via deprotonative cupration. K. Shimojo, **N. Tezuka**, S. Komagawa, K. Hirano, R. Takita, M. Uchiyama
2525. Asymmetric synthesis of fused piperidine derivatives by the domino internal redox process. **R. Isogai**, K. Mori, T. Akiyama*
2526. Cu-catalyzed oxidative C-H/C-O cyclization of binaphthols using air as the sole oxidant: Efficient synthesis of PXX derivatives. T. Kamei*, **M. Uryu**, T. Shimada*
2527. Construction of spirocyclic skeleton by intramolecular redox cyclization/Friedel-Crafts reaction sequence. **E. Kitamura**, K. Mori, T. Akiyama
2528. Direct coupling of oxazoline ring with aryl halides for the preparation of chiral oxazoline-containing ligands. Y. Nishikawa, **S. Kawaguchi**, K. Takemoto, T. Ishiguro, K. Miwa, O. Hara
2529. Palladium-catalyzed synthesis of dibenzothiophenes via the cleavage of carbon-hydrogen and carbon-sulfur bonds. M. Tobisu*, **Y. Masuya**, K. Baba, N. Chatani
2530. Stereoselective construction of tetrahydropyrimidinone derivatives with intramolecular allylic C-H amination. Y. Nishikawa, **A. Ito**, Y. Kato, S. Maegawa, Y. Yatsuhashi, E. Niwa, E. Kuze, O. Hara
2531. Cross-coupling hydrogen evolution reaction by visible light catalysis. **Q. Meng***, X. Gao*, J. Zhong, **C. Tung**, **L. Wu***
2532. Enantioselective synthesis of planar chiral benzosiloloferrocenes via Rh(I)-catalyzed intramolecular direct C-H silylation. **T. Sasaki**, T. Shizuno, T. Shibata*
2533. Rhodium-catalyzed reaction of C-H bonds in aromatic amides with styrenes. **T. Yamaguchi**, K. Shibata, N. Chatani*
2534. Pd(II)-catalyzed alkoxylation of unactivated C(sp3)–H and C(sp2)–H bonds using a removable directing group: Efficient synthesis of alkyl ethers. **F. Hu**
2535. DCCR. **W. Su**
2536. Photocatalyzed site-selective C-H/C-C conversion of functionalized alkanes. **K. Yamada**, M. Okada, T. Fukuyama, D. Ravelli, M. Fagnoni*, I. Ryu*
2537. Synthesis of chromane derivatives: Palladium-catalyzed cyclization of alkynyl aryl ethers with strained alkenes via C–H activation. **T. Kodama**, Y. Minami*, T. Hiyama*
2538. Nickel catalyzed cross-coupling reactions of *o*-carboranyl with aryl iodides: Facile synthesis of 1-aryl-*o*-carboranes and 1,2-diaryl-*o*-carboranes. **C. Tang**, Z. Xie
2539. C-H alkylation for 2-substituted pyridine *N*-oxide by a cationic iridium(I) catalyst. **H. Takano**, T. Shibata*
2540. Heterogeneously catalyzed aerobic oxidative coupling of aryl amines. **K. Matsumoto**, K. Dougomori, S. Tachikawa, M. Shindo
2541. Selenium dioxide-mediated twofold C,H activation of phenols. **T.J. Quell***, S.R. Waldvogel, K.M. Dyballa, R. Franke
2542. Palladium-catalyzed C-H arylation with aryl sulfides. S. Otsuka, **H. Yorimitsu***, A. Osuka
2543. Aromatic metamorphosis of dibenzofurans to triphenylenes. Y. Kurata, S. Otsuka, N. Fukui, **H. Yorimitsu***, A. Osuka
2544. Stereoselective construction of imidazolidinone derivatives with intramolecular allylic C-H amination. Y. Nishikawa, **H. Tsurumi**, S. Kimura, N. Yamazaki, N. Akada, O. Hara

Hawaii Convention Center
Halls I, II, III

Strategies and Tactics for Complex Molecule Synthesis (#174)

Organized by: C. Forsyth, C. Lee, L. Barriault, J. Cha
Presiding: A.M. Hardman-Baldwin, J.M. Wieting

Poster Session
19:00 – 21:00

2545. Synthetic study on isoflavonoids based on 1,2-rearrangement strategy. **K. Nakamura**, K. Ohmori, K. Suzuki*
2546. Total synthesis of cardiopetaline. **Y. Nishiyama**, S. Yokoshima, T. Fukuyama
2547. Synthesis and biological evaluation of fully synthetic C5-oxatetracyclines. **F. Liu**, P. Wright, A.G. Myers*
2548. Nanomole-scale high-throughput chemistry for the synthesis of complex molecules. **A. Buitrago Santanilla***, E.L. Regalado, T. Pereira, M. Shevlin, K. Bateman, L. Campeau, J. Scheneeweis, S. Berritt, Z. Shi, P. Nantermet, Y. Liu, R. Helmy, C. Welch, P. Vachal, I. Davies, T. Cernak, S. Dreher
2549. Functionalized pyrans by stereospecific and regiodivergent Suzuki-Miyaura cross-coupling of dihydropyranyl boronates. **T.I. Rybak**, D. Hall*
2550. Development of asymmetric dearomative cyclization for synthesis of hinckdentine A. **K. Douki**, H. Ono, J. Shimokawa, T. Fukuyama*, M. Kitamura*
2551. TfO-directed (3+2) cycloadditions of benzynes for the regioselective synthesis of functionalized benzo-fused heterocycles. T. Ikawa, **h. kaneko**, S. Masuda, S. Akai*
2552. Regio- and stereoselective halothiolation of alkynes catalyzed by palladium and iron. **M. Iwasaki**, T. Fujii, A. Yamamoto, N. Michihiro, K. Nakajima, Y. Nishihara*
2553. Total synthesis of tetracenomycin C. **S. Sato**, Y. Hashimoto, H. Takikawa, K. Suzuki*
2554. Functional porphyrinoid conjugates – complex organic systems toward functional materials. **H. Ngo***
2555. Asymmetric total synthesis of (+)-engelharquinone via Rh-catalyzed asymmetric Michael addition and thiol-mediated reductive cyclization. **T. Fukazawa**, S. Hori, Y. Ando, K. Ohmori, T. Hayashi, K. Suzuki
2556. Advances in thermal and photochemical Cu(I)-catalyzed macrocyclic Sonogashira-type cross-couplings. **J. Santandrea**, A. Bédard, C. Minozzi, S. Collins*
2557. Synthetic strategy of highly oxygenated diaryl ethers featured in ellagitannins. **H. Yamada***, T. Hirokane, Y. Hirata, T. Ishimoto, K. Nishii
2558. Total synthesis of (-)-sphingofungin E using asymmetric bromolactonization. **K. Ikeuchi**, M. Hayashi, T. Yamamoto, M. Inai, T. Asakawa, Y. Hamashima, T. Kan*
2559. Synthesis and stereochemical study of decarestrictines G, H, and J. **R. Katsuta***, S. Fujikawa, N. Masada, S. Ueda, Y. Shimodaira, A. Yajima, T. Nukada
2560. Synthetic studies on tetrodotoxin model compound using mercury(II) triflate-catalyzed novel cycloisomerization. **T. Maruyama**, S. Kikuchi, T. Koyama, K. Nishikawa, Y. Tachi, Y. Morimoto*
2561. Highly chemoselective aerobic oxidation of amino alcohols into amino carbonyl compounds using AZADO/copper catalysis. **Y. Sasano**, S. Nagasawa, N. Kogure, M. Shibuya, J. Park, Y. Iwabuchi*
2562. 2-Naphthylmethoxymethyl (NAPOM) group - a new member of the BOM protective group family. T. Sato, T. Oishi, **K. Torikai***
2563. Enantioselective syntheses Sch642305 and Glabramycin B, antibacterial 10-membered lactones fused with 4-oxygenated cyclohexanone. **K. Ishigami***, M. Yamamoto, R. Katsuta, H. Watanabe
2564. Synthetic study of gymnocin-A using an oxiranyl anion strategy. **T. Sakai**, S. Matsushita, S. Arakawa, K. Mori, M. Tanimoto, A. Tokumasu, T. Yoshida, Y. Mori*
2565. Biomimetic total synthesis of (+)-cytosporolide A via a hetero-Diels-Alder reaction. **K. Takao***, S. Noguchi, S. Sakamoto, K. Yoshida
2566. Metal-free carbon dioxide fixation. **A.M. Hardman-Baldwin**, A.E. Mattson
2567. One-pot preparation of tetralin derivatives by indium(III)-catalyzed reductive iodination and intramolecular cyclization of 3-benzoylpropionic acids. **T. Kobayashi***, Y. Ogiwara, N. Sakai
2568. Asymmetric total syntheses of tirandamycins by utilizing cinchona alkaloid catalyzed Morita-Baylis-Hillman reactions. **H. Yoshimura**, K. Takahashi, J. Ishihara, S. Hatakeyama
2569. Synthesis of the 5,6-epoxyisoprostane E2 part of PEIPC through aldol reaction of the α-bromocyclopentanone. **Y. Kobayashi**, H. Kawashima
2570. Synthesis of welwitindolinone alkaloids by Pd(0)-catalyzed tandem intramolecular enolate coupling. **K. Komine**, Y. Nomura, C. Pieri, K. Takahashi, J. Ishihara, S. Hatakeyama*
2571. Unified total synthesis of ryanoids. **M. Koshimizu***, M. Nagatomo, M. Inoue
2572. Strategic coupling of chiral fragments via kinetic resolution: Total synthesis and structure revision of vallartanone A. **D. Kundu**, D. Ward*
2573. Tetracyclic compounds through single operation using TMM diyl intermediates: Application to the total synthesis of Waihoensene. **H. Lee**, H. Lee
2574. Substrate-controlled total synthesis of (+)-chamuvarinin via triple intramolecular S_N2 alkylations. **J. Lee***
2575. Stereoselective total synthesis of (-)-protoemetinol. **C. Lim**, H. Moon, J. Sim, Y. Suh, K. Kim
2576. Novel synthesis of zanamivir. **L. Lin***, J. Fang
2577. Synthetic study on (-)-Kainic acid using SmI_2. **N. Miyano**, T. Umezawa, F. Matsuda
2578. Synthetic studies of perforatumone: Construction of a unique bridged bicyclic skeleton. **T. Nakajima**, K. Yoshida, K. Takao*
2579. Synthetic studies of JK-ring system of yessotoxin. **K. Nishida**, M. Miyazawa, H. Yokoyama*
2580. Total syntheses of lepadiformines using $Hg(OTf)_2$-catalyzed novel cycloisomerization. **K. Nishikawa**, K. Yamauchi, S. Kikuchi, S. Ezaki, T. Koyama, T. Kodama, Y. Tachi, Y. Morimoto*
2581. Development of highly *Z*-selective reagents for olefinations using pentacoordinated phosphoranes. **W. Ohata**, S. Kojima, Y. Yamamoto
2582. Synthesis of jiadifenin using Mizoroki−Heck and Tsuji−Trost reactions. **K. Harada***, A. Imai, M. Kubo, H. Hioki, Y. Fukuyama*
2583. Total synthesis of Laurallene. **T. Okada**, F. YOSHIMURA, K. Tanino
2584. Preparation of 1,4-benzoioxanes by iron(III)-catalyzed cycloaddition of *o*-quinone. A. Kuboki*, **Y. Okazaki**, K. Morita, M. Okano, Y. Suezaki, S. Ohira*
2585. Iodonium-mediated dearomative cyclization/Diels-Alder tandem of a chiral ynamide toward diastereoselective construction of bridgehead-spiro system. **T. Okitsu***, C. Murai, A. Wada
2586. Preparation of highly functionalized and stable o-quinones. A. Kuboki*, **R. Ookuma**, K. Suzuki, C. Honda, K. Morita, S. Ohira*
2587. Nitrimines as reagents in metal-free cross coupling reactions. V.V. Angeles-Dunham*, **A. Curtze**, A.E. Mattson
2588. Asymmetric synthesis of (-)-horsfiline, (+)-coerulescine, and (3S,4R)-(-): Elacomine through chiral auxiliary induction. **O. Forero Doria***, L. S. Santos
2589. Total synthesis of cavicularin using Pd-catalyzed Ar−Ar coupling and Suzuki−Miyaura reaction. **Y. Fukuyama***, K. Makino, K. Harada, M. Kubo, H. Hioki
2590. Total synthesis of jujuyane: Cyclooctaniod synthesis from oxidopyrylium ion dimerization reaction. **S. Geum**, H. Lee*
2591. Eight-step synthesis of chaxine B based on a proposed biosynthetic pathway. **Y. Hirata**, T. Nishikawa
2592. Total synthesis of madeirolide A. **S. Hwang**, I. Baek, C. Lee*
2593. Studies directed toward the total synthesis of brasilicardin A. **R. Itoh**, M. TORIZUKA, G. MORI, F. YOSHIMURA, K. Tanino
2594. Synthetic studies on cylindradine B. **Y. Kamijoh**, M. Iwata, K. Nagasawa*
2595. Total synthesis of (±)-ceratopicanol synthesis: Comparison between consecutive Pd mediated cyclization and ruthenium catalyzed enyne radical cyclization. **R. Kim**, H. Lee*
2596. Asymmetric sequential reaction for the synthesis of α-aryl-β-hydroxy amides. **S. Shin**, E. Baek, D. Ryu*
2597. Traceless C-C bond formation via tandem alkylation and retro-ene reactions using heterocyclic sulfones. **Y. Chae**, H. Park, C. Lee*
2598. Synthetic studies of palau'amine. **M. Iwata**, T. Imaoka, H. Matsuo, K. Nagasawa*

*** Principle Author**

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2599. Synthetic study of FD-891 and FD-892. **A. Kawamata***, T. Itagaki, Y. Miyazaki, K. Yahata, E. Kwon, Y. Iwabuchi, N. Kanoh
2600. Studies toward the total synthesis of poitediene. **S. Kim**, S. Kim, R. Matunas, C. Lee*
2601. Catalytic asymmetric insertion of aryldiazoalkane and diazoesters into C-H bond of aldehydes. **B. Kang**, D. Nam, G. Hwang, D. Ryu*
2602. Synthetic study of chloropupukeananin by a biomimetic Diels-Alder/carbonyl-ene cascade. **T. Suzuki***, Y. Miyajima, K. Suzuki, S. Kobayashi, K. Tanino
2603. Catalytic asymmetric cyclopropanation with α-alkyl diazo compounds and substituted acroleins: Its application to total synthesis of Hamavellone A and B. **S. Shim**, J. Kim, D. Ryu*
2604. Efficiently synthesis of polycyclic aromatic hydrocarbons using ruthenium-catalyzed C–O arylation. **Y. Suzuki**, T. Kochi, F. Kakiuchi*
2605. Total synthesis of marinomycin A based on a direct dimerization strategy. **N. Tatsuya***, M. Kondo, K. Takeshita, K. Takahashi, J. Ishihara, S. Hatakeyama
2606. Studies toward total synthesis of nigricanoside-A and determination of its absolute stereochemistry. **T. Tsunoda**, K. Fujiwara*, S. Okamoto, Y. Kuriyama, W. Nojo, N. Kinashi, R. Katoono, T. Suzuki
2607. Synthesis of 1-amino-25-hydroxy vitamin D_3. **K. Usuda**, R. Asano, M. Watanabe, M. Uesugi*, K. Nagasawa*
2608. Knoevenagel condensation of aldehydes and activated methylenes using indium chloride with acetic anhydride as a promoter. **K. Takahashi**, T. Kitazawa, Y. Ogiwara, N. Sakai
2609. Synthesis of a [2]rotaxane from a less sterically hindered phenanthroline-copper complex. **Y. Yamazaki***, T. Ohkubo, T. Yokoyama, Y. Mutoh, R. YAMASAKI, T. Kasama, S. Saito
2610. Asymmetric anion binding catalysis with chiral silanediols. J.M. Wieting, T.J. Fisher, A.G. Schafer, **M.D. Visco**, J. Gallucci, A.E. Mattson*
2611. Synthetic studies of 11-saxitoxinethanoic acid. **C. Wang**, M. Oki, T. Nishikawa, K. Nagasawa*
2612. Synthetic studies on muironolide A. **K.E. Rosa Pagan**, C.M. Clay, K. Cunningham, I. Modolo, C. Forsyth*
2613. Synthetic studies on the IJKL-ring of ciguatoxin-3C. K. Fujiwara, **T. Saito**, Y. Sano, R. Katoono, T. Suzuki
2614. Synthetic studies toward (–)-callophycoic acid A: Construction of all-carbon quaternary stereocenters by allylboration of chiral aldehydes. **A. Sakama**, K. Yoshida, K. Takao*
2615. Synthetic studies on the ABCDEF-ring of ciguatoxin-3C. **T. Sato**, K. Fujiwara, Y. Nomura, R. Katoono, T. Suzuki

Hawaii Convention Center
Halls I, II, III

Cooperative Cocatalysis with Two Different Metals (#270)

Organized by: S. Blum, Y. Nakao, S. Chang

Poster Session
19:00 – 21:00

2616. Development of hydroxyapatite-supported ruthenium-vanadium bimetallic catalyst for highly selective reduction of amides to amines. **K. Miyagawa**, Z. Maeno, T. Mitsudome, T. Mizugaki, K. Jitsukawa, K. Kaneda*
2617. Ir catalyzed asymmetric tandem reaction of *meso*-diols. **T. SUZUKI***, I. Ismiyarto, D. Zhou, K. Asano, H. Sasai
2618. Cooperative catalysis of Cu and Mn in aerobic oxidative coupling of terminal alkynes. **S. Biswas***, A.R. Rossi, S. Suib

Hawaii Convention Center
Halls I, II, III

Chemical Glycosylation: Methods and Mechanisms (#306)

Organized by: T. Lowary, X. Huang, S. Hung, K. Tanaka
Presiding: X. Huang, S. Hung, T. Lowary, K. Tanaka

Poster Session
19:00 – 21:00

2619. Oligosaccharides synthesis using silicon bulky protecting group. **T. Matsumoto**, R. Ito, R. Konose, T. KOYAMA, K. MATSUOKA, K. Hatano
2620. α-Selective ribofuranosylation using ribofuranosyl iodides as glycosyl donors. **N. Oka***, R. Kajino, K. Ando
2621. Reactivity and stereoselectivity of glycosylation using glycosyl acceptor having thioether groups near to alcohol. **M. Kobayashi**, M. Tamura, A. Ezawa, Y. Nishida, H. Dohi*
2622. Synthesis of selenium-containing fucose derivatives and their application for the X-ray structural analysis of fucose-binding lectin from *Aspergillus oryzae*. **J. Shimabukuro**, H. Makyio, T. Suzuki, H. Ando*, Y. Yamada, H. Ishida, S. Wakatsuki, R. Kato, M. Kiso
2623. Efficient synthesis of Rhamnan sulfates with repeating 1,2-α-linkages unit and alternating 1,2- and 1,3-α-linkages by using disaccharide building blocks. **H. Tanaka***
2624. Stereoselective synthesis of antiherpesvirus sialyl T_N-glycopeptides. **K. Kakita***, N. Hatori, A. Furukawa, M. Anada, H. Nambu, K. Maenaka, S. Hashimoto
2625. Design and synthesis of thioglycoside donors having electron-donating groups for the efficient glycosylation. **H. Someya**, T. Itoh, S. Aoki
2626. Sequential glycosylation method using phenylthioglycoside with arming or disarming group in the aryl ring. **H. Dohi***, T. Kimura, T. Kanazawa, A. Ezawa, M. Kobayashi, R. Komai, Y. Nishida
2627. Synthesis of novel neogala-series glycosphingolipids from *Hirsutella rhossiliensis*. **i. ohtsuka***, T. Kanaya, n. hada, t. atsumi, T. Watanabe, n. kakiuchi
2628. Synthesis of fluorescent analogs of lipid-modified ganglioside GM3 for elucidating the function of ganglioside in the lipid raft. **A. Yamazaki**, N. Komura, H. Ando*, A. Imamura, H. Ishida, M. Kiso
2629. Detailed examination of reactivity of mono-benzylated glucosyl and galactosyl donors. **A. Hori**, M. Konishi, A. Imamura, H. Ando*, H. Ishida, M. Kiso
2630. Automated electrochemical synthesis of TMG-chitotriomycin tetrasaccharide. **Y. Isoda**, T. Nokami*, N. Sasaki, S. Hayase, T. Itoh*, R. Hayashi, A. Shimizu, J. Yoshida*
2631. Reaction behavior of thioglycoside donors having aldehyde in leaving group. **R. Komai**, H. Sakai, R. Sasaki, Y. Nishida, H. Dohi*

Hawaii Convention Center
Halls I, II, III

New Horizon of Process Chemistry by Scalable Reactions and Technologies (#426)

Organized by: K. Tomioka, R. Williams, R. Hwu, H. Sajiki, T. Shioiri, N. Yasuda
Presiding: K. Tomioka

Poster Session
19:00 – 21:00

2632. Alkylation of phenol with styrene over solid acid catalysts. Y. Hyeonjun, **H. Ahn***, Y. Lee, M. Jang, W. Kwak, S. Jung, M. Chung
2633. Isopropylation of benzene over modified zeolite with metal oxide to produce isopropylbenzene (Cumene). **M.C. Al-Kinany***
2634. Catalytic cracking of vacuum residue over modified zeolite to produce light olefins. **H.A. Almegren***, M.C. Al-Kinany, P. Edwards, T. Xiao
2635. Platinum group metal on carbon-catalyzed aqueous dehydrogenation of alcohols. Y. Sawama, **S. Asai**, K. Morita, Y. Monguchi, H. Sajiki
2636. Liquid-phase mixture synthesis of 36 peptides using fluorous-Fmoc protection strategy and their ACE inhibitory activities. **N. Endo**, Y. Sugiyama, T. Hayashi, T. Shioiri, H. Hamamoto, M. Matsugi
2637. Palladium on spherical carbon (Pd/SC) as a catalyst for chemoselective hydrogenation. **H. Esaki***, T. Hattori, A. Tsubone, Y. Sawama, Y. Monguchi, K. Nosaka, K. Fukushima, H. Sajiki
2638. Chiral cyclopropane and cyclobutane forming-reactions using α-anion of nitriles: Asymmetric synthetic study of (1*R*,3*R*)-metofluthrin and (+)-grandisol. **T. Fujiwara**, Y. Takahama, Y. Ashida, N. Matsuo, H. Nakatsuji, Y. Tanabe*
2639. Mild and environmentally friendly oxidative cleavage reaction of oxacyclic methanols to lactones by 2-iodobenzamide catalyst-Oxone combination. **T. Fujiwara**, Y. Horiuchi, A. Yamada, H. Nambu, T. Yakura*
2640. Enzyme-catalyzed phenolic acetyl group manipulation technology-2: Application toward synthesis of glycosylated derivatives. **S. Hanamura**, R. Kobayashi, K. Asami, K. Hanaya, M. Shoji, T. Sugai*
2641. (*E*)-, (*Z*)-stereocomplementary parallel synthesis of (*E*)- and (*Z*)- tamoxifens. Y. Ashida, **A. Honda**, Y. Sato, H. Nakatsuji, Y. Tanabe*
2642. Heterogeneous palladium catalyst supported on anion exchange resin for chemoselective hydrogenation and Suzuki-Miyaura reaction of chloroarenes. **T. Ichikawa***, M. Netsu, T. Hattori, T. Mizusaki, Y. Sawama, Y. Monguchi, H. Sajiki
2643. Regio- and stereoselective synthesis of (*E*)-1-bromo-2-iodoalkenes from internal alkynes. **M. Ide**, T. Iwasawa
2644. Regio- and stereoselective synthesis of vicinal (*Z*) -dihaloalkenyl silanes through in situ generated BrCl. **M. Ide**, T. Iwasawa
2645. S_N2 displacement at the quaternary carbon center: A novel entry to the synthesis of α,α-disubstituted α-amino acids. **K. Ishihara**, H. Hamamoto, M. Matsugi, T. Shioiri
2646. Practical preparation of α-formyl esters from simple esters and methyl formate utilizing Ti-Claisen condensation and its utilization for useful building blocks. **S. Kajimoto**, Y. Ashida, H. Nakatsuji, Y. Tanabe
2647. Development of regioselective introduction of nucleophiles toward quinone monoacetals by design of specific acid catalyst. **T. Kamitanaka**, N. Washimi, Y. Hu, T. Dohi, Y. Kita*
2648. Efficient hydroarylation of phenol with styrene employing mixed catalysts. **V. Kim**, E. Shin*, M. Chung, W. Kwak
2649. Chiral phosphoric acid catalyzed asymmetric transfer hydrogenation of trifluoromethylated imines. **Y. Kiyota**, K. Saito, T. Akiyama*
2650. Enantioselective reaction of α-heteroacetonitriles using palladium pincer complexes with chiral bis(imidazoline)s. **M. Kondo**, S. Nakamura, N. Kobayashi, T. Nishi
2651. Efficient synthesis of a PDE 4 inhibitor by using Pd-Cu catalyzed C-H/C-Br coupling of benzoxazole with a heteroaryl bromide. **K. Kuroda***, S. Tsuyumine, T. Kodama
2652. Green organic synthesis in gas-related multiphase reactions using micro- and nanobubbles strategy. **N. Mase***, Y. Nishina, K. Sato, T. Narumi, N. Watanabe
2653. $FeCl_3$-catalyzed self cleavage of methoxyphenylmethyl protected alcohols. Y. Sawama*, **M. Masuda**, S. Asai, R. Goto, S. Nagata, S. Nishimura, Y. Monguchi, H. Sajiki
2654. Development of standard solutions for qNMR. **T. Miura**, S. Nakao, S. Takaoka, Y. Yamada*
2655. One-pot *N*-arylindole synthesis from 2-bromophenethylamine. **Y. Monguchi***, T. Marumoto, H. Takamatsu, Y. Sawama, H. Sajiki
2656. Chiral phosphoric acid catalyzed asymmetric synthesis of dihydroquinolones using aza-Michael reaction. **Y. Moriya**, K. Saito, T. Akiyama*
2657. Synthesis of procyanidins and their derivatives using silyl-protecting group. **N. Nakajima***, M. Hamada, T. Kishimoto, A. Saito
2658. Development of magnetic nanoparticle-supported iodoarene oxidative catalysts and its application. **H. Nambu**, I. Shimokawa, T. Fujiwara, T. Yakura*
2659. Concise synthesis of all stereoisomers of dendroamide A employing fluorous-Fmoc reagents. **K. Oguri**, N. Endo, Y. Sugiyama, H. Hamamoto, T. Shioiri, M. Matsugi
2660. Stainless steel-mediated hydrogen generation from water using ball milling and its application. **Y. Sawama**, M. Niikawa, T. Kawajiri, R. Goto, Y. Monguchi, H. Sajiki
2661. Study on the synthesis of styrenated phenol using organometallic catalysts. **S. Son**, J. Kim, H. Ahn, M. Jang, W. Kwak, S. Jung, M. Chung*
2662. Asymmetric epoxidation of aromatic olefins using light fluorous salen manganese complex: Enhancement of enantioselectivity by the addition of benzotrifluoride as a cosolvent. **Y. Sugiyama***, Y. Kobayashi, H. Miyazaki, H. Hamamoto, T. Shioiri, M. Matsugi
2663. PItinum group metal on carbon-catalyzed multiple deuteration of arenes and alkanes in 2-propanol/D_2O mixed solvent. **T. Yamada**, Y. Monguchi, Y. Sawama, H. Sajiki
2664. Enzyme-catalyzed phenolic acetyl group manipulation technology-1: Application to the synthesis of physiologically active natural products. **K. Yashiro**, S. Mandal, K. Hanaya, M. Shoji, T. Sugai*

Hawaii Convention Center
Halls I, II, III

Asymmetric Supramolecular Catalysis (#451)

Organized by: J. Takacs, S. Moteki, J. Green

Poster Session
19:00 – 21:00

2665. Development of self-assembled asymmetric catalyst based on two-point hydrogen bonding interaction. **T. SHISHIDO**, M. Yamanaka*
2666. Synthesis of structurally-chiral molecules aiming for the dynamic conformational switching. **S. Handa**, H. Goto, H. Sugimoto*
2667. Ligand-enabled multiple absolute stereocontrol in palladium-catalyzed [3 + 2] cycloaddition. **N. Imagawa**, K. Ohmatsu, T. Ooi*
2668. Selective *O*-acylation of *meso*-1,2-diol with a rotaxane organocatalyst. **T. Iwase***, K. XU, K. Nakazono, T. Takata

*** Principle Author**

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Hawaii Convention Center
Halls I, II, III

Synthetic Modulators of Protein-Protein Interactions (#461)

Organized by: P. Arora, D. Fairlie, A. Kennan, K. Kumar, S. Sidhu, , *Presiding:* P. Arora

Poster Session
19:00 – 21:00

2669. γ-Turn peptidomimetic scaffold and its application: From scaffold-hopping to synthesis. **J. Hah**, M. Kim, C. Lee
2670. Inhibitors of the pore-forming protein perforin as potential immunosuppressive agents. **J. Spicer***, C. Miller, P. O'Connor, J. Jose, J. Jaiswal, S. Jamieson, W. Denny, R. Law, J. Whisstock, H. Akhlaghi, J. Trapani
2671. Structural development of stapled short helical peptides as vitamin D receptor (VDR)-coactivator interaction inhibitors. **T. Misawa***, Y. Demizu, M. Kurihara
2672. Pharmacological chaperones targeting cancer-associatad MCL-1 and Parkinson's disease-associated α-synuclein. **M. Oh**, J. Lee, Q. Hoang, H. Lim*
2673. Novel BRD4 inhibitors with a *N*6-benzoyladenine skeleton. **T. Noguchi-Yachide***, T. Sakai, Y. Hashimoto, T. Yamaguchi
2674. Development of transrepression-selective liver X receptor (LXR) ligands. **S. Nomura**, K. Endo-umeda, A. Aoyama, M. Ishikawa*, M. Makishima, Y. Hashimoto
2675. Discovery and synthesis of a novel non-covalent inhibitor for protein-protein interaction between Nrf2 and Keap1. **D. Yasuda**, T. Ohe, R. Obata, K. Takahashi, T. Mashino, M. Komatsu, Y. Ichimura, M. Yamamoto, R. Imamura, H. Kojima, T. Okabe, T. Nagano*
2676. Novel peptidomimetic compounds as anticancer agents and their molecular docking studies. **J. Lee***, H. Lee
2677. Novel tools to structurally characterize protein-protein interactions. **R. Oliva**, E. Chermak, L. Cavallo
2678. Polypharmacological profiles of phenanthridinone derivatives. **Y. Nishiyama**, T. Misawa, H. Aoyama, S. Fujii, M. Ishikawa, Y. Hashimoto

Sunday Morning

Hilton Hawaiian Village
Rainbow Tower, Rainbow 3

Anion Receptors (#31)

Organized by: B. Hay, F. Pfeffer, B. Wu, C. Jia, R. Custelcean
Presiding: A. Flood, B. Wu

8:00 – 2679. New anion receptors and transporters. **P. Gale***
8:30 – 2680. Understanding and application of anion-π interactions. **D. Wang**
9:00 – 2681. Discriminating anions through tunable electronic interactions. **S. Saha***
9:30 – 2682. Ion-pairing assemblies based on anion-responsive π-electronic molecules. **H. Maeda***
10:00 Break
10:15 – 2683. Luminescent lanthanide(III) complexes for anion recognition. **M. Albrecht***
10:45 – 2684. Interactions of anions with halogen and chalcogen bond donors. **M.S. Taylor***
11:15 – 2685. Tripodal receptors for anion binding and sensing. **P. Anzenbacher***

Hilton Hawaiian Village
Mid-Pacific Center, South Pacific Ballrm 1

New Green Techniques for Medicinal Chemistry (#148)

Organized by: W. Zhang, I. Ryu, P. Toy
Presiding: I. Ryu, M.P. Sibi

8:00 – 2686. Development of a "green strategy" within medicinal chemistry at Genentech and in the pharma industry. **M. Bryan**
8:30 – 2687. Green chemistry at Merck: Green by Design through innovation. **J. Yin***
9:00 – 2688. Nanomole-scale high-throughput chemistry - a green approach to the synthesis of medicinally relevant molecules. **T. Cernak***, A. Buitrago Santanilla, S. Dreher*, E.L. Regalado, P. Vachal, L. Campeau, I. Davies, C. Welch
9:20 – 2689. Chemosynthetic livers: Predict, prepare, and prove the structure, activity, and toxicity of drug metabolites. **M.S. Chorghade***, R.S. Chorghade
9:40 – 2690. Free-radical-based site-selective C-H to C-C conversion. **I. Ryu***
10:10 – 2691. New synthetic reactions of N-heterocyclic carbene boranes. **D.P. Curran***
10:40 – 2692. Development of green conversions of biomass in hydrophobic ionic liquids. **A. Kamimura**
11:10 – 2693. Synthesis of novel polymers from biomass and their programmed degradation . **M.P. Sibi***, E. Serum, C. Sutton, R. Raghunathan, R. Krishnan, S. Jayaraman*, D. Webster, R. Saravanakumar
11:40 – 2694. Lignin disassembly and the role of paired-electrolyses in the sustainable synthesis of new synthetic building blocks.. B. Nguyen, M. Llorente, C.P. Kubiak, **K.D. Moeller**

Hilton Hawaiian Village
Mid-Pacific Center, Coral 2

Applications of C-H Functionalization (#169)

Organized by: P. Vachal, Z. Shi, C. Li, H. Davies, K. Itami, H. Lebel

8:00 – 2695. C-H arylation in combination with decarboxylative cross-couplings as a modular route to biologically important thiophene-based targets. **P. Forgione**
8:30 – 2696. Design of axially chiral phenanthroline ligands for enantioselective C-H functionalization. **Y. Naganawa***, H. Nishiyama*
8:50 – 2697. Development of metal-catalyzed reactions to access *N*-heterocycles from nitroarenes. **T. Driver**
9:20 – 2698. Branch selective Ir-catalyzed hydroarylation of monosubstituted alkenes via a cooperative destabilization strategy. **G.E. Crisenza***, J. Bower
9:40 – 2699. Adventures in aldehyde C-H bond activation. **V.M. Dong***
10:10 – 2700. Stereoselective radical C–H amination by Co(II)-based metalloradical catalysis. **P. Zhang***
10:40 – 2701. Palladium(0)-catalyzed C(sp^3)-H bond activation as a strategy for the construction of polycyclic systems. **O. Baudoin***
11:10 – 2702. Nickel(II)-catalyzed oxdative coupling between C(sp^2)−H bonds in benzamides and C(sp^3)−H bonds in toluene derivatives. **Y. Aihara**, N. Chatani*
11:30 – 2703. Catalytic aerobic platform for the selective functionalization of phenolic C-H bonds. Z. Huang, K. Esguerra, **J. Lumb***

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 1

Strategies and Tactics for Complex Molecule Synthesis (#174)

Organized by: C. Forsyth, C. Lee, L. Barriault, J. Cha
Presiding: C. Lee, B. Wang

8:00 introduction
8:05 – 2704. Radical-based approach for synthesis of complex natural products. **M. Inoue***
8:35 – 2705. Total synthesis of natural products containing multisubstituted arenes via a 6π electrocyclization/aromatization strategy. **A. Li**
9:05 – 2706. Streamlined syntheses of complex tetracyclic diterpenoids. **X. Lei***
9:35 break
9:40 – 2707. Total synthesis of ustiloxin D. **C.A. Hutton***, A.L. Brown
9:55 – 2708. Protecting group free strategy for the sustainable synthesis of polyketide natural products. **R.S. Chapman***, P. Plucinski, M. Jones, S.D. Bull
10:10 – 2709. Nanomole-scale high-throughput chemistry for the synthesis of complex molecules. **L. Campeau**
10:25 – 2710. Colorful azulene-based protecting group for carboxylic acids, alcohols, and amines. **T.W. Bevan***, H.J. Wong, P.T. Northcote, J.E. Harvey
10:40 – 2711. Recent innovations in alkyne chemistry. **G.B. Dudley***
10:55 Break
11:00 – 2712. Relative and absolute configurations of Phaeosphaeride A: Total synthesis of *ent*-Phaeosphaeride A. **K. Kobayashi***, M. Nakamura, Y. Kobayashi, O. Tamura, H. Kogen*
11:20 – 2713. Highly convergent, enatioselective, and conceptually novel synthesis of polydeoxypropionates. **S. Xu**, A. Oda, T. Bobinski, H. Li, E. Negishi*
11:40 – 2714. Lipase-catalyzed asymmetric synthesis of multifused optically active cyclic molecules by one-pot sequential dynamic kinetic resolution/intramolecular Diels-Alder reaction. **K. Sugiyama**, S. Kawanishi, Y. Oki, M. Kamiya, M. Egi, S. Akai*
12:00 closing remarks

Hilton Hawaiian Village
Mid-Pacific Center, Sea Pearl Suites 1 & 2

Cooperative Cocatalysis with Two Different Metals (#270)

Organized by: S. Blum, Y. Nakao, S. Chang

8:00 – 2715. Acceptorless dehydrogenation of alkanes through cooperative base metal catalysis . **J.G. West**, E.J. Sorensen*
8:30 – 2716. Multimetallic cross-electrophile coupling reactions and design principles. **D.J. Weix***
9:10 Break
9:20 – 2717. Enabling multiple catalytic transformations from a single heterobimetallic design strategy. **N.P. Mankad**
10:00 – 2718. Synergistic divergent dipolar cycloaddition reaction from non-dipolar compounds using dual catalysis system. **H. Jeon**, S. Lee*
10:30 – 2719. Recent progress in cooperative asymmetric catalysis. **M. Shibasaki**

Hilton Hawaiian Village
Tapa Tower, Tapa Ballrm 2

Chemical Glycosylation: Methods and Mechanisms (#306)

Organized by: T. Lowary, X. Huang, S. Hung, K. Tanaka
Presiding: K. Tanaka

8:00 – 2720. Scalable and stereoselective synthesis of 1,2-cis-2-aminosugars via nickel catalysis. **H.M. Nguyen**
8:30 – 2721. General strategy for stereospecific synthesis of rare higher carbon sugars and its application thereof. **K.T. Mong***
9:00 – 2722. Examination of 1,2-*trans*-selective glycosidation of glycosyl donors bearing 2,3-cyclic protecting group. **N. Yagami**, M. Konishi, H. Tamai, A. Ueki, A. Imamura, H. Ando*, H. Ishida, M. Kiso
9:15 – 2723. Synthesis of C-2 functionalized liduronic acid derivatives. **S. Mohamed***
9:30 – 2724. Study on stereoselective *cis*-glycosylations through NAP ether-mediated intramolecular aglycon delivery. **A. Ishiwata***, Y. Ito
9:45 – 2725. Mechanistic insights into the gold(I)-catalyzed glycosylation with glycosyl *ortho*-alkynylbenzoates as donors. **B. Yu**
10:15 Break
10:25 – 2726. De novo synthesis of carbohydrate for medicinal chemistry. **G.A. ODoherty**
10:55 – 2727. Glycosylation of 2,4-*O*-(*o*-xylylene)-bound thioglucoside. **Y. Sakamoto***, Y. Ito*
11:10 – 2728. Novel chemical glycosylation with recognition of alcohol chirality and its application to natural product synthesis. **T. Kimura**, D. Takahashi, K. Toshima*
11:25 – 2729. Catalytic stereoselective synthesis of glycosides. **M. Galan***

Hilton Hawaiian Village
Mid-Pacific Center, Nautilus 1

Synthetic Modulators of Protein-Protein Interactions (#461)

Organized by: P. Arora, D. Fairlie, A. Kennan, K. Kumar, S. Sidhu, , *Presiding:* A. Kennan

8:00 Break
8:30 Opening Remarks
8:35 – 2730. Protein domain mimetics as modulators of protein-protein interactions. **P. Arora***
9:00 – 2731. Simulating secondary structure: β-strand/sheet peptidomimetics. **S. Thompson**, P.C. Knipe, J.E. Ross, J.T. Han, A.D. Hamilton
9:20 – 2732. Small-molecule mimic for the side chains of hydrophobic α-helical hot spots and its application to the β-Catenin/B-cell lymphoma 9 protein–protein interaction. **H. Ji***
9:40 Break
9:50 – 2733. Inhibition of helix mediated protein-protein interactions using designed molecules. **A.J. Wilson**
10:15 – 2734. AApeptides and their derivatives for protein surface recognition. **J. Cai***
10:35 – 2735. Covalent control of peptide loop structure. **J. Kritzer***
10:55 Break
11:05 – 2736. Allosteric modulation of conformationally dynamic transcription factor complexes. **A.K. Mapp***
11:30 – 2737. Bioreversible protein modifications that engender cellular delivery. **R.T. Raines***

PHYS

Area 5 – Physical, Theoretical, & Computational

Tuesday Morning

Hawaii Convention Center
308A

Ultrafast Intense Laser Chemistry (#35)

Organized by: K. Yamanouchi, R. Levis, F. Legare, Q. Gong
Presiding: Q. Gong

8:00 Opening Remarks
8:05 – 1. Coherent control at its most fundamental. M. Sayler, T. Rathje, M. Möller, P. Wustelt, **G.G. Paulus***
8:30 – 2. Strong-field coherent control: Unpacking the role of phase. D.B. Foote, Y. Lin, **W.T. Hill***

*** Principle Author**

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8:55 – 3. Adiabatic ionization creates a "pure" wave packet in the strong field regime for control at a conical intersection in acetophenone derivatives. **R.J. Levis***
9:20 – 4. Synergy of chirped and multipulse excitation: Control of population and vibrational coherence using. E. Brühl, I. Afa, C. Serrat, T. Buckup, **M. Motzkus***
9:45 Break
10:00 – 5. Intense IR laser induced electron rescattering study on hydrocarbon molecules. **Y. Ito**, M. Okunishi, W. Chuncheng, R.R. Lucchese, T. Morishita, O.I. Tolstikhin, L.B. Madsen, K. Ueda*
10:10 – 6. Laser-assisted electron scattering by light-dressed Xe atoms in a femtosecond intense laser field. Y. Morimoto, **R. Kanya**, K. Yamanouchi*
10:35 – 7. Development of a femtosecond laser-assisted electron scattering apparatus equipped with an angular-resolved time-of-flight analyzer. **K. Ishida**, R. Kanya, K. Yamanouchi*
10:45 – 8. Development of trapped ion electron diffraction apparatus for determination of geometrical structure of molecular ions. **H. Tanaka**, K. Kato, R. Kanya, K. Yamanouchi*
10:55 – 9. Intense laser-induced population inversion of N_2^+. **H. Xu***, E.V. Lotstedt, K. Yamanouchi

Hawaii Convention Center
301A

Multiscale Couplings of Molecular Theory of Solvation: Fundamentals and Applications (#60)

Organized by: A. Kovalenko, B. Pettitt, F. Hirata
Presiding: F. Hirata, A. Kovalenko

8:00 – 10. Comparing theory, heuristics, and simulations in solution. K. Dyer, J. Perkyns, D. Karandur, C. Zhang, **M. Pettitt***
8:30 – 11. Hydrophobic interaction: From statics to kinetics. **A. Luzar**
9:00 – 12. Approaching quantitative accuracy with integral equation-based solvation models. **S.M. Kast***
9:30 – 13. Mechanism of one-to-many molecular recognition accompanying target-dependent structure formation: For the tumor suppressor p53 protein. **T. Hayashi***, H. Oshima, S. Yasuda, M. Kinoshita
9:45 – 14. Multiscale simulation of fullerene solvation and aggregation behaviors in organic solvent. **C. Wang**, C. Hua*
10:00 Coffee Break
10:15 – 15. Aqueous solutions: New insights from large-scale computer simulations. R. Gupta, **G. Patey***
10:45 – 16. Fluctuation-aggregation duality in complex liquids. **A. PERERA***
11:15 – 17. Free-energy calculation with the method of energy representation with application to the binding of small molecules into polymers. **N. Matubayasi***
11:45 – 18. Systematic method to estimate solvation free energies from 2PT molecular dynamics. **H. Lee***, H. Lim, H. Kim

Hawaii Convention Center
308B

New Insights from Quantum Dynamics and ab initio Potentials in High Dimensional Systems (#84)

Organized by: T. Carrington, J. Bowman, D. Zhang
Presiding: E.L. Sibert

8:00 Opening Remarks
8:05 – 19. Calculation of vibrational ground and excited states of malonaldehyde and their tunneling splittings. **H. Meyer***, M. Schröder
8:35 – 20. CO_2 inside the clathrate hydrate cavities: A quantum dynamic study for comparing with experiments. **D.J. Arismendi Arrieta**, Á. Valdés, R. Prosmiti
8:55 – 21. Symmetrical quasi-classical model for classical molecular dynamics simulations of electronically non-adiabatic processes. **W.H. Miller**
9:25 – 22. Efficient calculation of anharmonic vibrational spectra using localized modes. P.T. Panek, **C.R. Jacob**
9:45 Break
10:00 – 23. Undestanding and controlling chemical reactions: Applications of the multiconfiguration time-dependent Hartree method. **F. Gatti***, H. Meyer, B. Iasorne, S. Guérin, R. Marquardt
10:30 – 24. Size-consistent multipartitioning QM/MM: A stable and efficient adaptive QM/MM method. **H.C. Watanabe***, T. Kubar, M. Banno, M. Elstner, M. Sakurai
10:50 – 25. Multidimensional quantum dynamics with and without a potential energy surface: Parameterized bases and anharmonic spectra in up to 15D. **S. Manzhos***, T. Carrington, R. Dawes, X. Wang, H. Guo
11:20 – 26. Variational multiconfigurational quantum dynamics using moving Gaussian basis sets: Flexible frozen Gaussian-based hierarchical representations. **I. Burghardt***, P. Eisenbrandt, M. Ruckenbauer, S. Römer

Hawaii Convention Center
305B

Deciphering Molecular Complexity from Single Molecules to Cellular Networks (#121)

Organized by: T. Komatsuzaki, J. Wang, J. Wu
Presiding: T. Komatsuzaki, J. Wu

8:00 Opening Remarks
8:05 – 27. Finding the macro-micro boundary. **R. Berry**
8:40 – 28. Multiscale method for dynamics simulations of biomolecular systems. **R. Luo***
9:10 – 29. Complex folding transition of the B domain of protein A investigated by the high-speed measurement of single-molecule FRET time series. H. Oikawa, K. Kamagata, M. Arai, **S. Takahashi***
9:40 Break
9:55 – 30. Robustness of rotary catalysis of F1-ATPase rotary motor tested by creating an artifical rotary motor molecule. **H. Noji***
10:30 – 31. Conformational fluctuations in DNAs and enzymes . **J. Cao***
11:00 – 32. Single-molecule method for counting ligands associated with a conformational transition: Linking ion uptake to nucleic acid folding. **D.R. Jacobson***, O.A. Saleh

Hawaii Convention Center
305A

Computational Modeling of d- and f-Block Chemistry: Challenges and Opportunities (#130)

Organized by: A. Wilson, P. Schwerdtfeger, K. Kim, Z. Lin, T. Cundari
Presiding: A. Wilson

8:00 Introductory Remarks
8:05 – 33. Computational insight into nickel-catalyzed carbon–carbon vs. carbon–boron coupling reactions of primary, secondary, and tertiary alkyl bromides. M. Cheung, F. Sheong, T. Marder, **Z. Lin**
8:35 – 34. Transition metals in astrochemistry: Which roads lead to a better understanding of astrobiology?. **N.J. DeYonker***, T.N. Brown, K.O. Brown
9:05 – 35. Automated exploration of adiabatic and nonadiabatic channels in organometallic complexes. **S. Maeda***, Y. Harabuchi, M. Gao, G. Zeng, T. Taketsugu
9:35 BREAK
9:50 – 36. Ground and excited states of the $[Fe(H_2O)_6]^{2+}$ and $[Fe(H_2O)_6]^{3+}$ clusters: Insight into the electronic structure of the $[Fe(H_2O)_6]^{2+}$ – $[Fe(H_2O)_6]^{3+}$ complex. **S.S. Xantheas***, E. Miliordos
10:20 – 37. N_2O activation by a vanadium(III) complex. **B.F. Yates***, R. Robinson, M.F. Shaw, R. Stranger
10:50 – 38. Reduction of chromium oxide by methane: Density functional theory studies. **K.M. Skjelbred***, P. Åstrand, S. Andersson, J.A. Støvneng
11:10 – 39. Activation of CH_4 by Th^+ as studied by guided ion beam mass spectrometry and quantum chemistry. **P.B. Armentrout**, R.M. Cox, W.A. de Jong

Hawaii Convention Center
306B

Chemical Imaging: Frontiers of Spatio-Temporal Resolution (#134)

Organized by: P. Piotrowiak, M. Fujii, J. Tang, B. Zhang
Presiding: P. Piotrowiak, B. Zhang

8:00 Opening remarks
8:05 – 40. Mapping atomic motions with ultrabright electrons: The chemists' Gedanken experiment enters the lab frame. **R. Miller***
8:45 – 41. Quantized chromatic aberrations and temporal resolutions in ultrafast electron microscopy. **D.J. Flannigan***, D.A. Plemmons, D.R. Cremons, D.T. Valley
9:15 – 42. Imaging ultrafast molecular reactions with free electron laser radiations. **Y. Jiang**
9:45 – 43. Nonadiabatic dynamics in polyatomic molecules by femtosecond time-resolved photoelectron imaging. **B. Zhang***
10:15 Break
10:30 – 44. Picosecond photobiology: Watching a signaling protein function in real time via 150-picosecond time-resolved X-ray diffraction and solution scattering. **P. Anfinrud***, F. Schotte, H. Cho, J. Kyndt, H. Kamikubo, M. Kataoka
11:00 – 45. Femtosecond time-resolved impulsive stimulated Raman study of the primary process of photoactive yellow protein. H. Kuramochi, S. Takeuchi, K. Yonezawa, H. Kamikubo, M. Kataoka, **T. Tahara**
11:30 – 46. Observation of molecular orientation of human hair α-keratin fibers by a VSFG detected IR super-resolution microscopy. **M. Sakai***, K. Ushio, Y. Watase, M. Fujii

Hawaii Convention Center
313C

Recent Progress in Molecular Theory for Excited-state Electronic Structure and Dynamics (#142)

Organized by: J. Hasegawa, M. Collins, M. Gordon, P. Piecuch, T. Taketsugu
Presiding: P. Piecuch

8:00 Opening address
8:10 – 47. Recent progress in density functional theory. **D.G. Truhlar***
8:40 – 48. Electronic excitations from pairing matrix fluctuation and particle-particle random phase approximation. **W. Yang**
9:00 – 49. Assignments of ground and excited states of 3D carbon and boron clusters from P3+ and NR2 electron-propagator theory. **J.V. Ortiz***
9:20 – 50. Does CC2 and CC3 theory offer quality potential surfaces for excited electronic states?. **J.F. Stanton***
9:50 – 51. Metastable electronic states and complex variable approaches: A fresh look at the old challenge. **A. Krylov**
10:20 – 52. Solvent effects in excited states: PCM SAC-CI study. **M. Ehara**, R. Fukuda
10:50 – 53. Development of linear-scaling excited-state calculations: Divide-and-conquer approaches. **H. Nakai**
11:20 – 54. Excited states in condensed matter from embedded correlated wavefunction theory. **E.A. Carter***

Hawaii Convention Center
313A

Frontiers of Metal Clusters and Nanostructures: From Fundamental Properties to Functionalities (#168)

Organized by: A. Terasaki, S. Anderson, N. Gaston
Presiding: S.L. Anderson

8:00 Opening address
8:05 – 55. Super- and hyper halogens-A class of superatoms. **P. Jena**
8:35 – 56. Nanocluster superatom formation using ion source based on high-power impulse magnetron sputtering. **A. Nakajima***
9:05 – 57. Determining the structure of transition metal clusters and their derivatives by trapped ion electron diffraction. **M. Kappes***, D. Schooss
9:25 – 58. Uncovering structure-property relationships: From studies of pure and supported metal clusters and colloids to their use in catalysis and sensing. **V. Golovko***, D. Anderson, R. Adnan, B. Donoeva, D. Ovoshchnikov, J. Ruzicka, D. Padayachee, A. Marshall, G. Andersson, G.F. Metha, W. Wlodarski
9:45 break
10:00 – 59. Doped metal clusters on oxides: Rationalization and design through the prism of chemical bonding. **A. Alexandrova***
10:30 – 60. Molecular silver nNanoparticles: Chemical, optical, and structural principles. **T.P. Bigioni***
11:00 – 61. Molecular simulation of Ag nanoparticle nucleation from solution: Redox-reactions direct the evolution of shape and structure. **D. Zahn***, T. Milek
11:20 – 62. Toward the creation of stable, functionalized metal clusters. **Y. Negishi***

Hawaii Convention Center
304A

Theory of Main Group Chemistry Beyond First Row (#183)

Organized by: T. Dunning, M. Gordon, P. Schwerdtfeger, C. Choi
Presiding: T. Dunning

8:00 – 63. Recoupled pair bonding: Insight into chemistry beyond the first row and beyond Earth. **D.E. Woon**
8:30 – 64. Bonding analysis using the atomic orbitals found within molecular wavefunctions. **M.W. Schmidt**
9:00 – 65. Bonding energetics of main group compounds. **D.A. Dixon***
9:30 – 66. Non-covalent interactions beyond the first row: Big challenges from small π-type dimers. **G.S. Tschumper**
10:00 – 67. Experimental and theoretical investigations on the elementary reactions of F_2 with organosulfur molecules. **J. Lin***
10:30 – 68. Structure, bonding, and energetics of lower p-block species: Developments and applications. **A. Wilson***
11:00 – 69. Chemical bonding in diatomic molecules of the first and higher octal rows of the periodic system. **G. Frenking***

*** Principle Author**

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11:30 – 70. Expanding the Bent's rule toward main group elements: Hybridization trends across the periodic table. **I. Alabugin**, S. Bresch

Hawaii Convention Center
304B

Latest Development of Advanced Vibrational Spectroscopy (#187)

Organized by: K. Iwata, S. Asher, D. Phillips, Y. Furukawa
Presiding: Y. Furukawa, K.C. Gordon

8:00 – 71. Femtosecond stimulated Raman spectroscopy: A vibrationally specific probe of reactive nonadiabatic coupling. **R.A. Mathies**
8:25 – 72. Development of stimulated Raman scattering interferometer and its application to the chemical contrasted imaging of buried layers and interfaces. **M. Banno**, T. Kondo, H. Yui*
8:45 – 73. Self-localized excitations formed in π-conjugated polymers in solution: Femtosecond near-IR absorption and stimulated Raman studies. **T. Takaya**, M. Shinohara, K. Iwata*
9:00 – 74. Photoinduced structural change of aurophilic oligomers in water observed by ultrafast spectroscopy. **M. Iwamura***, R. Wakabayashi, J. Maeba, K. Nozaki, S. Takeuchi, T. Tahara
9:20 – 75. Excited-state intramolecular proton transfer investigated by femtosecond electronic and vibrational spectroscopy. **Y. Pang***, M. Jen, S. Lee, T. Jang
9:35 – 76. Theoretical-computational modeling of excited state proton transfer reactions through multiresolution vibrational analysis. **G. Donati***, A. Petrone, P. Cimino, N. Rega*
9:55 break
10:05 – 77. Application of Raman spectroscopy to organic electronic devices. **Y. Furukawa**
10:30 – 78. Measurements and analyses of the infrared and Raman spectra of radical cation of [3$_4$](1,2,4,5)cyclophane: Observation of electron-molecular vibration interaction by infrared spectroscopy and large amplitude bridged ring vibrations by near-infrared resonance Raman spectroscopy. **A. Sakamoto***, H. Okajima, N. Tanaka, T. Shinmyozu
10:55 – 79. Probing the entire vibrational frequency range with continuum mid-IR laser pulses . A.M. Stingel, H. Vanselous, **P.B. Petersen**
11:15 – 80. Single-mode interband cascade lasers for spectroscopic applications. **L. Hildebrandt***, J. Scheuermann, M. Edlinger, R. Weih, L. Nähle, M. Fischer, J. Koeth, M. Kamp, S. Höfling
11:30 – 81. Raman spectroscopic observation of collisional reaction between H_2SO_4 and NaOH droplets. **K. Anahara***, J. Kohno
11:45 – 82. In situ variable temperature infrared spectroscopy of the vitrification process: New molecular insights on an intriguing phenomenon. **A. Laventure**, A. Soldera, O. Lebel, C. Pellerin*

Hawaii Convention Center
301B

Frontier Chemical Applications Using Accelerator Based Photon Sources (#414)

Organized by: K. Asakura, T. Sham, L. Chen
Presiding: L.X. Chen

8:00 Welcome coffee
8:20 Welcome message
8:30 – 83. Ultra slow Muon microscopy - a new method to study function across interfaces in materials and life science. **E. Torikai**, Y. Miyake, R. Kadono, M. Iwasaki
9:00 – 84. Total-reflection high-energy positron diffraction (TRHEPD): A novel method for the analysis of the surface atomic arrangements. **T. Hyodo***, I. Mochizuki, K. Wada, Y. Fukaya, M. Maekawa, A. Kawasuso, T. Shidara, A. Ichimiya, H. Ariga, K. Asakura
9:20 – 85. Neutron analysis of cytochrome c using the maximum entropy method (MEM). **Y. Sugawara***, S. Yamamura, K. Kusaka, T. Yamada
9:40 – 86. Synchrotron X-ray absorption spectroscopy study of nanomaterials for energy applications. **X.J. Sun***
10:00 break
10:20 – 87. In-situ structural characterization of interfacial homogeneous and amorphous metal oxide catalysts using X-ray scattering and pair distribution function analyses. G. Kwon*, J.D. Emery, J. Thomsen, G. Brudvig, R. Crabtree, A.B. Martinson, **D.M. Tiede***
10:50 – 88. Measurement of carbon condensates using small-angle X-ray scattering during detonation of the explosive hexanitrostilbene. **T.M. Willey***, M. Bagge-Hansen, L. Lauderbach, R. Hodgin, S. Bastea, L. Fried, C. May, T. Graber, B. Jensen, J. Ilavsky
11:10 – 89. Tracking drug loading and unloading processes involving calcium silicate hydrate carrier and ibuprofen (IBU): An X-ray absorption spectroscopy study. **T.K. Sham***, X. Guo, Z. Wang, J. Wu, Y. Hu, J. Wang, Y. Zhu

Hawaii Convention Center
306A

Frontiers of Photon Upconversion Based on Triplet-triplet Annihilation (#420)

Organized by: P. Zhang, Y. Murakami, J. Zhao
Presiding: Y. Murakami, P. Zhang, J. Zhao

8:00 Opening remark
8:05 – 90. Unusual solar photoconversion: Sensitized triplet fusion. **F.N. Castellano**
8:35 – 91. Photochemical upconversion for solar energy. **T. Schmidt**
9:05 – 92. Experimental sunlight engineering, based on energy transport in dense populated organic triplet ensembles. **S. Baluschev***, K. Landfester
9:35 Break
9:50 – 93. Triplet-triplet annihilation upconversion in the aqueous and dry phases: Challenges, solutions, and more problems. **J. Kim***
10:20 – 94. TTA between and within dendritic macromolecules. **S. Vinogradov***
10:50 – 95. Low-power photon upconversion through triplet-triplet annihilation in polymeric materials. **C. Weder***
11:20 – 96. Effect of solvent viscosity on TTA-based photon upconversion: Studies in ionic liquids. **Y. Murakami***, T. Ito, A. Kawai

Hawaii Convention Center
313B

Computational Modeling of Magnetic Materials and Magnetic Properties (#423)

Organized by: J. Peralta, A. Soncini, T. Nakajima
Presiding: J. Peralta, A. Soncini

8:00 – 97. Ab initio study of magnetization blocking in strongly anisotropic magnetic complexes. **L. Chibotaru**
8:30 – 98. Magnetic ordered structure dependence of magnetocaloric effect. **R. Tamura**, S. Tanaka, T. Ohno, H. Kitazawa
8:40 – 99. Calculating magnetic properties of heavy-element compounds. **J. Autschbach**
9:10 – 100. Demagnetisation effects in dipolar systems. **M. Twengstrom***, L. Bovo*, M. Gingras, S. Bramwell, P. Henelius
9:20 – 101. Density-functional theory in magnetic fields. **T. Helgaker***, A. Borgoo, U. Ekström, J. Furness, J. Gauss, S. Kvaal, K. Lange, S. Reimann, S. Stopkowicz, A. Teale, E. Tellgren, J. Verbeke
9:50 Coffee Break
10:10 – 102. Single-molecule magnets and related molecules: Structural, magnetic, and quantum properties. **G. Christou**
10:40 – 103. Electronic structure of molecular magnetic systems: Successes within GGA and challenges for SIC. **M.R. Pederson***
11:10 – 104. Tailoring electronic and magnetic properties of MoS2 nanotubes. **G. Lee**, N. Li*
11:20 – 105. Theoretical investigation of magnetic exchange interactions in dilute magnetic semiconductor quantum dots induced by defects. **J. Goings***, X. Li

Hawaii Convention Center
310 Theatre

Frontiers of Plasmon Enhanced Spectroscopy (#428)

Organized by: Y. Ozaki, Z. Tian, B. Ren, N. Halas, A. Brolo, T. Itoh, M. Moskovits
Presiding: N. Halas, Y. Ozaki

8:00 opening
8:05 – 106. Recent developments in tip-enhanced Raman spectroscopy. **R.P. Van Duyne***
8:35 – 107. Aluminum plasmonics for surface-enhanced spectroscopies. **N. Halas***
9:05 – 108. Coherent plasmons in surface enhanced spectroscopies. **P. Nordlander***
9:25 – 109. Plasmon on single nanoparticles for sensing the reactions. **Y. Long***
9:45 – 110. Raman activity and dynamics of plasmons studied by ultrafast scanning near-field optical microscopy. **K. Imura***, K. Imaeda
10:05 Break
10:20 – 111. Subnanometric plasmonics: Confining light to atomic-scale dimensions. **J. Aizpurua***, M. Barbry, P. Koval, F. Marchesin, R. Esteban, A.G. Borisov, D. Sanchez-Portal
10:40 – 112. Plasmonic dimers and trimers: On the role of gap size and symmetry. **G. Haran***, L. Chuntonov, N. Zohar
11:00 – 113. Tuning of the surface plasmon resonance in the UV-IR range for wider applications. **K. Okamoto**, K. TAMADA
11:15 – 114. Plasmonic spectroscopy: What determines the plasmonic band intensity, its shift in a dielectric medium, or on a substrate of high dielectric function?. **N. Hooshmand***, J.A. Bordley, M.A. El-Sayed
11:30 – 115. Plasmonic-coupling-based enhanced performance in surface plasmon resonance spectroscopy. **D. Kim***, K. Chung, J. Lee, J. Choi, Y. Jang
11:45 – 116. When the signal is from the original molecule detected: Surface-enhanced Raman scattering measurement of 4-aminobenzenethiol at single-molecule level. **Y.S. Yamamoto***, Y. Kayano, T. Itoh, S. Nakanishi

Hawaii Convention Center
307AB

Developments in Spectroscopic Investigation of Intermolecular Interactions and Dynamics of Molecular Clusters (#438)

Organized by: H. Sekiya, T. Zwier, M. Fujii, E. Bieske, N. Kim
Presiding: N. Kim, H. Sekiya

8:00 Openig Remarks
8:05 – 117. Temperature dependence of hydrogen bond network structures probed by infrared spectroscopy of gas phase clusters. **A. Fujii***
8:30 – 118. Understanding inter- and intramolecular factors affecting red-shifts for the proton stretch vibrational frequency in hydrogen-bonded complexes. D. Pines, P.M. Kiefer, J.T. Hynes, **E. Pines***
8:50 – 119. Hydrogen-bonding interactions of uric acid complexes with water/melamine identified by near- and mid-IR spectroscopy. **H. Saigusa**
9:15 – 120. What can we learn on hydroxide solvation from theoretical study on OH-$(H2O)_n$ n=0-7?. **K. Takahashi***
9:40 – 121. Performance of local correlation methods for halogen bonding: The case of Br_2-$(H_2O)_n$, n=4,5 clusters and $Br_2@5^12^6$ clathrate cage. **R. Hernandez***
10:00 Break
10:15 – 122. Stereochemical effects in spectroscopy and photostability of biomolecules. **A. Zehnacker-Rentien***
10:40 – 123. Photoelectron circular dichroism of molecular cluster anions. **T. NAGATA**
11:05 – 124. Understanding spectral signatures of large amplitude vibrations and hydrogen-bonding through studies of the vibrational spectroscopy of solvated ion complexes. **A.B. McCoy**, L.C. Dzugan

Tuesday Afternoon

Hawaii Convention Center
308A

Ultrafast Intense Laser Chemistry (#35)

Organized by: K. Yamanouchi, R. Levis, F. Legare, Q. Gong
Presiding: R.J. Levis

13:00 – 125. Observation of attosecond quantum wavepacket dynamics in molecules. **K. Midorikawa***
13:25 – 126. Attosecond probing of chemical dynamics. **S.R. Leone***
13:50 – 127. High harmonic spectroscopy reveals electronic structure of small molecules. **D.M. Villeneuve***
14:15 – 128. Circularly polarized MHOHG-(molecular high order harmonic generation) and attosecond laser pulses - new tools in laser science. **A.D. Bandrauk***
14:40 – 129. Probing molecular chirality on sub-femtosecond time scale. **O. Smirnova***, R. Cireasa, A.E. Boguslavskiy, B. Pons, M.C. Wong, D. Descamps, S. Petit, A. Ferre, N. Thiré, B.E. Schmidt, A. Alharbi, F. Légaré, V. Blanchet, B. Fabre, J. Suarez, J. Higuet, H. Ruf, A. Harvey, M. Richter, F. Morales, M. Ivanov, S. Patchkovskii, Y. Mairesse, R. Bhardwaj
15:05 Break
15:20 – 130. Laser-induced electron wave packets as a sub-nanometer and sub-femtosecond molecular probe. **L.F. DiMauro***, C.I. Blaga, J. Xu
15:45 – 131. Strong-field ionization and dissociation dynamics in heterocyclic aromatic molecules probed by femtosecond XUV transient absorption spectroscopy. **F. Lackner***, A.S. Chatterley, S.c. Pemmaraju, D. Neumark, S.R. Leone, O. Gessner
16:00 – 132. Two-photon non-sequential double ionization pathway of Ar with anomalous selectivity. **K. Yamada**, A. Iwasaki, T. Sato, K. Midorikawa, K. Yamanouchi*

*** Principle Author**

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16:15 – 133. Multiphoton ionization of He, Ne, Ar, and Xe using full-coherent free electron laser seeded by high-order harmonics of near-infrared femtosecond laser pulses. **A. Iwasaki**, S. Owada, S. Ogami, T. Togashi, E.J. Takahashi, K. Midorikawa, M. Aoyama, K. Yamakawa, S. Matsubara, K. Ogawa, Y. Okayasu, H. Tomizawa, T. Watanabe, M. Nagasono, M. Yabashi, T. Ishikawa, K. Yamanouchi
16:30 – 134. Single-shot photoelectron spectroscopy of nonlinear ionization of He in intense EUV FEL fields. Y. Hikosaka*, M. Fushitani, A. Matsuda, T. Endo, Y. Toida, E. Shigemasa, **A. Hishikawa***
16:45 – 135. Ultrafast two-photon Rabi oscillations in excited He driven by femtosecond intense laser fields. **M. Fushitani**, C. Liu, A. Matsuda, T. Endo, Y. Toida, Y. Hikosaka, T. Morishita*, A. Hishikawa*

Hawaii Convention Center
301A

Multiscale Couplings of Molecular Theory of Solvation: Fundamentals and Applications (#60)

Organized by: A. Kovalenko, B. Pettitt, F. Hirata
Presiding: A. Kovalenko, M. Pettitt

13:00 – 136. Characterization of the GroEL – GroES interface and the mechanism of reversible chaperonin association. **P.J. Rossky***, C. Bajaj, L.H. Kapcha
13:30 – 137. Multiscale modeling using molecular theory of solvation: Effective forces from statistical-mechanical ensemble of atomic interactions. **A. Kovalenko***
14:00 – 138. Structural fluctuation of protein induced by thermodynamic perturbation. **F. Hirata**
14:30 – 139. Predicting protein motion from structural ensembles: A coarse-grained model of protein dynamics. **M. Guenza***, J.T. Copperman
15:00 – 140. Molecular theory of solvation: From heavy petroleum to plant biomass valorization. **S. Stoyanov**, A. Kovalenko
15:15 Coffee Break
15:30 – 141. DPD with an effective pair potential from integral equation theory of molecular liquids. **A.E. Kobryn**, S. Gusarov, A. Kovalenko
15:45 – 142. Evaluation of effective interactions of kaolinite nanoparticles in aqueous electrolyte solution with polymer by molecular theory of solvation. **S. Hlushak**, S. Stoyanov, A. Kovalenko*
16:00 – 143. Analyzing the binding free energy for the inclusion process of 2-hydroxypropyl-β-cyclodextrin by means of the MD/3D-RISM method. **M. Sugita***, F. Hirata
16:15 – 144. Solvation effects in pathological conversion of proteins implicated in neurodegeneration: Insight from the 3D molecular theory of solvation. **N. Blinov***, N. Cashman, A. Kovalenko
16:30 – 145. Water and Mg^{2+} ion distributions in *Eco*RV-DNA complex prior to and after endonuclease-reaction calculated by using 3D-RISM. **M. Irisa***, R. Motomatsu, S. Sunaba, J. Yasuniwa , Y. Maruyama, N. Yoshida, A. Sarai, F. Hirata
17:00 – 146. High accuracy solvation enthalpies, entropies, and free energies from 3D-RISM. **T. Luchko**, J. Johnson, T. Yamazaki, S. Gusarov, A. Kovalenko, D. Case

Hawaii Convention Center
308B

New Insights from Quantum Dynamics and ab initio Potentials in High Dimensional Systems (#84)

Organized by: T. Carrington, J. Bowman, D. Zhang
Presiding: S. Manzhos

13:00 – 147. Electronic structure and potential fitting methods suitable for multistate reactive surfaces. **R. Dawes***
13:30 – 148. Large scale exact quantum dynamics calculations: Massive parallelization and the classical phase space picture. **B. Poirier***
14:00 – 149. Mixed quantum/classical treatment of the ozone forming reaction. **D. Babikov***
14:18 Break
14:38 – 150. Simple parameterization of the quantum energies, rotational constants, and centrifugal distortion constants of Lennard-Jones *m*-*n* potentials. **R.B. Shirts***
14:56 – 151. Quantum and isotope effects in water clusters. **V. Mandelshtam***, S.E. Brown*, J. Mallory*
15:26 – 152. Efficient treatment of coupled large amplitude motions using analytic integrals. W.A. Kopp*, **M. Döntgen**, K. Leonhard
15:44 – 153. New approaches to simulating biological and molecular catalysts. **T.F. Miller**
16:14 – 154. On the fly semiclassical dynamics. **E. Pollak**
16:44 – 155. Dynamical effects on multistep reactions with unstable intermediates. **G. Jimenez-Oses**, L. Törk, C. Doubleday, K.N. Houk

Hawaii Convention Center
305B

Deciphering Molecular Complexity from Single Molecules to Cellular Networks (#121)

Organized by: T. Komatsuzaki, J. Wang, J. Wu
Presiding: S. Pressé, S. Takada

13:00 – 156. Energy landscape theory: From folding proteins to folding chromosomes. **P.G. Wolynes***
13:35 – 157. Enzymes stepping on landmines. **S. Pressé**
14:05 – 158. Enhanced sampling and applications in protein folding in explicit solvent. **J. Ma***
14:35 Break
14:50 – 159. Dynamical energy landscape perspective on protein functioning. **M. Sasai***, T.P. Terada, Q. Nie
15:25 – 160. Energy landscapes and conformation network learned from single molecule time series. **T. Komatsuzaki***
15:55 – 161. Modes of protein large-amplitude conformational change from single-molecule experiments. **H. Yang**
16:25 – 162. Signal and information processing with biomolecules: Enzyme-catalyzed reactions and their cascades. **V. Privman***

Hawaii Convention Center
305A

Computational Modeling of d- and f-Block Chemistry: Challenges and Opportunities (#130)

Organized by: A. Wilson, P. Schwerdtfeger, K. Kim, Z. Lin, T. Cundari
Presiding: Z. Lin

13:00 – 163. Advances in GVVPT multireference perturbation theory: Transition metals and lanthanides. **M.R. Hoffmann***, P.K. Tamukong, W. Liu
13:30 – 164. Efficient and size-intensive multireference description of the electronic excited states of molecules and nanomaterials. **B.G. Levine**, B.S. Fales, E.G. Hohenstein, Y. Shu
14:00 – 165. Developments for heavy element chemistry: Towards thermochemical prediction. **A. Wilson**
14:30 BREAK
14:45 – 166. Tackling the challenges of modeling f-electron species in realistic environments. **W.A. de Jong**, N. Govind, E.J. Bylaska, R. Atta-Fynn
15:15 – 167. Designing extractants for separation of critical materials. **T. Windus**, V. Bryantsev, N. De Silva, M. Dick-Pérez, M.S. Gordon, B. Hay, B. McCann, F. Zahariev
15:45 – 168. Relativistic open-shell Hartree-Fock theory with time-reversal symmetry. **M. Nakano***, R. Nakamura, J. Seino, H. Nakai
16:05 – 169. Theoretical studies of rare earth CeO_2 catalysis. **X. Gong**, X. Wu, L. Yin, G. Lu, J. Zhang
16:25 – 170. Bonding and structure of redox non-innocent ligands, and their use to "ennoble" base metal catalysts. **T. Cundari**

Hawaii Convention Center
306B

Chemical Imaging: Frontiers of Spatio-Temporal Resolution (#134)

Organized by: P. Piotrowiak, M. Fujii, J. Tang, B. Zhang
Presiding: M. Sakai, J. van de Lagemaat

13:00 Opening remarks
13:05 – 171. Feeling fast charge carriers: Time-resolved electrostatic force microscopy for solar cells. **D. Ginger***
13:45 – 172. Probing the effect of a surface plasmon on the exciton dynamics in a single quantum dot by simultaneously trapping a metal nanoparticle with a quantum dot in a topological singularity. P.J. Ackerman, H. Mundoor, I.I. Smalyukh, **J. van de Lagemaat***
14:25 – 173. Sub-femtosecond time-resolved photoemission electron microscopy of propagating surface plasmons . **W. Hess**, Y. Gong*, A. Joly, d. Hu, P. El-Khoury
15:05 Break
15:20 – 174. Nanoscopic visualization of stacking domains of few-layer graphene infrared near-field microscopy. **Z. Kim***
16:00 – 175. Multistage plasmonic nanofocusing NSOM-Raman tip for high resolution chemical mapping. **R. Yan***
16:30 – 176. Influence of polarized light on metal nanoparticle-originating high resolution TIRF imaging. **A. Ishijima***, P. Wang, S. Ryuzaki, K. Okamoto, K. TAMADA

Hawaii Convention Center
313C

Recent Progress in Molecular Theory for Excited-state Electronic Structure and Dynamics (#142)

Organized by: J. Hasegawa, M. Collins, M. Gordon, P. Piecuch, T. Taketsugu
Presiding: J. Hasegawa

13:00 – 177. Multireference methods for excited-states of molecular systems. **L. Gagliardi***, R. Carlson, K. Vogiatzis, D.G. Truhlar
13:30 – 178. Relativistic multiconfiguration methods for excited states. **H. Nakano***
14:00 – 179. Relativistic equation-of-motion coupled-cluster theory. **F. Wang**
14:20 – 180. Two-component relativistic effects for excited states: Energies and oscillator strengths. **F. Egidi***, J. Goings, X. Li
14:40 – 181. Exploration of excited state potential surfaces of photofunctional molecules using the Global Reaction Route Mapping (GRRM) strategy. **K. Morokuma***
15:10 – 182. Modelling the photoisomerisation and photodissociation of acetaldehyde. **M.J. Jordan***, M. Corrigan, S. Kable
15:40 – 183. Excited states of the Si/C-alternately mixed annulenes. **T. Kudo**
16:10 – 184. Theoretical insight into the photodissociation mechanism of methyl formate. **H. Xiao**
16:30 – 185. Automated search for minimum energy conical intersection and seam of crossing geometries near the Franck-Condon region: Toward prediction of fluorescence quantum yields. **Y. Harabuchi***, T. Taketsugu, S. Maeda

Hawaii Convention Center
313A

Frontiers of Metal Clusters and Nanostructures: From Fundamental Properties to Functionalities (#168)

Organized by: A. Terasaki, S. Anderson, N. Gaston
Presiding: M. Ichihashi

13:00 – 186. Ligand-protected gold superatoms and superatomic molecules. **T. Tsukuda***
13:30 – 187. Investigating the role of phosphines in the synthesis and stability of gold clusters. **G.E. Johnson***
13:50 – 188. Ligand-mediated control of the surface plasmon resonance In metal nanoparticles generated by laser ablation. A. Mulder, R. Tilbury, M. Werrett, P. Wright, M. Massi, P. Raiteri, **M. Buntine**
14:10 – 189. Unique optical properties of shape-controlled gold clusters: Surprising correlation between geometric and electronic structures. **Y. Shichibu***, M. Zhang, K. Konishi
14:30 – 190. The quest for highly efficient photocathodes. T.J. Macdonald, S. Chandrasekaran, A. Fonseka, H. Tan, C. Jagadish, N.H. Voelcker, **T. Nann***
15:00 break
15:15 – 191. Adsorption and desorption of hydrogen by gas-phase palladium clusters revealed by in-situ thermal desorption spectroscopy. M. Takenouchi, S. Kudoh, K. Miyajima, **F. Mafune***
15:45 – 192. Effect of metal-organic framework on the kinetics of hydrogen absorption in Pd@HKUST-1. T. Tsutsumi, T. Ishimoto, **M. Koyama**
16:05 – 193. Structure, stability, and electronic properties of neutral and charged zinc clusters containing up to 73 atoms. **A. Aguado***, A. Vega, A. Lebon, B. von Issendorff
16:25 – 194. Percolating films of clusters. **S. Brown**

Hawaii Convention Center
304A

Theory of Main Group Chemistry Beyond First Row (#183)

Organized by: T. Dunning, M. Gordon, P. Schwerdtfeger, C. Choi
Presiding: M.S. Gordon

13:00 – 195. Gallium, a molecular metal: Nanoscale and finite temperature effects on bonding. **N. Gaston***, K.G. Steenbergen
13:30 – 196. Electronic structures and spectroscopy of adsorbates on semiconductor surfaces: From small clusters to infinite lattices. **K. Raghavachari**
14:00 – 197. Synergy between experiment and theory: Low valent main group cations and tetrelenes. **K.M. Baines***

*** Principle Author**

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14:30 – 198. Mesoporous silica nanoparticles: Transcending single molecule confinement to understand cluster confinement. **I.I. Slowing**
15:00 – 199. Donor-acceptor adducts of aminocarbenes with silylenes: Predicting the synthesis of novel silenes ($R_2Si{=}CR'_2$). **Y. Apeloig**
15:30 – 200. Gold surfaces and nanoparticles are protected by Au(0)-thiyl species but not Au(I)-thiolates. **J. Reimers***, J. Ulstrup, N.S. Hush
16:00 – 201. Simulation of phase transitions with highly accurate ab initio potentials: Applications to argon. **E. Pahl***, J. Wiebke, P. Schwerdtfeger

Hawaii Convention Center
304B

Latest Development of Advanced Vibrational Spectroscopy (#187)

Organized by: K. Iwata, S. Asher, D. Phillips, Y. Furukawa
Presiding: L.A. Nafie, D.L. Phillips

13:00 – 202. Electronic and spectroscopic properties of avobenzone derivatives attached to M_2 quadruple bonds: Implications for the photochemical enol to keto transformation. M.H. Chisholm, C.B. Durr, **T.L. Gustafson***, W.T. Kender, T.F. Spilker, P.J. Young
13:25 – 203. Tuning excited state properties of dppz complexes with donor substituents: A computational and spectroscopic study. **K.C. Gordon***
13:50 – 204. Time-resolved vibrational spectroscopic studies of the photochemistry of selected drugs and phototrigger compounds. **D.L. Phillips***
14:15 – 205. Time-resolved infrared studies of cyclopentane-1,3-diyl diradicals. **T. Ishibashi***
14:40 – 206. Time-resolved frequency analysis of excited state ab-initio dynamics to understand THz-IR signals in photoreactivity and relaxation processes. **N. Rega***
14:55 break
15:05 – 207. Low-frequency vibrational modes and intermolecular interaction of Nylon 6 studied by Raman, far-IR, and terahertz spectroscopies with quantum chemical calculation. **Y. Ozaki***, E. Onishi, S. Yamamoto, H. Sato, D. Ishikawa, H. Hoshina
15:30 – 208. Low-frequency vibrations of molecular crystals investigated by terahertz spectroscopy and solid-state density functional theory calculation. F. Zhang, M. Hayashi, **K. Tominaga**
15:55 – 209. Probing intermolecular interactions of core fragments of β_2-microglobulin amyloid fibrils with low-frequency Raman spectroscopy. **S. Shigeto***, C. Chang, H. Chen, H. Hiramatsu
16:15 – 210. Vibrational quantum beats in pure liquids measured with ultrafast terahertz Kerr effect spectroscopy. **M.A. Allodi***, I.A. Finneran, G. Blake
16:30 – 211. Hydrogen bonding in mixtures of ionic liquids. **S. Cha***, D. Kim
16:45 – 212. Probing the structure of protonated water solvates in acetonitrile by FTIR and ^{1}H NMR. **E. Pines***

Hawaii Convention Center
301B

Frontier Chemical Applications Using Accelerator Based Photon Sources (#414)

Organized by: K. Asakura, T. Sham, L. Chen
Presiding: T.K. Sham

13:00 – 213. Hydrogen-related properties of metal and alloy nanoparticles. **M. Yamauchi***
13:20 – 214. Visualizing electronic and structural dynamics in transition metal complexes by XFEL sources. **M.M. Nielsen***
13:50 – 215. Ultrafast X-ray transient spectroscopy using LCLS. M.L. Shelby, M.W. Mara, N.E. Jackson, A.B. Stickrath, **L.X. Chen***, P.J. Lestrange, X. Li
14:10 – 216. Dynamics of the photoexcited WO_3 in the time scale from femtoseconds to nanoseconds. **Y. Uemura**, D. Kido, Y. Wakisaka, H. Uehara, T. Ohba, Y. Niwa, S. Nozawa, T. Sato, K. Ichiyanagi, R. Hukaya, S. Adachi, T. Katayama, T. Togashi, K. Ogawa, M. Yabashi, S. Takakusagi, T. Yokoyama, B. Ohtani, K. Asakura
14:25 Break
14:40 – 217. Site specific solvation dynamics of a model photocatalyst studied with ultrafast diffuse X-ray scattering. **K. Gaffney***, M.M. Nielsen, K. Moller, a. dohn, K. Haldrup, T. Harlang, R. Hartsock, k. kjaer, H. Lemke, T. van Driel, W. Zhang
15:10 – 218. Ultrafast molecular structural dynamics of metal complexes probed by time-resolved X-ray experiments. **S. Nozawa**
15:40 – 219. Freezing reactive ions in time: Nonlinear optical imaging of the spatial distribution of X-ray induced ions. **G. Simpson***
16:00 – 220. Liquid flatjet system for solution phase soft-X-ray spectroscopy. M. Ekimova, W. Quevedo, M. Faubel, P. Wernet, **E. Nibbering***
16:20 – 221. Studying band gap engineering in materials using resonant X-ray emission spectroscopy. **J. McLeod***, A. Moewes, E. Kurmaev

Hawaii Convention Center
306A

Frontiers of Photon Upconversion Based on Triplet-triplet Annihilation (#420)

Organized by: P. Zhang, Y. Murakami, J. Zhao
Presiding: Y. Murakami, P. Zhang, J. Zhao

13:00 – 222. Toward efficient photon upconversion: Plasmonic and covalent tethering strategies. **T. Kelly***
13:30 – 223. Triplet energy migration in self-assembled molecular systems for efficient photon upconversion. **N. Yanai***, N. Kimizuka
13:50 – 224. Design of organic triplet photosensitizers and applications in triplet-triplet annihilation upconversion. **J. Zhao**
14:10 – 225. Analytical and statistical analysis of power-dependent NIR to visible upconversion from $NaYF_4$: Yb^{3+}, Er^{3+} nanoparticles on Au nano-cavity arrays. **S. Smith***
14:40 Break
14:55 – 226. Assessing photodamage in triplet-triplet annihilation-based upconverting polymer films. **M. Paige**, C. Ponce, A.M. Pereira, N. Joshi
15:15 – 227. Large distance interaction during triplet-triplet annihilation process. A. Sakurai, Y. Sakagami, Y. Fujiwara, K. Kobayashi, **K. Kamada***
15:35 – 228. New chromophore systems for near infrared-to-visible and visible-to-UV photon upconversion. **S. Amemori***, N. Yanai, P. Duan, N. Kimizuka
15:55 – 229. Triplet–triplet annihilation upconversion using polymeric emitters. X. Yu, X. Cao, X. Chen, N. Ayres*, **P. Zhang***
16:15 Concluding remark

Hawaii Convention Center
313B

Computational Modeling of Magnetic Materials and Magnetic Properties (#423)

Organized by: J. Peralta, A. Soncini, T. Nakajima
Presiding: T. Nakajima, J. Peralta

13:00 – 230. Time-dependent two-component density functional theory. **X. Li**
13:30 – 231. Correlating magnetic exchange in dinuclear bis-(phenolate) bridged complexes: A computational perspective. **A. Velloth**, H. Sakiyama, M. Hada
13:40 – 232. Landing functional molecular spin clusters on surfaces. **M. Affronte***
14:10 – 233. Spin-orbit-assisted correlations and novel magnetic ground states and excitations in 5*d* oxides. L. Hozoi*, **R. Yadav**
14:20 – 234. Magnetism and electronic structure at perovskite fluoride-based interfaces . **a.h. romero***, A.C. Garcia-Castro, E. Bousquet
14:50 Coffee Break
15:10 – 235. Molecular spin filters and polarizers. **V. Mujica***
15:40 – 236. Calculation of isotropic exchange coupling constants with density functional theory. **A. Mansikkamäki***, H.M. Tuononen
15:50 – 237. Spin torque and zeta force in molecules and magnetic materials. **M. Senami***, M. Fukuda, K. Soga, A. Tachibana
16:00 – 238. From structures and magnetic tensors to full EPR spectra of large free radicals in different environments. **V. Barone***

Hawaii Convention Center
310 Theatre

Frontiers of Plasmon Enhanced Spectroscopy (#428)

Organized by: Y. Ozaki, Z. Tian, B. Ren, N. Halas, A. Brolo, T. Itoh, M. Moskovits
Presiding: D. Graham, T. Itoh

13:00 – 239. Nanoparticle based analysis of biomolecules, cells, and tissue. **D. Graham***, K. Faulds, S. Mabbott, J. Simpson, H. Kearns
13:20 – 240. Shell-isolated nanoparticle-enhanced spectroscopy. J. Li*, S. Ding, Z. Yang, C. Li, **Z. Tian**
13:40 – 241. Electrochemical reactions on plasmonic nanoparticle electrodes. **K. Willets**
14:00 – 242. Driving and following surface chemical reactions of individual molecules with gap-plasmons. **Z. Kim***
14:20 – 243. Molecule trapping monitored by surface-enhanced Raman scattering spectroelectrochemistry . **K. Murakoshi***
14:40 – 244. Structural and optical properties of linear chains of plasmonic nanocubes. **E. Kumacheva**
15:00 Break
15:15 – 245. Extreme enhancement factors: Application of surface enhanced spectroscopy to nonlinear light scattering. **J. Camden***
15:35 – 246. What can we learn from single molecule SERS?. **A.G. Brolo**, D. dos Santos, M. Temperini
15:55 – 247. Electromagnetic strong coupling system composed of Ag nanoparticle dimer and dye molecules evaluated by a classical coupled-oscillator model. **T. Itoh***, Y.S. Yamamoto, H. Tamaru, V. Biju, S. Wakida, Y. Ozaki
16:15 – 248. Single-molecule SERS: A multi-analyte comparison of the bianalyte and isotopologue proofs. **A.B. Zrimsek**, N.L. Wong, R.P. Van Duyne*
16:30 – 249. Chemical enhanced effect of surface-enhanced Raman spectroscopy of aromatic compounds in electrochemical interfaces. Y. Wu, X. Jin, **D. Wu**, Z. Tian
16:45 – 250. Tunneling-plasmon-induced Raman spectroscopy. **K. Rodriguez**, M. Banik, E. Hulkko, S. Dey, V.A. Apkarian*

Hawaii Convention Center
307AB

Developments in Spectroscopic Investigation of Intermolecular Interactions and Dynamics of Molecular Clusters (#438)

Organized by: H. Sekiya, T. Zwier, M. Fujii, E. Bieske, N. Kim
Presiding: M. Fujii, T.S. Zwier

13:00 – 251. Correlating photoacidity to hydrogen-bond structure by use of the local O-H stretching probe in hydrogen-bonded complexes of aromatic alcohols. B.T. Psciuk, M. Prémont-Schwarz, B. Koeppe, S. Keinan, D. Xiao, V. Batista, **E. Nibbering***
13:25 – 252. Computational investigation of the vibrational spectra of ionic aqueous clusters: The OH stretch as a signature of water patterning by sulfate ions. X. Wang, **G.H. Peslherbe**
13:45 – 253. Structure and dynamics of charge accommodation by H-bonded water networks with temperature-dependent IR -IR double resonance. **M.A. Johnson**
14:10 – 254. Spectroscopic investigation on the hydration structure of the temperature-controlled molecular cations. **H. Ishikawa***, R. Yagi, I. Kurusu, Y. Kasahara
14:30 – 255. Role of the hydrogen bonds in the excited state dynamics of protonated molecules. **G. Féraud**, **C. Dedonder**, **M. Broquier**, **G. Gregoire**, **S. Soorkia**, **C. Jouvet**
14:55 Break
15:10 – 256. Spectroscopic studies of jet-cooled acetaminophen-water clusters. **M. Choi***, A. Min, A. Ahn, C. Moon, J. Lee
15:30 – 257. Excited state dynamics of nucleobase clusters. **M.S. de Vries***
15:55 – 258. Gas phase spectroscopy of neurotransmission system by laser desorption supersonic jet technique. **S. Ishiuchi**, M. Fujii
16:15 – 259. Probing the dipole-bound excited state of cold anions by temperature controlled electrospray ionization combined with photoelectron imaging. **H. Liu**, L. Wang

Wednesday Morning

Hawaii Convention Center
308A

Ultrafast Intense Laser Chemistry (#35)

Organized by: K. Yamanouchi, R. Levis, F. Legare, Q. Gong
Presiding: F. Légaré

8:00 – 260. Ultrafast imaging of molecular deformation induced by intense laser fields. **K. Yamanouchi***
8:25 – 261. Periodical H_3^+ emission from CH_3OH^{2+} by pump-probe coincidence momentum imaging using few-cycle intense laser pulses. **T. Ando**, A. Shimamoto, S. Miura, A. Iwasaki, K. Yamanouchi*
8:40 – 262. Strong-field double ionization of acetylene. **J. Wu**
9:05 – 263. Strong field molecular ionization with shaped laser pulses. **T. Weinacht***
9:30 – 264. Mass-resolved ion beam apparatus for investigating dissociation dynamics of molecular ions in intense laser fields. **T. Yamazaki**, K. Fujiwara, R. Kanya, K. Yamanouchi*
9:40 – 265. Pulse duration dependence of Coulomb explosion of formaldehyde in intense laser fields studied by triple ion-coincidence momentum imaging. **M. Fushitani**, C. Tseng, A. Matsuda, A. Hishikawa*
9:55 Break

*** Principle Author**

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10:10 – 266. Directionally asymmetric molecular tunneling ionization by four-color Fourier-synthesized laser fields. **H. Ohmura***, N. Saito
10:25 – 267. Intensity and wavelength dependence of intense field ionization of aligned N_2 molecules. **H. Hasegawa***, S. Kimura, T. Sato, A. Iwasaki, K. Yamanouchi
10:40 – 268. Direct and detailed characterization of unidirectional molecular rotation using a newly developed ion imaging apparatus. **K. Mizuse***, Y. Ohshima
10:55 – 269. First-principles simulation of the reaction dynamics and Coulomb explosions of C_{60} induced by ultrashort intense laser pulses. **H. Kono***, K. Yamazaki, Y. Takehara, N. Niitsu, W.C. Chung, M. Kanno, K. Ueda
11:20 – 270. Dynamics of H_2He^+ in intense laser fields. **T.J. Szidarovszky**, K. Yamanouchi
11:35 – 271. Obtaining insights into the dynamics of radical cations produced via strong field ionization. **S. Matsika***, M. Assmann, T. Weinacht, H. Koeppel

Hawaii Convention Center
301A

Multiscale Couplings of Molecular Theory of Solvation: Fundamentals and Applications (#60)

Organized by: A. Kovalenko, B. Pettitt, F. Hirata
Presiding: F. Hirata, A. Kovalenko

8:00 – 272. Multiscale couplings for chemical processes at molecular level: Quantum chemistry and statistical mechanics. **H. Sato***
8:30 – 273. Molecular modeling of ionic liquids. **A. Yethiraj***
9:00 – 274. Liquid state ttheory for dynamics of electrochemical materials. **T. Yamaguchi***
9:30 – 275. Density-based adaptive QM/MM method for modeling explicitly solvated systems. **M.P. Waller**
9:45 – 276. Predictive calculations of redox potentials of solvated molecules: A combined QM/EFP/PCM approach. **K. Bravaya**, R. Tazhigulov
10:00 Coffee Break
10:15 – 277. Optimization of combination of 3D reference interaction site model with density functional theory. **G. Sergei***
10:30 – 278. Multiscale implementation of 3D-RISM to the electronic structure theory being applicable for solvated biomolecules. **N. Yoshida***
11:00 – 279. Modeling bridging water in binding association: Where do we stand?. **J. Truchon***, S. Chahal
11:30 – 280. Molecular density functional theory for water with liquid-gas coexistence and correct pressure. G. Jeanmairet, M. Levesque, V. Sergiievskyi, **D. Borgis**

Hawaii Convention Center
308B

New Insights from Quantum Dynamics and ab initio Potentials in High Dimensional Systems (#84)

Organized by: T. Carrington, J. Bowman, D. Zhang
Presiding: R. Dawes

8:00 – 281. Molecular dynamics of large systems with quantum corrections for the nuclei. **S. Garashchuk***
8:30 – 282. Vibrational SCF and correlation theories with optimized coordinates. **K. Yagi***
9:00 – 283. Multilayer sum-of-products method for computing vibrational spectra without storing full-dimensional vectors or matrices. **T. Carrington**, P. Thomas
9:30 Break
9:50 – 284. Theoretical model of the vibrational spectroscopy of benzene-$(water)_n$ clusters with n = 3-7. D.P. Tabor, **E.L. Sibert***, P.S. Walsh, R. Kusaka, T.S. Zwier
10:20 – 285. Self-consistent phonons with quasi-Monte Carlo: An efficient approach for computing thermodynamic and dynamic properties of high-dimensional systems. **S.E. Brown***, V. Mandelshtam
10:40 – 286. Hamiltonian algorithm and its application on the optimization of the structures of monoethanolamine and its water complexes. **H. Teramae***, Y.Y. Maruo
11:00 – 287. Chemical dynamics on high-dimensional ab initio potential energy surfaces. **J. Bowman***, Y. Wang, X. Wang, R. Conte, C. Qu

Hawaii Convention Center
305B

Deciphering Molecular Complexity from Single Molecules to Cellular Networks (#121)

Organized by: T. Komatsuzaki, J. Wang, J. Wu
Presiding: J. Cao, H. Yang

8:00 – 288. Dynamics and mechanism of UV-perception by UVR8 photoreceptor. **D. Zhong***
8:30 – 289. Data-driven quantification of heterogeneous microenvironments in live-cell Raman microscopic images. **J.N. Taylor**, C. Li, A. Palonpon, K. Fujita, T. Komatsuzaki
8:45 Break
9:00 – 290. Structural insights into chromatin folding and transcriptional regulation. **S. Takada***
9:35 – 291. Human genome organization and dynamics: Local nucleosome dynamics facilitate chromatin accessibility. **K. Maeshima***
10:05 – 292. Beyond Forster resonant energy transfer theory. **J. Wu**

Hawaii Convention Center
305A

Computational Modeling of d- and f-Block Chemistry: Challenges and Opportunities (#130)

Organized by: A. Wilson, P. Schwerdtfeger, K. Kim, Z. Lin, T. Cundari
Presiding: T.R. Cundari

8:00 – 293. On the highest oxidation state in actinide compounds. **J. Li***
8:30 – 294. Accurate first principles calculations of the surface electronic structure of GdN. **N. Gaston***
9:00 – 295. Novel aspects of lanthanide and actinide chemistry. **P.S. Bagus**, C.J. Nelin
9:30 BREAK
9:45 – 296. Theoretical study of the thermosensitive f-f emission and quenching in lanthanide compounds. **M. Hatanaka***
10:15 – 297. Structure and vibrations of lanthanide trifluoride (LnF_3) embedded in noble gas matrix: Application of large-scale ab initio relativistic molecular orbital theory. **H. Mori***, A. Matsuda, M. Klobukowski
10:45 – 298. Lanthanide and actinide ions with valenced electron configuration. **F. Furche***, G.P. Chen, A.K. Chan
11:15 – 299. Relativistic theory of active components in organic light-emitting diodes. J. Gonzalez, A.R. Smith, P.L. Burn, **B. Powell***

Hawaii Convention Center
306B

Chemical Imaging: Frontiers of Spatio-Temporal Resolution (#134)

Organized by: P. Piotrowiak, M. Fujii, J. Tang, B. Zhang
Presiding: L. Gundlach, S. Koshihara

8:00 Session opening remarks
8:05 – 300. Ultrafast multidimensional photoelectron imaging of real and reciprocal space electron dynamics at metal surfaces. **H. Petek***
8:45 – 301. Role of the femtosecond time-resolved photoemission electron microscopy for the imaging of photogenerated carrier dynamics. **S. Koshihara***, K. Fukumoto, K. Onda
9:15 – 302. Observation of plasmonic wavepacket dynamics by ultrafast time-resolved near-field imaging. **Y. Nishiyama***, K. Imura, H. Okamoto
9:45 Break
10:00 – 303. Ultrafast probe of charge carrier dynamics and lasing in single II-VI nanowires. **L. Gundlach**, P.S. Eldridge, J. Blake
10:30 – 304. Using ultrafast optical microscopy to unravel carrier dynamics in semiconductor nanowires. **R.P. Prasankumar***
11:00 – 305. Polarization- and phase-sensitive vibrationally resonant sum frequency generation microscopy. Y. Han, J. Hsu, V. Raghunathan, E. Potma, **N. Ge***
11:30 – 306. Ethanol vapor imaging system "sniffer camera" with UV-LED excitation sheet for monitoring of alcohol metabolism from human. **P. Chien**, Y. Mei, K. Iitani, T. Sato, K. Toma, T. Arakawa, K. Mitsubayashi*

Hawaii Convention Center
313C

Recent Progress in Molecular Theory for Excited-state Electronic Structure and Dynamics (#142)

Organized by: J. Hasegawa, M. Collins, M. Gordon, P. Piecuch, T. Taketsugu
Presiding: T. Taketsugu

8:00 – 307. Coupled electronic and nuclear dynamics in excited states. **K. Takatsuka***
8:30 – 308. New Gaussian basis set methods for multistate dynamics. **T.J. Frankcombe***
9:00 – 309. Exploration of chemical reactions driven by non-adiabatic electron wave packets created in densely quasi-degenerate electronic states. **T. Yonehara***
9:20 – 310. Internal conversion of molecular crystals. **M. Hayashi***
9:50 – 311. Conical intersections and nonradiative recombination in semiconductor nanocrystals. **B.G. Levine**, B.S. Fales, G.A. Meek, Y. Shu
10:20 – 312. Charge carrier generation and transport in oxide perovskites from first-principles localized chemical models. **M. Dupuis***, N. Tyminska, G. Wu
10:50 – 313. Representation of adiabatic potential energy surfaces coupled by conical intersections: Construction and use. X. Zhu, C.L. Malbon, **D.R. Yarkony***
11:20 – 314. Novel approaches to nonadiabatic molecular dynamics. **O. Prezhdo**

Hawaii Convention Center
313A

Frontiers of Metal Clusters and Nanostructures: From Fundamental Properties to Functionalities (#168)

Organized by: A. Terasaki, S. Anderson, N. Gaston
Presiding: N. Gaston

8:00 – 315. Size-selected gold clusters: Solving the atomic structure of model nanoparticles then scaling-up production. **R.E. Palmer***
8:30 – 316. Genetically encoded nanocluster assemblies: Photophysics and catalytic function. **J.S. Martinez***, A. Desireddy, S. Chakraborty, S. Babanova, A.P. Shreve, E. Balog, R.C. Rocha, **K. Artyushkova**, P. Atanassov
9:00 – 317. Steady state and time-resolved fluorescence studies on the silver nanoclusters synthesized in human telomeric DNA. **C. Chang***
9:20 – 318. Bond stiffening in icosahedral-based Au clusters. **S. Yamazoe**, S. Takano, W. Kurashige, Y. Negishi, T. Tsukuda*
9:40 break
9:55 – 319. Cluster magnetism with X-rays and ion traps: From high spin states of transition metal diatomics to spin and orbital magnetic moments of transition metal clusters and complexes. **T. Lau***
10:25 – 320. Melting of mercury clusters and the bulk. **E. Pahl***, P. Schwerdtfeger, F. Calvo, M. Wormit
10:55 – 321. Vibrational and low-temperature thermal properties of metal clusters and nanoparticles. **I.L. Garzon***
11:15 – 322. Intrinsic finite-size constraint on the cluster liquid state elevates melting temperatures. **K.G. Steenbergen***, N. Gaston

Hawaii Convention Center
Halls I, II, III

Theory of Main Group Chemistry Beyond First Row (#183)

Organized by: T. Dunning, M. Gordon, P. Schwerdtfeger, C. Choi
Presiding: P. Schwerdtfeger

Poster Session
10:00 – 12:00

323. Diagonal correction of Born-Oppenheimer approximation for heavy-element main-group molecules with scalar-relativistic Hamiltonians. **M. Abe***, Y. Imafuku, M.W. Schmidt, M. Hada
324. ^{13}C- and ^{207}Pb-NMR chemical shifts of dirhodio and dilithioplumbole complexes: A quantum-chemical assessment. **R. Narayanan Nair**, M. Nakada, M. Saito, M. Hada
325. Computational study of the gas-phase reactivity of 2-iodoethanol with homo- and hetero-metallic hydride clusters of silver and copper. **S.S. Leang***, M.S. Gordon, G. Khairallah, R. O'Hair
326. Theoretical study on the ligand exchange and ligand coupling reactions of hypervalent Sb and Te compounds. **M. Kobayashi***, Y. Kuroda, K. Akiba, T. Taketsugu
327. Geometries and molecular properties of heavy-element molecules based on efficient and accurate two-component relativistic scheme. **Y. Nakajima***, J. Seino, H. Nakai

Hawaii Convention Center
304B

Latest Development of Advanced Vibrational Spectroscopy (#187)

Organized by: K. Iwata, S. Asher, D. Phillips, Y. Furukawa
Presiding: P. Champion, T. Ishibashi

8:00 – 328. Ultrafast measures of energy relaxation and solvation in lipids, water, and supercritical fluids. **L. Ziegler***
8:25 – 329. Temporal Raman mapping of vibrational energy flow in hemeprotein. **Y. Mizutani***
8:50 – 330. Relaxation of the OH stretching overtones in isolated HDO molecules observed by IR pump-repump-probe spectroscopy. **D. Hutzler***, J. Werhahn, R. Heider, m. bradler, R. Kienberger, E. Riedle, H. Iglev
9:05 – 331. Characterizing lipid bilayer membranes with time-resolved spectroscopies. Y. Nojima, S. Kitamura, T. Takaya, **K. Iwata***

*** Principle Author**

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9:30 – 332. Mixed quantum/classical approach for predicting amide vibrational bands of sphingomyelin bilayer. **K. Yagi***
9:55 break
10:05 – 333. An origin of complicated infrared spectra of perfluoroalkyl compounds involving a normal alkyl group. **T. Hasegawa***, T. Shimoaka, Y. Tanaka, N. Shioya, K. Morita, M. Sonoyama, H. Amii, T. Takagi, T. Kanamori
10:30 – 334. Determination of molecular interactions between silica, bitumen, and water using sum frequency generation spectroscopy. **A.M. Darlington**, J. Gibbs-Davis
10:50 – 335. Operando attenuated total reflection-infrared spectroscopic detection of the catalytic solid-liquid-gas interface during semi-batch hydrogenation. **F. Meemken***, L. Rodriguez Garcia, K. Hungerbühler, A. Baiker
11:10 – 336. Sub-wavenumber resolution broadband sum frequency generation vibrational spectroscopy and coherent vibrational dynamics at molecular interfaces. **H. Wang***, L. Velarde, L. Fu
11:30 – 337. Fast structural dynamics of self-assembled monolayers on SiO_2 and gold surfaces measured with 2D IR spectroscopy. **C. Yan**, R. Yuan, J. Nishida, M.D. Fayer*
11:45 – 338. Probing molecular structures of peptides and proteins at interfaces using nonlinear and linear vibrational spectroscopic techniques. **Z. Chen***

Hawaii Convention Center
313B

Single-molecule Fluorescence Imaging (#208)

Organized by: P. Chen, T. Majima, G. Cosa
Presiding: G. Cosa, Y. Tan

8:00 Frontiers of methdology I
8:00 – 339. Story of single molecules, from early spectroscopy in solids, to super-resolution nanoscopy in cells and beyond. **W. Moerner***
8:25 – 340. Mapping biomolecular assemblies by super-resolution fluorescence imaging: Challenges and opportunities with dSTORM. **C.M. Yip***
8:50 – 341. Development of a new fluorescence imaging technique using diamond nanoparticles. **Y. Harada***
9:15 Break
9:30 Function and dynamics of proteins, enzymes, and DNAs
9:30 – 342. Single molecule microscopy reveals the mechanisms of noncoding RNA and DNA nanomachines. **N.G. Walter***
9:55 – 343. Building and visualising at the single molecule level DNA-based nanostructures. **G. Cosa***
10:20 – 344. Probing processes on the order of milliseconds using smFCS. **X. zhao***
10:45 – 345. Studying ion channel structure and function using fluorescence spectroscopy. **R. Blunck***
11:10 – 346. Probing molecular mechanisms of signaling proteins with single-molecule techniques. **Y. Tan***
11:35 – 347. First observation of flickering fusion events by in vitro single-vesicle content mixing assay. **B. Gong**, B. Choi, J. Kim, D. Shetty, Y. Ko, N. selvapalam, N. Lee*, K. Kim*

Hawaii Convention Center
312

Interplay between Theory and Experiment in Catalytic Research (#277)

Organized by: M. Ehara, C. Cramer, S. Dai, C. Jones, T. Ziegler, T. Tsukuda

8:00 Opening
8:05 – 348. Role of computational models in the design cycle of catalysts. **C. Cramer**
8:25 – 349. Factors affecting selectivity in olefin polymerization. **P.H. Budzelaar***, G. Talarico
8:50 – 350. Computer-aided design of radical polymerization catalysts and stereocontrol agents. B. Noble, L. Smith, **M.L. Coote***
9:15 – 351. Ion-paired chiral ligands for asymmetric transition-metal catalysis. **T. Ooi***
9:30 – 352. Combined experimental and computational analysis reveals multiple rate-enhancing roles of water in olefin epoxidation catalyzed by methyltrioxorhenium. **S.L. Scott***, B. Goldsmith, T. Hwang, S. Seritan, B. Peters*
9:45 Break
10:00 – 353. Understanding the interplay between non-covalent interactions and anion reduction in a non-heme system. **A. Fout**, Y. Park, E. Matson
10:25 – 354. Single-site catalysis with supported tetrairidium molecular clusters. **A. Katz**, D. Ertler, A. Palermo, A. Okrut, A. Solovyov, D.A. Dixon, B. Gates
10:50 – 355. Theoretical understanding of catalysis by transition metal complex with unusual valence. **S. Sakaki**
11:15 – 356. Computational study of asymmetric C-C bond formation catalyzed by Lewis acid in aqueous media. **M. Hatanaka**
11:30 – 357. Activating and deactivating catalysts using reaction discovery simulation. **P.M. Zimmerman**
11:45 – 358. Cooperative studies with experimentalists to understand/improve catalytic processes. **Z. Wang***

Hawaii Convention Center
301B

Applications of Coherent Multidimensional Spectroscopy to Chemistry, Biology, and Materials (#370)

Organized by: W. Zhao, W. Zhuang, M. Cho, G. Sholes
Presiding: W. Zhao

8:00 – 359. Coherent multidimensional analogs of IR and vis/UV absorption, emission, Raman, and multiphoton spectroscopies and their applications to molecular and materials spectroscopy. **J.C. Wright***
8:25 – 360. Investigating the influence of composition on exciton dynamics in organic thin films. **D. Blank***, B. Caplins, P. Goff
8:50 – 361. Simulating, modeling, and analyzing 2D THz-Raman spectroscopies. **Y. Tanimura***
9:15 – 362. Ultrafast dynamics of excitation energy transfer and coherent oscillations in chlorosomes elucidated by 2D electronic spectroscopy. S. Jun, C. Yang, T. Kim, H. Tamiaki, H. Ihee, **J. Kim***
9:40 – 363. Structure of alanine pentapeptide investigated by2D infrared spectroscopy andmolecular dynamics simulation. Y. Feng, J. Huang, S. Kim, J. Shim, A. MacKerell, **N. Ge***
10:05 Break
10:20 – 364. Elucidating multicolor processes with linear and multidimensional spectroscopy. **J.T. Fourkas**
10:45 – 365. Enzyme dynamics and their role in enzyme-catalyzed reactions. P. Pagano, Q. Guo, A. Kohen, **C. Cheatum**
11:10 – 366. Coherence in photosynthetic reaction centers. **J. Ogilvie**
11:35 – 367. Pathway selective multidimensional spectroscopy to resolve coherent dynamics in complex systems. **J. Davis***, J.O. Tollerud, A. Roozbeh, F. Novelli

Hawaii Convention Center
Halls I, II, III

Frontier Chemical Applications Using Accelerator Based Photon Sources (#414)

Organized by: K. Asakura, T. Sham, L. Chen
Presiding: K. Asakura

Poster Session
10:00 – 12:00

368. Time-resolved spatial distribution analysis of electrode reaction by means of vertically dispersive XAFS technique. **M. Katayama**, R. Miyahara, H. Yamagishi, S. Yamashita, Y. Inada*
369. Study on the structural change of WO_3 in its photoexcited state using picosecond W L_1-edge XANES. **D. Kido**, Y. Uemura, Y. Wakisaka, Y. Niwa, H. Uehara, T. Ohba, S. Nozawa, K. Ichiyanagi, R. Hukaya, T. Sato, S. Adachi, H. Ariga, S. Takakusagi, T. Yokoyama, B. Ohtani, K. Asakura
370. μSR study on isolated hydrogen and oxygen vacancy in oxsides. **k. shimomura**, H. Ariga, K. Asakura, E. Torikai, K. Nagamine
371. μSR measurements of photocatalyst rutile TiO_2 single crystal. **H. Ariga***, K. Shimomura, D. Kido, A. Pant, E. Torikai, K. Nagamine, K. Asakura
372. Recent developments of positron diffraction experiment stations for surface sciences at KEK-IMSS-SPF. **K. Wada**, M. Maekawa, Y. Fukaua, I. Mochizuki, A. Kawasuso, T. Shirasawa, M. Fujinami, T. Takahashi, T. Shidara, T. Hyodo
373. Total-reflection high-energy positron diffraction (TRHEPD) analysis for the determination of rutile-TiO_2 (110)-(1×2) surface structure. **I. Mochizuki***, H. Ariga, Y. Fukaua, K. Wada, M. Maekawa, A. Kawasuso, K. Asakura, T. Shidara, A. Ichimiya, T. Hyodo
374. Polarization dependent total reflection fluorescence (PTRF)-XAFS study of atomically dispersed metals on a TiO_2(110) surface premodified with mercaptobenzoic acid molecules. **S. Takakusagi***, H. Nojima, A. Kunimoto, K. Miyazaki, H. Ariga, H. Uehara, W. Chun, Y. Iwasawa, K. Asakura
375. NEXAFS and soft X-ray photoelectron spectroscopy studies on ordered V oxide films on Ag(100). **K. Edamoto***, T. Nakamura, Y. Sugizaki, K. Ozawa
376. Development of surface sensitive XAFS method based on Kramers-Kronig relations for surface chemistry. **H. Abe***, Y. Niwa, H. Nitani, M. Nomura
377. Structural investigation of supported Co oxide nanocluster catalyst using XAFS and XPS. **N. Ichikuni***, T. Fujii, H. Okuno, Y. Inoue, K. Nakajima, M. Hara, T. Hara, S. Shimazu
378. Multiscale simulation for nanomaterials and comparison with synchrotron radiation results. **Y. Li**
379. Local atomic structure of fission products in the SiC layer of irradiated TRISO fuel particles. **R.L. Seibert***, D. Velazquez, J. Terry, K. Terrani
380. Crystallization process of biomimetically deposited hydroxyapatite on TiO_2 nanotubes. **L. Liu***, S. Kim, X. Guo, J. Li, P. Shen, T.K. Sham
381. Preparation and hydrogenation activity of SBA-15 supported nanosized niobium carbide catalyst. **F. Yanagase***, N. Ichikuni*, K. Mitsuhara, T. Hara, S. Shimazu
382. Multi-points XAFS analysis of the Pd/Al_2O_3 catalyst overlayer in an actual degraded micro gas sensor. **T. Wada***, N. Murata, T. Suzuki, H. Uehara, H. Nitani, Y. Niwa, M. Uo, K. Asakura
383. EXAFS applications to the model fuel cell catalyst. **K. Asakura**

Hawaii Convention Center
Halls I, II, III

Frontiers of Photon Upconversion Based on Triplet-triplet Annihilation (#420)

Organized by: P. Zhang, Y. Murakami, J. Zhao
Presiding: Y. Murakami, P. Zhang, J. Zhao

Poster Session
10:00 – 12:00

384. Plasmon-enhanced homogeneous and heterogeneous triplet-triplet annihilation by gold nanoparticles. **X. Cao**, B. Hu, R. Ding, P. Zhang*
385. Aggregation-free doping of donor in solid acceptor arrays for low-power photon upconversion. **M. Hosoyamada**, N. Yanai, N. Kimizuka*
386. Photon upconversion in air-saturated water based on amphiphilic self-assembly of chromophores. **H. Kouno**, N. Yanai, N. Kimizuka*
387. Columnar liquid crystals for low-power photon upconversion. **K. Mase**, N. Yanai, G. Watanabe, A. Monguzzi, N. Kimizuka*
388. Air-stable and highly efficient photon upconversion in self-assembled molecular systems. **T. Ogawa**, N. Yanai, N. Kimizuka*
389. Triplet–triplet-annihilation-based upconverted light from microcrystalline solid. **Y. Sakagami**, K. Kamada

Hawaii Convention Center
310 Theatre

Frontiers of Plasmon Enhanced Spectroscopy (#428)

Organized by: Y. Ozaki, Z. Tian, B. Ren, N. Halas, A. Brolo, T. Itoh, M. Moskovits
Presiding: M. Moskovits, G.C. Schatz

8:00 – 390. Plasmon-enhanced properties of molecules near and far from gold nanorods. **C. Murphy***
8:20 – 391. Probing different plasmonic modes of Au nanoclusters coupled to Au mirror systems with SERS. **L. Tay**, J. Hulse, J. Fraser
8:40 – 392. Exploring the effect of intermolecular H-bond and the application in enatioselective discrimination by SERS. Y. Wang*, W. Ji*, Y. Ozaki*, **B. Zhao***
9:00 – 393. Surface enhanced Raman spectroscopy of molecular adsorbates on atomically defined surface sites. **K. Ikeda***
9:20 – 394. Lighting up the Raman signal of molecules in the vicinity of graphene related materials. **J. ZHANG**
9:40 – 395. Surface-enhanced Raman sensing through mesopores. **C.L. Haynes**, Z. Gao, A. Campos
10:00 – 396. Combined one- and two-photon NIR excited surface enhanced Raman scattering for bio-applications. **J. Kneipp***, Z. Heiner, M. Gühlke, F. Madzharova, T. Büchner, D. Drescher
10:20 – 397. Monitoring PT-103 interactions with DNA by means of AFM, TERS, SERS, ATR-FTIR, resonant inelastic X-ray scattering, and nano-IR. **B.R. Wood**, E. Lipiec, W. Kwiatek, G. Deacon, J. Sa, A. Kulik, Y. Kayser, J. Szlachetko, P. Haputhanthri, D. McNaughton
10:40 – 398. Plasmon-mediated biosensing of glycan expression on positionally-controlled single cells. M. Tabatabaei, G. Wallace, **F. Lagugné-Labarthet***
10:55 – 399. Giant enhancement of the Raman intensity due to 1D ZnO nanostructures. **S. Yoon***, H. Shin, T. Nguyen, H. Moon, J. Park, Y. Choi
11:10 – 400. Nanoscale characterization of local structure on epitaxial graphene using tip-enhanced Raman spectroscopy. **S. Vantasin**, Y. Tanaka, T. Suzuki, T. Itoh, Y. Kutuma, T. Kaneko, Y. Ozaki*
11:25 – 401. Isomerization of a single molecule on an STM tip. **L. Rios**, N. Tallarida, J. Lee, V.A. Apkarian*

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11:40 – 402. High-sensitive molecular detection by metamaterial infrared absorber. **T. Tanaka***, A. Ishikawa

Hawaii Convention Center
307AB

Developments in Spectroscopic Investigation of Intermolecular Interactions and Dynamics of Molecular Clusters (#438)

Organized by: H. Sekiya, T. Zwier, M. Fujii, E. Bieske, N. Kim
Presiding: E. Bieske, M. Fujii

8:00 – 403. Isolating the spectral signature of H3O+ in the smallest droplet of dissociated HCl acid. **J. Bowman***, J. Mancini , R. Conte, C. Qu
8:20 – 404. Rydberg series of alkali atoms on helium nanodroplets: Probing the screening effects of a nanosized helium dielectric. **F. Lackner***, W.E. Ernst
8:40 – 405. Angle-resolved photoelectron spectroscopy of nanosized aerosol particles. **R. Signorell***
9:05 – 406. Ion hydration in aqueous nanodrops. **E. Williams**, R. Cooper, M. DiTucci
9:30 – 407. Time-resolved radiiation chemistry: Electron dynamics in iodide-nucleobase clusters. **D. Neumark***
9:55 Break
10:10 – 408. Vibrational spectra and structures of silicon hydride cluster cations. **O. Dopfer***
10:35 – 409. Assessing internal energy in gas-phase cluster ions: Measurement, modeling, and structural effects. **J. Lisy***
11:00 – 410. Drastic changes in IR spectral features of solvated metal ions caused by rare-gas attachment. **K. Ohashi***, H. Sekiya
11:20 – 411. Novel double-resonance laser spectroscopy technique in a cold quadrupole ion trap and its application to protonated adenine dimer. **H. Kang***
11:40 – 412. Effective molecular model for gas phase spectroscopy of short-lived biomolecules: Application to IR spectroscopy and anharmonic vibrational calculation. **H. Asami***, M. Tokugawa, Y. MASAKI, E. GLOAGUEN, K. SEIO, H. Saigusa, M. Sekine, M. Mons

Hawaii Convention Center
306A

Interplay between Chemistry and Dynamics in Biomolecular Machines (#441)

Organized by: S. Hayashi, A. Kitao, Y. Rhee, E. Tajkhorshid
Presiding: E. Tajkhorshid

8:00 Opening Remarks
8:05 – 413. Structural dynamics of biomolecular machines filmed with time-resolved X-ray liquidography and crystallography. **H. Ihee***
8:35 – 414. Interplay between chemistry and dynamics in a photon manufacturing protein-chromophore complex. **Y. Rhee**
9:05 – 415. Crucial role of protein flexibility in enzymatic catalysis. **S. Hayashi***
9:35 – 416. Efficient fluorescence emitter and the biomolecular environment: Understanding the photodynamics of the fluorescent protein with computer simulations. **J. Park***
9:55 Break
10:10 – 417. Coupling of mesoscale biomolecular phenomena to ATP hydrolysis. **G. Voth**
10:40 – 418. Dynamics of linear and rotary molecular motors revealed by gold nanoprobes. **R. Iino***
11:10 – 419. Mechanochemical coupling and information fidelity control in simple biomolecular machinery. **J. Yu***

Wednesday Afternoon

Hawaii Convention Center
308A

Ultrafast Intense Laser Chemistry (#35)

Organized by: K. Yamanouchi, R. Levis, F. Legare, Q. Gong
Presiding: K. Yamanouchi

13:00 – 420. Revealing phase structure of strong-field molecular tunneling wave packets. **Y. Liu**
13:25 – 421. Nonadiabatic tunnel ionization of atomic and molecular degenerate orbitals in strong circularly polarized laser fields. **I. Barth***, J. Berakdar, M. Lein, K. Liu, O. Smirnova
13:40 – 422. Electron currents in vibrating H_2^+. **K. Renziehausen**, I. Barth*
13:55 – 423. Laser-polarization dependence of atomic/molecular multiphoton excitation within a single-active-electron model of spherical symmetry. **M. Kanno**, N. Inada, H. Kono*
14:10 – 424. Decomposition of the configuration-interaction coefficients in the multiconfiguration time-dependent Hartree-Fock method. **E.V. Lotstedt***, T. Kato, K. Yamanouchi
14:25 Break
14:40 – 425. Characterization of the carrier envelope phase of an isolated attosecond pulse. **F. He***
15:05 – 426. Determination of absolute CEP of circularly-polarized few-cycle laser pulses by angle-resolved photoelectron spectra of tunnel-ionized photoelectrons. **S. Fukahori***, T. Ando, S. Miura, R. Kanya, K. Yamanouchi, T. Rathje, G.G. Paulus
15:20 – 427. Ultrafast light manipulation using molecular and metallic nanostructures. **Q. Gong***, H. Yang*, J. Chen, X. Hu
15:45 – 428. Table-top water window ultrafast X-ray source and applications. **F. Légaré**, B.E. Schmidt, N. Thiré, S. Beaulieu, V. Cardin, V. Wanie, F. Sylvain, J. Kieffer, M. Negro, C. Vozzi
16:10 Closing Remarks

Hawaii Convention Center
308B

New Insights from Quantum Dynamics and ab initio Potentials in High Dimensional Systems (#84)

Organized by: T. Carrington, J. Bowman, D. Zhang
Presiding: R.B. Shirts

13:00 – 429. Using diffusion Monte Carlo to explore the spectroscopy and dynamics of molecules and ions that undergo large amplitude vibrational motions. **A.B. McCoy***, M. Marlett, Z. Lin
13:30 – 430. Permutation invariant polynomial-neural network (PIP-NN) approach to multidimensional potential energy surfaces for gas phase and gas-surface systems. **H. Guo**
14:00 – 431. High dimensional quantum dynamics studies of chemisorption of polyatomic molecules on metal surfaces. **D. Zhang***
14:30 – 432. On-the-fly ab initio semiclassical dynamics for computing vibrationally resolved electronic spectra. M. Wehrle, M. Sulc, S. Oberli, **J. Vanicek**
15:00 Break
15:20 – 433. Role of the intermolecular interactions on high pressure transitions in Ar-H_2O clusters. **D.J. Arismendi Arrieta**, A. Vitek, R. Rodriguez-Cantano, R. Kalus, R. Prosmiti, P. Villarreal, G. Delgado-Barrio
15:40 – 434. Computational spectroscopy and thermodynamics of small clusters of atmospheric interest. **L. Halonen***
16:10 – 435. Theoretical study of the internal conversion from S_1 to S_0 in H_2CO: Effects on dynamics when including the second derivative terms of nonadiabatic coupling matrix elements. **T. Nakajima**
16:30 – 436. Small molecules in nanocavities: Translation-rotation eigenstates, spectra, and new selection rules from multidimensional quantum calculations. **Z. Bacic***, M. Xu, S. Ye, A. Powers

Hawaii Convention Center
305B

Deciphering Molecular Complexity from Single Molecules to Cellular Networks (#121)

Organized by: T. Komatsuzaki, J. Wang, J. Wu
Presiding: M. Sasai, J. Wang

13:00 – 437. Genetic network underlying the epithelial-mesenchymal transition (EMT). **H. Levine***
13:35 – 438. Acetate overflow: Optimal proteome partitioning and regulation. X. Li*, **L. Tang***
14:05 – 439. Let there be force: Modeling cell-ECM interactions in cancer invasion. **Y. Jiang***
14:35 Break
14:50 – 440. Decision making at the cell level: From bacteria to possibly cancer. **J.N. Onuchic**
15:25 – 441. Single-molecule imaging for systems biology via quantum metrology. **F. Herrera***
15:40 – 442. Pathways and networks: Unraveling the complex organization of signaling networks. **A. Levechenko***
16:10 – 443. Landscape and fluxes of neural networks. **J. Wang***
16:40 Closing Remarks

Hawaii Convention Center
305A

Computational Modeling of d- and f-Block Chemistry: Challenges and Opportunities (#130)

Organized by: A. Wilson, P. Schwerdtfeger, K. Kim, Z. Lin, T. Cundari
Presiding: N.J. DeYonker

13:00 – 444. Helical gold nanorods and related gold nanostructures. **I.P. Hamilton***, X. Liu*
13:30 – 445. Thiolene or thiolate: Their noninnocent nature in transition metal complexes. **M. Hall**, H. Li, H. Tang
14:00 – 446. Electronic interactions between two transition-metal termini through carbon bridges: What can DFT say (or cannot say)?. **J. Halet***
14:30 BREAK
14:45 – 447. Efficient description of electron correlation effects in actinide compounds. **P. Tecmer**, K. Boguslawski, P. Ayers
15:15 – 448. Theoretical analysis in probing factors influencing metal-metal bond strength. **M.B. Pastor**, Q. Zhao
15:45 – 449. Changing the nature of anagostic and agostic interactions - a synthesis by computation approach. **A. Nielson***, J. Harrison, A. Sajjad, P. Schwerdtfeger
16:05 – 450. Accurate two-component relativistic theory based on local unitary transformation and frozen potential schemes for large molecules including heavy elements. **J. Seino***, Y. Nakajima, H. Nakai
16:25 – 451. X-ray spectra of iron complexes: A challenge for quantum chemistry. A.J. Atkins, J. Rudolph, M. Bauer, **C.R. Jacob**

Hawaii Convention Center
306B

Chemical Imaging: Frontiers of Spatio-Temporal Resolution (#134)

Organized by: P. Piotrowiak, M. Fujii, J. Tang, B. Zhang
Presiding: M. Fujii, J. Papanikolas

13:00 Introductory remarks
13:05 – 452. Extending decades-old chemistry and physics to improve modern molecular imaging. **W.S. Warren***
13:45 – 453. Cooperative singlet and triplet exciton transport inorganic semiconductors visualized by ultrafast microscopy. **L. Huang***
14:15 – 454. Using pump-probe microscopy to visualize charge carrier dynamics in semincoductor nanowires. **J. Papanikolas***
14:45 Break
15:00 – 455. Vibrational imaging by two-color infrared microscope. **M. Fujii***, M. Sakai
15:30 – 456. kHz frame-rate multichannel beam-scanning microscopy based on Lissajous trajectories. S. Sullivan, j. Newman, R. Muir, M. Carlsen, s. sreehari, C. Bouman, **G.J. Simpson***
16:00 – 457. In situ measurement of adlayer growth and adlayer hydration on metal nanoparticles by photothermal microscopy. **E. Koh***, I.B. Tsvetkova, B. Dragnea
16:30 – 458. Kerr-gated fluorescence microspectroscopy of P3HT on nanostructured gold and silver. **P. Piotrowiak**, J. Bao, L. Gundlach, D. O'Carroll, Z. Yu

Hawaii Convention Center
313C

Recent Progress in Molecular Theory for Excited-state Electronic Structure and Dynamics (#142)

Organized by: J. Hasegawa, M. Collins, M. Gordon, P. Piecuch, T. Taketsugu
Presiding: M.S. Gordon

13:00 – 459. Photoinduced proton-coupled electron transfer in solution: Quantum mechanical/molecular mechanical nonadiabatic dynamics. **S. Hammes-Schiffer**
13:30 – 460. QM/MM studies of excited states in complex systems. **S. Matsika***
14:00 – 461. Modeling intra- and inter-molecular interactions in chromophore - protein complexes for efficient photodynamic simulations. **Y. Rhee**
14:30 – 462. Automatic rhodopsin modeling as a prospective tool for high throughput photobiology. **M. Olivucci***
15:00 – 463. Theoretical study on photobiological systems. **X. Li**
15:20 – 464. On the nature of a large Stokes shift in mPlum fluorescent protein. **S. Faraji***, A. Krylov
15:40 – 465. Theoretical study on the mechanisms of the selective fluorescence of PicoGreen. **M. Okoshi**, P. Saparpakorn, Y. Takada, S. Hannongbua, H. Nakai*
16:00 – 466. Intra and intermolecular charge-transfer: Toward the control of excited state properties of molecules and materials. **A. Painelli**, C. Sissa, F. Di Maiolo, F. Delchiaro, S. Sanyal, F. Terenziani
16:20 – 467. Charge-transfer and local excitations in organic dyes. **C. Sissa***, V. Calabrese, M. Cavazzini, L. Grisanti, F. Terenziani, S. Quici, A. Painelli
16:40 – 468. Ground and excited state electronic structures and optical response properties of open-shell quinoidal oligothiophenes. **R. Kishi***, M. Saito, N. Matsushita, M. NAKANO

*** Principle Author**

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Hawaii Convention Center
313A

Frontiers of Metal Clusters and Nanostructures: From Fundamental Properties to Functionalities (#168)

Organized by: A. Terasaki, S. Anderson, N. Gaston
Presiding: A. Terasaki

13:00 – 469. Geometrical structures and reactions of metal oxide cluster ions studied by ion mobility-mass spectrometry. K. Ohshimo, R. Moriyama, J.W. Wu, N. Norimasa, T. Komukai, S. Azuma, R. Sato, M. Latif, M. Nakano, **F. Misaizu***
13:30 – 470. Dispersion interactions between metal atom clusters. R. Hatz, V. Hänninen, **L. Halonen***
13:50 – 471. Reactions between series of heavy metal clusters ($Ag_n^{+/-}$, $Au_n^{+/-}$, $Pb_n^{+/-}$ and $Bi_n^{+/-}$) and O_2. **X. Xing***, J. Ma, X. Cao
14:10 – 472. Studies on reactions of molecules on metal clusters: Approach from cluster-cluster collisions. **M. Ichihashi***, S. Hirabayashi, H. Odaka
14:30 – 473. Interfacial charge transfer and reactivity of supported metal oxide nanoclusters. M. Nakayama, M. Xue, W. An, P. Liu, **M. White***
15:00 break
15:15 – 474. Supported metallic and bimetallic nanocatalysts. **F. Baletto***
15:45 – 475. Size-dependent correlations between supported cluster physical and catalytic properties. E. Baxter, A. von Weber, Y. Dai, T. Gorey, **S.L. Anderson***
16:05 – 476. Theoretical study of the dehydrogenation of isopropanol on Ni_{13} cluster supported on Θ-Al_2O_3 surface. **A. Lyalin**, K. Shimizu, T. Taketsugu
16:25 – 477. Cluster-based functional materials: Size-dependent performance of subnanometer clusters in heterogeneous catalysis, electrocatalysis, and Li-air batteries. **S. Vajda**
16:55 Closing remarks

Hawaii Convention Center
304B

Latest Development of Advanced Vibrational Spectroscopy (#187)

Organized by: K. Iwata, S. Asher, D. Phillips, Y. Furukawa
Presiding: T.L. Gustafson, K. Iwata

13:00 – 478. Reading molecular fingerprints more wisely. M. Ando, S. Yabumoto, **H. Hamaguchi**
13:25 – 479. Vibrational coherence spectroscopy as a measure of heme ruffling in cytochrome c. **P. Champion***
13:50 – 480. Probing the core and the surface of amyloid fibrils by means of Raman spectroscopy. **I.K. Lednev***, V. Sereda
14:15 – 481. Advances in the VCD study of protein amyloid fibrils. **L.A. Nafie***, R.K. Dukor, I.K. Lednev, D. Kurouski
14:40 – 482. Quantum-mechanical strategies for the calculation of vibrational optical activity spectra of complex systems. **C. Cappelli***
15:00 break
15:10 – 483. Out-of-plane hydration and conformation effects on the vibrational properties of the peptide group. **H. Torii***
15:35 – 484. Development and application of computationally-guided resonance Raman spectroscopy to investigate metalloenzyme intermediates. **H.S. Shafaat***, P. Maugeri, A. Manesis, J. Slater, N. Trivelas, S. Behnke
15:55 – 485. Using $^{13}C{=}^{18}O/^{15}N$ isotope dependence of the amide-I/II 2D IR cross peaks to distinguish between peptide conformations. H. Maekawa, G. Ballano, F. Formaggio, C. Toniolo, **N. Ge***
16:15 – 486. Vibrational spectroscopy of Southern Ocean phytoplankton: A new approach for understanding drivers of primary productivity. **P. Heraud***, O. Sackett, K. Petrou, J. Beardall
16:40 – 487. DNA conformation and the ultrafine structure of nuclear material in functional and fixed avian erythrocytes analysed with synchrotron FTIR and soft X-ray tomography. **B.R. Wood**, D. Whelan, D. Parkinson, J. Zhang, P. Heraud, D. McNaughton

Hawaii Convention Center
313B

Single-molecule Fluorescence Imaging (#208)

Organized by: P. Chen, T. Majima, G. Cosa
Presiding: R.H. Goldsmith, H. Lu

13:00 Frontiers of methodology II
13:00 – 488. FLUOROCODE, a super-resolution optical map of DNA. **J. Hofkens**, V. Leen
13:25 – 489. Probing neuronal receptor ion channel dynamics in living cells by a novel single-molecule patch-clamp FRET microscopy. **H. Lu***, D. Sasmal
13:50 – 490. Obtaining resolution enhanced fluorescence images and 3D orientation information of single molecules by polarization modulation. **L.S. Jess**, D. Pfennig, M. Grunwald, A. Albrecht, N. Hafi, P.J. Walla*
14:05 – 491. Development of new fluorescent sphingomyelin analogs revealed transient sphingomyelin residency in raft domains for <50 ms. **M. Kinoshita***, N. Matsumori, M. Takada, H. Ano, M. Murata, K. Suzuki, A. Kusumi
14:20 Break
14:35 Conjugated materials
14:35 – 492. Spectroscopy of single conjugated polymers and aggregates: The role of interchain and intrachain interactions. **D.A. Vanden Bout**
15:00 – 493. Structure-property relationship of macrocyclic porphyrin arrays probed by single-molecule defocused wide-field imaging. **D. Kim**
15:25 – 494. Molecular mesoscopics: A bottom-up view of organic electronics. **J.M. Lupton**
15:50 – 495. Molecular-level study and control of conformation and photophysics in conjugated molecular complexes. **M. Vacha**
16:15 – 496. What to do when the (fluorescent) lights go out: Spectroscopy of individual non-emissive doped conjugated polymers using optical microresonators. **R.H. Goldsmith***
16:40 – 497. Optical nanoimaging for block copolymer self-assembly. **M. Zhu**

Hawaii Convention Center
301A

Fundamental Science of Photon and Electron Induced Surface Processes (#228)

Organized by: H. Petek, J. Zhao, Y. Matsumoto
Presiding: U. Höfer

13:00 Introductory remarks
13:05 – 498. Model systems in catalysis for energy economy. **H. Freund***
13:45 – 499. Controlling the transport and reaction of hydrogen at Pd(110) and $Pd_{70}Au_{30}$(110) surfaces. **K. Fukutani**, S. Ohno, S. Ogura, M. Wilde
14:25 – 500. Observing and manipulating individual NH molecules and H atoms on the Pt(111) surface. Z. Liang, H. Yang, J. Oh, Y. Kim, **M. Trenary***
14:45 Coffee break
15:00 – 501. CO_2 capture by 1D self-assembled surface metal-organic frameworks at the molecular scale. **M. Feng**
15:40 – 502. Substrate-induced control of molecular motion at a metal surface. **L. Bartels**
16:20 – 503. Coherent phonons of Cs intercalated graphene on Ir(111). **K. Watanabe**, M. Petrović, M. Kralj, P. Lazic, T. Sugimoto, Y. Matsumoto*
16:40 – 504. Plasmon-phonon dynamics at GaP/Si(001) interfaces. **K. Ishioka***, K. Brixius, A. Beyer, W. Stolz, K. Volz, U. Höfer, H. Petek

Hawaii Convention Center
312

Interplay between Theory and Experiment in Catalytic Research (#277)

Organized by: M. Ehara, C. Cramer, S. Dai, C. Jones, T. Ziegler, T. Tsukuda

13:00 – 505. Theoretical studies on the bond activation in heterogeneous catalysis. **M. Ehara***
13:20 – 506. Enhanced catalysis with nano confinement. **X. Bao**
13:45 – 507. Addressing selectivity challenges in heterogeneous catalysis: Formic acid decomposition on transition metals. **M. Mavrikakis***, J.A. Dumesic, J. Scaranto, S. Li, S. Singh, S. Rangarajan, J. Herron, L. Roling, R. Carrasquillo, B. O'Neill
14:10 – 508. Electrocatalytic oxygen reduction using atomic platinum catalysts dispersed on titanium nitride. **H. Lee***, S. Yang, A. Soon
14:25 – 509. Rate enhancement and low temperature activation for C-C coupling of carboxylic acids with dilute Ce incorporation in MFI. **J.C. Hicks***
14:40 – 510. Hydrogen production from formic acid as an energy storage materials using Pd and Pd alloy catalysts. **K. Mori**, M. Dojo, H. Yamashita
14:55 Break
15:10 – 511. Utility of new generations of coupled-cluster methods and algorithms in catalytic, structural, and optical properties of gold nanoparticles. **P. Piecuch***, J.A. Hansen, N.P. Bauman, M. Ehara
15:35 – 512. Catalyst development for the realization of carbon-neutral energy cycles. **M. Yamauchi***
16:00 – 513. Mechanistic investigation of highly robust hydrogen generation by new bioinspired Ir complexes for dehydrogenation of formic acid in water. **M.Z. Ertem**, W. Wang, Y. Himeda, E. Fujita, J.T. Muckerman
16:15 – 514. Understanding and design of organometallic reactivity with experimental and computational tools. **F. Schoenebeck***
16:30 – 515. Theoretical investigation of catalytic activity of boron nitride based nanomaterials for oxygen reduction reaction and interplay with experiment. **T. Taketsugu***, A. Lyalin, A. Nakayama, G. Elumalai, H. Noguchi, T. Masuda, K. Uosaki
16:45 – 516. Rational design of the catalysts for heterogeneous hydrogenation of amides to amines . **X. Cao***, P. Hu

Hawaii Convention Center
301B

Applications of Coherent Multidimensional Spectroscopy to Chemistry, Biology, and Materials (#370)

Organized by: W. Zhao, W. Zhuang, M. Cho, G. Sholes
Presiding: M. Cho

13:00 – 517. Dynamics in the isotropic phase of liquid crystals. **M.D. Fayer***, K.P. Sokolowsky, H.E. Bailey
13:25 – 518. Broadband 2D UV studies of DNA: Challenging concepts of inherent photostability of genetic material. **R. Miller***, H. Duan, S. Maneshi, P. Nalbach, A. Picchiotti, M. Pola, V. Prokhorenko, A. Stevens, M. Thorwart
13:50 – 519. Extending multidimensional concepts of heterogeneity to single-molecule spectroscopy and solvation dynamics. S. Verma, H. Wu, **M.A. Berg***
14:15 – 520. Ultrafast vibrational spectroscopy of electronic processes in solution processed photovoltaic materials . **J. Asbury***
14:40 – 521. Intermolecular vibrational energy transfers in liquids: Phonon-compensation or dephasing?. **J. Zheng**
15:05 Break
15:20 – 522. Verification of the vibronic origin of long-lived coherence in an artificial molecular light harvester. **J. Hauer***
15:45 – 523. 2D-IR spectroscopy of strongly coupled hydrogen-bonded complexes. A.M. Stingel, B.L. Van Hoozen, **P.B. Petersen**
16:10 – 524. Mapping the vibronic structure and dynamics of complex systems by single-shot supercontinuum 2D spectroscopy. **E. Harel***
16:35 – 525. Dynamics of protein molecular recognition via 2D IR spectroscopy. R. Horness, E. Basom, A. LeSueur, **M. Thielges***

Hawaii Convention Center
310 Theatre

Frontiers of Plasmon Enhanced Spectroscopy (#428)

Organized by: Y. Ozaki, Z. Tian, B. Ren, N. Halas, A. Brolo, T. Itoh, M. Moskovits
Presiding: A.G. Brolo, B. Ren

13:00 – 526. Plasmonically coupled nanostructures and their biomedical applications. **J. Nam***
13:20 – 527. Distinguishing different molecules at the nanoscale by plasmon enhanced Raman scattering. **Z. Dong**
13:40 – 528. Current understanding of lateral and spatial resolution in tip-enhanced Raman scattering. **V. Deckert***
14:10 – 529. Infrared nanoscopy and nanospectroscopy – from vibrational spectroscopy to plasmon mapping. **R. Hillenbrand**
14:30 – 530. Toward extreme spatial and temporal resolution by tip enhanced spectroscopy in ambient. **N. Hayazawa***
14:50 Break
15:05 – 531. Plasmonic arrays. **G.C. Schatz***
15:35 – 532. Chemical reactions on plasmonic nanostructures. **H. Xu***
15:55 – 533. Measuring the enhanced and modified absorbance of molecules adsorbed to metallic nanostructures. **B. Darby***, M. Meyer, B. Auguie, E. Le Ru
16:10 – 534. Wavelength dependent energy transfer and metal-enhanced fluorescence. **Y. Pang**, J. Lee, M. Jen, S. Lee
16:25 – 535. Blinking from multicolored SERS-active Ag nanoaggregates. **Y. Kitahama***, T. Nagahiro, Y. Tanaka, T. Itoh, Y. Ozaki
16:40 – 536. Theoretical methods for infrared absorption spectroscopy with non-uniform electric fields. **T. Iwasa***, T. Taketsugu

Hawaii Convention Center
307AB

Developments in Spectroscopic Investigation of Intermolecular Interactions and Dynamics of Molecular Clusters (#438)

Organized by: H. Sekiya, T. Zwier, M. Fujii, E. Bieske, N. Kim
Presiding: N. Kim, T.S. Zwier

*** Principle Author**

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13:00 – 537. Potential energy surfaces and the reaction dynamics of excited-state multiple proton transfer in the 7-azaindole complexes and the role of mediating alcohols. **Y. Kim***
13:25 – 538. Spectroscopic features of molecular aggregates from anharmonic computations. **M. Biczysko***, T. Fornaro, J. Bloino
13:45 – 539. Selenium centered hydrogen bonding (SeCHB) interaction. **S. Chakraborty***
14:05 – 540. Positively charged phosphorus as a hydrogen bond acceptor. **A. Hansen**, L. Du, H.G. Kjaergaard
14:25 – 541. Structural motifs of aqueous clusters: Insights from the modeling of their infrared spectra obtained from high-levels of electronic structure theory. **S.S. Xantheas***
14:50 Break
15:05 – 542. Frequency- and time-domain investigation on intermolecular vibrations of molecular clusters. **Y. Ohshima**
15:30 – 543. Imaging bond breaking and vibrational energy transfer in water containing clusters. **H. Reisler***
15:55 – 544. Experimental and theoretical study on the excited state dynamics of methyl cinnamate and its derivatives. **T. Ebata***, Y. Inokuchi, Y. Miyazaki, N. Akai
16:20 – 545. Molecular level inspection of H-bond rearrangement and fluctuation in the gas phase. **K. Sakota***
16:40 – 546. Real-time observation of photo-ionization-induced water migration in 5-hydroxyindole-water cluster. **A. Naito**, M. Miyazaki, T. Imajyo, H. Sekiya, M. Fujii

Hawaii Convention Center
306A

Interplay between Chemistry and Dynamics in Biomolecular Machines (#441)

Organized by: S. Hayashi, A. Kitao, Y. Rhee, E. Tajkhorshid
Presiding: Y. Rhee

13:00 – 547. Millisecond dynamics of RNA polymerase II translocation at atomic resolution. **X. Huang***
13:30 – 548. Ribosomes in motion: The dynamics of nature's protein synthesis machinery. **R.L. Gonzalez, Jr.***
14:00 – 549. Simulating conformational changes of the ribosome. **K. Sanbonmatsu**
14:30 – 550. Computational study on flexible dynamics of histone tails. **S. Fuchigami***
14:50 Break
15:05 – 551. Mechanism of transmembrane voltage-sensing in voltage-dependent potassium ion and proton channels. **D. Tobias***
15:35 – 552. Dielectric constant and water penetration gradients along transmembrane peptide-lipid bilayer interface. **T. Smirnova***, M. Voynov, A. Smirnov
15:55 – 553. Permeation, gating, and modulation of voltage-gated potassium channels. **M.O. Jensen***
16:25 – 554. Characterizing large-scale conformational transitions in membrane transporters at high spatial and temporal resolutions. **E. Tajkhorshid**

Wednesday Evening

Hawaii Convention Center
Halls I, II, III

Ultrafast Intense Laser Chemistry (#35)

Organized by: K. Yamanouchi, R. Levis, F. Legare, Q. Gong
Presiding: K. Yamanouchi

Poster Session
19:00 – 21:00

555. Direct time-resolved spectroscopy studies of the photoreactions of antifungal and photosensitizing drug itraconazole. **R. Zhu***, M. Li, D.L. Phillips
556. Field-free orientation dynamics of OCS molecules induced by a pre-alignment method. **K. Sonoda***, T. Sato, A. Iwasaki, K. Yamanouchi, H. Hasegawa
557. Ultrafast dynamics of photoexcited electrons and coherent phonons in the topological insulator. **K. NORIMATSU**, M. Hada, S. Tanaka, K. Igarashi, T. Ishikawa, K. Onda, T. Sasagawa, K.G. Nakamura
558. Time-resolved X-ray absorption spectroscopy (TR-XAS) study on the metal-to-ligand charge-transfer (MLCT) states of $Ru(bpy)_2(dppp2)^{2+}$. **R. Ma**, T. Kim*

Hawaii Convention Center
301B

Multiscale Couplings of Molecular Theory of Solvation: Fundamentals and Applications (#60)

Organized by: A. Kovalenko, B. Pettitt, F. Hirata
Presiding: A. Kovalenko, M. Pettitt

19:00 – 559. Solvation-induced self-assembly of polyelectrolyte membranes. **A.V. Neimark***, A. Vishnyakov, M. Lee
19:30 – 560. Molecular multipole models for water. **T. Ichiye***
20:00 – 561. Extension of COSMO-RS to phase boundaries, micelles, and biomembranes. **A. Klamt**

Hawaii Convention Center
Halls I, II, III

New Insights from Quantum Dynamics and ab initio Potentials in High Dimensional Systems (#84)

Organized by: T. Carrington, J. Bowman, D. Zhang
Presiding: D. Babikov

Poster Session
19:00 – 21:00

562. First-principles and tight-binding quantum chemical molecular dynamics simulations on low friction mechanism of carbon nitride thin films. **M. Nakamura**, S. Sato, H. Murabayashi, T. Tsuruda, Y. Wang, S. Bai, Y. Higuchi, N. Ozawa, K. Adachi, M. Kubo*

Hawaii Convention Center
Halls I, II, III

Computational Modeling of d- and f-Block Chemistry: Challenges and Opportunities (#130)

Organized by: A. Wilson, P. Schwerdtfeger, K. Kim, Z. Lin, T. Cundari
Presiding: K.S. Kim

Poster Session
19:00 – 21:00

563. Cooperation in bi-/multi-nuclear metal complexes: Insights from computational studies. G. Luo, X. Kang, Z. Hou, **Y. Luo***
564. Theoretical study of the interaction of carbon dioxide with the [VCl(MesO)2(THF)2] complex. **W.D. Quintero Martinez***, I. Ortíz Verano*
565. Ground and low-lying excited states of PtCN and PdCN: Theoretical investigation including spin-orbit coupling. **J. Moon**, J. Kim
566. First-principles prediction of X-ray photoelectron spectra beyond DFT. **N.D. Keilbart**, N. Poilvert, I. Dabo
567. Electronic structure in lanthanum and cerium salen complexes. **C.E. Gaitan Caicedo***, I. Ortiz Verano*
568. 3D visualization of relativistic wave functions for intuitive understanding of electronic structure. **K. Ogasawara***

Hawaii Convention Center
Halls I, II, III

Chemical Imaging: Frontiers of Spatio-Temporal Resolution (#134)

Organized by: P. Piotrowiak, M. Fujii, J. Tang, B. Zhang

Poster Session
19:00 – 21:00

569. Orientation-sensitive IR imaging of feather β-keratins by a VSFG-detected IR super-resolution microscopy. **Y. Watase***, K. Ushio, M. Fujii, M. Sakai

Hawaii Convention Center
313C

Recent Progress in Molecular Theory for Excited-state Electronic Structure and Dynamics (#142)

Organized by: J. Hasegawa, M. Collins, M. Gordon, P. Piecuch, T. Taketsugu
Presiding: J. Hasegawa

19:00 – 570. Excitation energy transfer and vibronic couplings in multichromophores. **L. Slipchenko**
19:30 – 571. Toward quantitative analysis of excitation energy transfer in light-harvesting antennas. **M. Higashi***
20:00 – 572. Excited-state dynamics at intersystem crossings in first-row transition metal complexes and clusters. D.S. Kaliakin, R.R. Zaari, D.A. Fedorov, G.E. dePolo, A.O. Lykhin, **S.A. Varganov***
20:20 – 573. Real-time non-adiabatic modeling of time-resolved transient absorption and photoelectron ionization spectra of cyclohexadiene derivatives. **E. Tapavicza***, T. Thompson, N. Baluyot, W. Narvaez, O. Schalk, R.J. Sension
20:40 – 574. Charge-transfer dynamics of light-harvesting systems in complex solvated environments. **B.M. Wong**, M. Oviedo

Hawaii Convention Center
Halls I, II, III

Frontiers of Metal Clusters and Nanostructures: From Fundamental Properties to Functionalities (#168)

Organized by: A. Terasaki, S. Anderson, N. Gaston

Poster Session
19:00 – 21:00

575. Systematic investigation of the superatomic character of heteroatom doped, thiolate protected gold clusters. **J. Schacht**, N. Gaston
576. Understanding of ligand exchange reaction mechanism of thiolate-protected metal clusters by usage of high-resolution hgh-performance liquid chromatography. **Y. Niihori**, Y. Negishi
577. Influence of size and temperature on the shape preference of Au nanoparticles. **A.L. Garden**, A. Pedersen*, H. Jónsson
578. Effects of the alkynyl substituents on the geometrical and electronic structures of "Magic-Number" Au_{13} cluster. **M. Sugiuchi***, Y. Shichibu, K. Konishi
579. Blue luminescence of dendrimer-encapsulated gold nanoclusters. **J. Song**
580. Controlling of anisotropy of porphyrin-coordinated Au cluster. **M. Sakamoto**, D. Eguchi, T. Teranishi
581. Density of states analogy between Pd-metal and $Ag_{0.5}Rh_{0.5}$ alloy. **Y. Namba**, T. Ishimoto, M. Koyama
582. Vibrational properties of core-shell Au_nX_m (X=Ag and Pt) nanoparticles. **H.E. Sauceda***, D.A. Velasco, I.L. Garzon
583. Chemical reactivity of silver-cobalt binary cluster ions: Effects of geometric and electronic structures. **S. Sarugaku**, R. Murakami, J. Matsumoto, M. Arakawa, A. Terasaki
584. Electronic structures of Ag-Rh alloy nano particles: Size dependency and relation with hydrogen absorption. **K. Miyazaki**, A. Matsuda, H. Mori*
585. Structure and photodissociation reaction of metal-acetone cluster ions $M^+(CH_3COCH_3)_n$ (M = Cu, Ti, Sm, and Er) studied by time-of-flight reflectron imaging spectrometry. **Y. Yamakita***, K. Saito, S. Shimokawara, H. Iwasaki
586. Capturing mechanism of gas-born metal nanoparticles into solutions. K. Omori, **N. Sakono***
587. Trapping a liquid micro-droplet in a vacuum toward wet chemistry of gas-phase clusters. **K. Ando**, M. Arakawa, A. Terasaki
588. Theoretical study on hydrogen storage properties of Pd nano cluster: Consideration on cluster shape dependency. **A. Matsuda***, H. Mori
589. Theoretical study of core-shell alloy of Pd and Pt interacting with hydrogen. **N. Binti Zulkifli***, T. Ishimoto, M. Koyama
590. Size-effect on electrochemical water reduction by size-selected Pt nanoclusters deposited on $SrTiO_3$(100). **Y. Yamano**, C. Zhang, R. Kobayashi, T. Eguchi, H. Tsunoyama, A. Nakajima*
591. Theoretical study of stability of Pd/Pt nanoparticles. **T. Ishimoto**, M. Koyama
592. First principles study of diffusion dynamics of defects in semiconductor quantum dots. **A. Petrone***, E. Chong, D.B. Williams-Young, D. Lingerfelt, X. Li
593. Genuinely amorphous carbon from explosive nano copper acetylide. **K. Judai***, Y. Hatakeyama
594. On the catalytic role of ligands in supported Au_nR_m nanoclusters. **Z. Wu**, D.R. Mullins, L. Allard, S.H. Overbury
595. Exploration on magic nanoclusters in silicon-transition metal binary systems by reaction with molecular oxygen. **Y. Sugawara**, T. Nagase, H. Tsunoyama, A. Nakajima*
596. New magnetic superatom: $Cr@Zn_{17}$. **A. Vega***, A. Aguado, A. Lebon
597. Chemical evaluation of $Ta@Si_{16}$ nanocluster deposited on graphite surface by X-ray photoelectron spectroscopy. **T. Ohta**, M. Shibuta, H. Tsunoyama, T. Eguchi, A. Nakajima*
598. Pseudo-atom behavior of $M@Al_{12}X$ (M=B, C, N, Al, Si, P): A theoretical study. **B. Molina***, J. Soto, J. Castro
599. Nano material produced by laser ablation and magnetron sputtering of metal. **K. Kitamura**, K. Judai
600. Size-selected vanadium oxide clusters on TiO_2(110)-(1×1) and their role in oxidative dehydrogenation of methanol: Every atom counts. **J.W. Buffon**, H.L. Neilson, J. Robins, S.K. Buratto*
601. Photodissociation spectroscopy of silver cluster cations up to 35 atoms: Size and temperature dependence of spectral profiles. **K. Tobita**, Y. Kiyomura, T. Ito, M. Arakawa, A. Terasaki
602. Reaction of cationic rhodium clusters, Rh_n^+, with NO in thermal energy region. **Y. Tawaraya**, S. Kudoh, K. Miyajima, F. Mafune*
603. Computational study of the molecular oxygen adsorption on bimetallic Au_n-Pd_m^+ cationic clusters with $n+m = 2$-5. **L.C. Balbás***
604. Temperature-programmed desorption of NO adsorbed on Ir clusters. **K. Koyama**, S. Kudoh, K. Miyajima, F. Mafune*
605. Reactivity of cerium oxide clusters with NO and CO revealed by temperature-programmed desorption in the gas phase. **T. Nagata**, K. Miyajima, F. Mafune*
606. Reaction of size-selected silicon-oxide cluster anions with CO and H_2O as a model for chemistry on mineral surfaces. **M. Arakawa**, R. Yamane, A. Terasaki
607. Desorption energy of oxygen molecule from rhodium oxide clusters probed by temperature-programmed desorption. **M. Takenouchi**, K. Miyajima, F. Mafune*

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608. Release of oxygen from the palladium oxide clusters by heat. **K. Miyajima**, F. Mafune*

Hawaii Convention Center
Halls I, II, III

Latest Development of Advanced Vibrational Spectroscopy (#187)

Organized by: K. Iwata, S. Asher, D. Phillips, Y. Furukawa

Poster Session
19:00 – 21:00

609. Quantum and semiclassical studies of weak adjacent substituent effect on the overtone intensities for the XH (X=C,O) stretching vibrations. H. Takahashi, K. Takahashi, **S. Yabushita***
610. Vibrational SCF-CI calculations using the curvilinear coordinate. **H. Iwase**, K. Hashimoto*
611. Vacuum ultraviolet mass-analyzed threshold ionization spectroscopy of oxetane. D. Kang, **H. Kim***, C. Kwon
612. Cationic structures of azabenzenes by one-photon mass-analyzed threshold ionization spectroscopy. Y. Lee, H. Kim, **C. Kwon***
613. Vibrational structure of tetrahydrofuran cation by VUV-MATI spectroscopy. S. Park, H. Kim, **C. Kwon**
614. Study of absorption intendsities in the near infrared region for the first and second overtones of OH and NH stretching vibration with hydrogen bonding. **M. Tatsumi**, Y. Morisawa
615. Study on electrochemical doping in ionic-liquid-gated transistors fabricated with PBTTT. **I. Enokida***, Y. Furukawa
616. Raman and infrared spectra of a blend of low-bandgap polymer PCPDTBT and fullerene $PC_{71}BM$. **M. Kojima**, Y. Furukawa
617. Photoinduced infrared absorption from a blend of PTB7 and $PC_{71}BM$. **N. Kawate***, Y. Furukawa
618. Electric field effect on the infrared spectra of ferroelectric nylon 11 and 12 films. **H. Isoda***, Y. Furukawa
619. Raman study of tertiary aromatic amines used for organic light-emitting diodes. **Y. Tanaka***, Y. Furukawa
620. Raman investigation of pentacene: Fullerene bulk heterojunction films. **Y. Iwasawa***, Y. Furukawa
621. Analysis of amorphous styrene oligomer using an adiabatic calorimeter as an ultralow frequency spectrometer. **M. Yokota**, J. Fujimura, E. Nishiyama, I. Tsukushi*
622. Vibrational analysis for polyynes of various lengths using local mode model and vibrational self-consistent field method. **M. Tsuyuki***, H. Kanamori, S. Yabushita
623. UV resonance Raman studies of membrane protein structure and dynamics. **J. Kim**, I. Lopez-Peña, D. Asamoto, G. Kang
624. Rebinding dynamics of O_2 to heme proteins probed by time-resolved vibrational spectroscopy. S. Park, T. Lee, **M. Lim***
625. Roles of structural changes around Tyr201 in kinase regulation of oxygen sensor protein FixL. **T. YAMAWAKI**, H. Ishikawa, M. Mizuno, H. Nakamura, Y. Shiro, Y. Mizutani
626. Broadband infrared Stokes polarimetry. **W. FitzGerald**, D. Hore*

Hawaii Convention Center
313B

Single-molecule Fluorescence Imaging (#208)

Organized by: P. Chen, T. Majima, G. Cosa
Presiding: C. Payne, J. Xiao

19:00 Cell imaging
19:00 – 627. Transcription factor and stochastic gene expression -- perspectives from single molecule studies in live cells. **J. Xiao***, Z. Hensel, X. Fang
19:25 – 628. Imaging the cellular internalization and transport of nanoparticles. **C. Payne**
19:50 – 629. Investigating membrane protein interactions by single-protein tracking in a single living cell. **N. Lee***
20:15 – 630. Single molecule super-resolution imaging of microtubule bundling in cells expressing rabies virus proteins. **T.D. Bell***, D. Whelan, A. Brice, G.W. Moseley

Hawaii Convention Center
301A

Fundamental Science of Photon and Electron Induced Surface Processes (#228)

Organized by: H. Petek, J. Zhao, Y. Matsumoto
Presiding: A. Migani

19:00 – 631. Time-resolved spectroscopy by optical pump-probe STM. **H. Shigekawa***
19:40 – 632. Theoretical description of photoinduced nonadiabatic dynamics. **Z. Lan***
20:20 – 633. Real-time large scale TDDFT simulations on interface electron-ion dynamics. **S. Meng***

Hawaii Convention Center
312

Interplay between Theory and Experiment in Catalytic Research (#277)

Organized by: M. Ehara, C. Cramer, S. Dai, C. Jones, T. Ziegler, T. Tsukuda

19:00 – 634. A Tribute to Tom Ziegler (1945-2015). **T. Woo***
19:20 – 635. Roles of computational chemistry in understanding base metal organofluorine chemistry. **R. Baker**
19:45 – 636. Understanding catalysis by ligand-protected nanoclusters. **D. Jiang***
20:10 – 637. Search for stable structures in bi-metallic nanoclusters: Application to carbon-halogen bond activation by small gold-palladium clusters. **E. Pahl**, M. Ehara, B. Boefka
20:30 – 638. Electronic structure and catalytic activity of alloy nanoclusters. **R. Fukuda***
20:45 – 639. Chemical machine reasoning for the discovery of new reactions. **M.P. Waller**

Hawaii Convention Center
Halls I, II, III

Photocatalysis and Charge Transfer at Interfaces and Nanomaterials (#344)

Organized by: D. Kilin, S. Kilina, I. Burghardt, G. Scholes, U. Diebold, A. Selloni, X. Gong, Q. Sun, R. Asahi, K. Donmen

Poster Session
19:00 – 21:00

Dynamics of charge transfer
640. Electron-hole recombination in Sr-doped $NaTaO_3$ photocatalysts: Solid-state synthesis vs. solvothermal synthesis. **L. An***, H. Onishi*
641. Non-equilibrium charge dynamics in functionalized semiconductor nanostructures. **T. Inerbaev**, D. Kilin
642. Non-radiative relaxation dynamics of photo-induced excitons in (5,0) carbon nanotube and semiconducting PbSe nanowire interface. **A.R. Erck***, W.K. Sapp, D. Kilin

Properties of doped TiO2 and perovskites
643. Ga-doped $SrTiO_3$ photocatalysts prepared via solid-state and molten salt method. **Y. Park**, H. Onishi*
644. Theoretical studies of structural and electronic properties of doped $BaTaO_2N$ systems. **H. Iriguchi***, G. Giorgi, K. Yamashita
645. Effects of octahedral-tilting and anion ordering on band structures in perovskite tantalum oxynitrides $CaTaO_2N$ and $MgTaO_2N$. **A. Kubo**, G. Giorgi, K. Yamashita

New non-titania materials for photocatalysis
646. Electronic structure of a metal-organic super container molecule by single point DFT. **W.K. Sapp**, A.R. Erck, Z. Wang, D. Kilin
647. Green synthesis of AgI nanoparticle–functionalized graphene aerogels with enhanced catalytic performance and facile recycling. **A. Devulapalli**, J. Choi, R. Ma, T. Kim*
648. Synthesis of AgI-graphene analog boron nitrate nanocomposites as highly efficient photocatalyst for water purification. **J. Choi**, A. Devulapalli, R. Ma, T. Kim*

Plasmonic particles
649. Visible light-induced charge separation in heterostructured Au/ZnS nanoparticles. **M. Kimura**, M. Sakamoto, A. Furube, H. Adachi, T. Sugimoto, K. Watanabe, Y. Matsumoto, T. Teranishi*
650. Electronic states and photocatalytic activities of titanium dioxide with metal (Au, Pd, Pt) nanoparticles studied by far-ultraviolet spectroscopy. **I. Tanabe***, Y. Ozaki
651. Development of photoelectrochemical glutathione sensor using Au-TiO_2 nanocomposites. **A. Kuragano**, A. Devadoss, P. Sudhagar, C. Terashima, K. Nakata, T. Kondo, M. Yuasa, A. Fujishima

DSSC
652. Density functional theory investigation of Ru/organic dye co-sensitized TiO_2 surface for solar cell application. **Y. Ootani***, K. Sodeyama, L. Han, Y. Tateyama

Photocatalytic reactions
653. Selective hydrogenation of furfural over titanium(IV) oxide photocatalyst. **K. Nakanishi**, K. Hashimoto, H. Kominami*
654. Photocatalytic complete oxidative decomposition of acetaldehyde over WO_3 mixed with plant ash under visible light irradiation. **Y. Yamaguchi***, K. Nakata, C. Terashima, K. Sakai, H. Sakai, A. Fujishima
655. Inactivation mechanism of *Escherichia coli* and Qβ phage with visible-light responsive Rh-doped $SrTiO_3$ photocatalyst. **S. Usuki**, Y. Yamaguchi, K. Nakata, C. Terashima, A. Kudo, T. Suzuki, Y. YOSHIMI, M. Ikekita, A. Fujishima
656. Photocatalytic hydrogenation of alkenes over organically-modified TiO_2 under visible light irradiation. **S. Kitagawa**, Y. Okubo, K. Imamura, K. Hashimoto, H. Kominami*
657. Photocatalytic decomposition of common sugar and generation of rare sugars. **Y. Yamamoto**, K. Nakata, Y. YOSHIMI, C. Terashima, M. Abe, K. Sakaguchi, M. Ikekita, A. Fujishima
658. Photo-electrochemical reduction of CO_2 using photocatalyst anode-boron doped diamond cathode hybrid system. **N. Chikamori***, K. Nakata, C. Terashima, Y. Einaga, A. Kudo, H. Sakai, **K. Sakai**, A. Fujishima

Applications and devices
659. Field and laboratory performance tests of an air-cleaner with photocatalysis-plasma synergistic reactors for practical and long-term use. **T. Ochiai***, N. Nishida, T. Machida, Y. Uchida, A. Fujishima
660. Development of purification technology in the plant factory using visible-light driven photocatalysts. **T. Sanada***, C. Terashima, K. Nakata, T. Kondo, M. Yuasa, A. Fujishima
661. Ammonia synthesis by liquid plasma processing under nitrogen stream. **K. Honda***, C. Terashima, K. Nakata, T. Kondo, M. Yuasa, A. Fujishima
662. Design of photocatalysts for efficient inactivation of *E. coli*. **T. Shimodo**, M. Ikekita, K. Nakata, C. Terashima, Y. YOSHIMI, A. Fujishima, S. Usuki
663. Inactivation of *Microcystis aeruginosa* by TiO_2 photocatalysis. **K. Kanagawa***, K. Nakata, Y. YOSHIMI, C. Terashima, M. Ikekita, A. Fujishima

Hawaii Convention Center
Halls I, II, III

Applications of Coherent Multidimensional Spectroscopy to Chemistry, Biology, and Materials (#370)

Organized by: W. Zhao, W. Zhuang, M. Cho, G. Sholes
Presiding: M. Cho, G. Scholes, W. Zhao, W. Zhuang

Poster Session
19:00 – 21:00

664. Using 2DIR spectroscopy for label free analysis of drug protein interactions. **H. Sowley***
665. Phase-modulated coherent spectroscopy applied to ultracold doped helium droplets. **L. Bruder**, M. Binz, M. Mudrich, F. Stienkemeier*
666. Femtosecond time-resolved spectroscopy of various IR probes for studying structure and dynamics of myoglobin, reverse micelles, and peptides. **M. Maj**, K. Kwak, H. Han, M. Cho*
667. Frequency fluctuations of non-ionic vibrational probe molecule in water studied by 2D infrared spectroscopy and molecular dynamics simulation. **M. Okuda***, M. Higashi, K. Ohta, S. Saito, K. Tominaga
668. Use of 2D infrared spectroscopy for the quantification and spatial mapping of post-translation modifications of proteins. **L. Rezende Valim***, J.A. Davies, K.R. Willison, D.R. Klug
669. Determination of second hyperpolarizability with computational Raman activities and identification of DOVE signatures for selected molecules. **W. Zhao***

Hawaii Convention Center
310 Theatre

Frontiers of Plasmon Enhanced Spectroscopy (#428)

Organized by: Y. Ozaki, Z. Tian, B. Ren, N. Halas, A. Brolo, T. Itoh, M. Moskovits
Presiding: Z. Tian

19:00 – 670. Photobleaching of fluorophores in surface-enhanced spectroscopies. **E. Le Ru***
19:20 – 671. Plasmonic scattering of linear nanoantennas and vibrational coupling in the infrared. C. Huck, J. Vogt, **A. Pucci***
19:50 – 672. Mid-IR plasmonics for chemical specific and ultrasensitive biosensing. **H. Altug**, D. Etezadi, O. Limaj, D.L. Rodrigo
20:10 – 673. Plasmonic nanoparticles and metasurfaces for sensing and spectroscopy. **M. Kall**
20:30 – 674. Tip-enhanced Raman spectroscopy: A nanospectroscopy for surface sciences and electrochemistry. **B. Ren***, Z. Zeng, X. Wang, J. Zhong, S. Huang, T. Huang, M. Li
20:55 Closing Remarks

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Hawaii Convention Center
307AB

Developments in Spectroscopic Investigation of Intermolecular Interactions and Dynamics of Molecular Clusters (#438)

Organized by: H. Sekiya, T. Zwier, M. Fujii, E. Bieske, N. Kim
Presiding: H. Sekiya

19:00 – 675. Study on hydrogen-bonded structures of acetylene large clusters by 2D correlation IR spectroscopy. **Y. Matsumoto***, R. Yoshiura, K. Honma
19:20 – 676. Stalking higher energy conformers on the potential energy surface of charged species. **M. Gaigeot***
19:40 – 677. Spectroscopic studies on host-guest complexes in the gas phase and on gold surface. **Y. Inokuchi***
20:00 – 678. Resonance enhanced photodissociation spectra of the $H_2C_3H^+$-Ne and $H_2C_3H^+$-N_2 complexes. K. Catani, J. Sanelli, V. Dryza, P. Taylor, **E. Bieske***
20:25 – 679. Watching solvent migration dynamics in clusters by picosecond time-resolved IR spectroscopy. **M. Fujii***

Hawaii Convention Center
306A

Interplay between Chemistry and Dynamics in Biomolecular Machines (#441)

Organized by: S. Hayashi, A. Kitao, Y. Rhee, E. Tajkhorshid
Presiding: S. Hayashi

19:00 – 680. Structures and functions of macromolecular motor assemblies. **K. Namba***
19:30 – 681. Entropy-driven biological processes: Signaling mechanisms in controlled entry of viruses into host cells. **S. Varma***, M. Botlani, N. Duro, P. Dutta, R. Leighty
19:50 – 682. Xenobiotic recognition and efflux control by bacterial cells. M. Hayashi-Nishino, K. Hayashi, T. Fujioka, Y. Takeuchi, S. Yamasaki, A. Yan, **K. Nishino**
20:10 – 683. Structure, dynamics, and function of bacterial flagella investigated by molecular dynamics simulation. **A. Kitao***
20:40 Closing Remarks

Thursday Morning

Hawaii Convention Center
Halls I, II, III

Synergistic Relationships between Computational Chemistry and Experiment (#9)

Organized by: S. Wetmore, H. III, L. Radom, P. Schwerdtfeger, R. Wah, H. Nakai, K. Kim

Poster Session
10:00 – 12:00

684. Rotational spectrum and quantum chemical calutations for methyl trimethyl acetate. **Y. Tajimi**, R. Nomura, N. Kuze
685. Theoretical study on cobalt-catalyzed transformation of molecular dinitrogen into silylamine. **H. Tanaka***, R. Imayoshi, Y. Matsuo, M. Yuki, K. Nakajima, K. Yoshizawa, Y. Nishibayashi
686. Active site genesis within UiO-66 type metal-organic frameworks: A theoretical rationalization. **M. Vandichel**, J. Hajek, A. Ghysels, M. Waroquier, D. De Vos, V. Van Speybroeck
687. Computational-aided understanding and design of 2D graphene-like materials. **J. Wang**
688. Intramolecular C–H activation reactions of Ru(NHC) complexes combined with H_2 transfer to alkenes: A theoretical elucidation of mechanisms and effects of ligands on reactivities. **K. Wenz**, P. Liu, K.N. Houk*
689. Structure of $(H_2O)_{20}$: Quantum chemical exploration of stable structures. **M. Takagi**, S. Maeda, T. Taketsugu
690. Examining structure-function relationships in DNA repair facilitated by adenine DNA glycosylase. **S. Lenz**, S. Wetmore*
691. Effects of adduct linkage on DNA replication: A computational investigation of the benzyl-guanine and pyridyloxobutyl-guanine adducts. **K. Wilson**, S. Wetmore*
692. Molecular dynamics study of the hogg1 and Fpg DNA repair enzymes. **S. Sowlati-Hashjin**, S. Wetmore*
693. Cobalt and zinc complexes of hexaamine cage ligands with multiple conformations in solution. **L.J. Alcock**, G. Cavigliasso, R. Stranger, A.C. Willis, J. Hook, D. Lawes, S.F. Ralph
694. Theoretical study on photoabsorption properties of unsubstituted boron-dipyrromethene (BODIPY). **M. Asaoka**, K. Miyagi, T. Takebayashi, Y. Kitagawa, M. NAKANO
695. Accurate calculation of standard enthalpies of formation of carboxylic acids and derivatives. **R. Bacaloglu***
696. Computational study of *trans*-(*E*)-4-(2-(pydridin-2-yl)vinylbenzoic acid and *trans*-(*E*)-4-(4-(pydridin-4-yl)vinylbenzoic acid. **M. Castro***, M.J. Percino, J. Soriano, M. Ceron, V. Chapela
697. Probing thermomolecular orientation and fluid polarization by terahertz spectroscopy: Molecular dynamics simulations and experiments. **C.D. Daub***, R. Zamiri, U.L. Østerberg, P. Åstrand, F. Bresme
698. Analysis of Al organization in zeolites by multinuclear MAS NMR and QCH calculations. **J. Dedecek**, S. Sklenak, P. Klein
699. Combining experimental and computational techniques to investigate complex mineral structures: The multiple structures of vaterite. **R. Demichelis***, M. De La Pierre, P. Raiteri, J.D. Gale, U. Wehrmeister, D.E. Jacob
700. Computational modeling of PHR functional conversion. **H. Dokainish**, D. Yamada, t. iwata, H. Kandori, A. Kitao*
701. Development of experiment and theory to detect and predict ligand phase separation on silver nanoparticles. **S. Egorov***, D. Green, Z. Farrell, S. Merz
702. Structure and vibrational spectra of solid-liquid and liquid-air interfaces, including electrolytes, with DFT-based molecular dynamics simulations. **M. Gaigeot***
703. Anharmonic vibrational spectroscopy of gas phase molecules and clusters: Synergy between DFT-MD simulations and IR-MPD/IR-PD experiments. **M. Gaigeot**
704. Theoretical study on the cavity effect of semihollow-ligands in gold(I)-catalyzed alkyne cyclizations. **M. Gao***, **S. Maeda**, T. Iwai, M. Sawamura, T. Taketsugu
705. Intrinsic electrophilicity of oxalic acid monomer Is enhanced in the dimer and trimer by intermolecular proton transfer. **M. Gutowski***, Z.G. Keolopile, M.R. Ryder, M. Haranczyk, A. Buonaugurio, J. Graham, A. Buytendyk, K.H. Bowen
706. Proton delocalization and structure-specific fluorescence in amyloid fibrils. **A. Hassanali***, D. Pinotsi, L. Grisanti, P. Mahou, R. Gebauer, C. Kaminski, G. Kaminski
707. Experimental and computational investigation of the transition states for the 1,1-HCl and 1,1-HF elimination reactions from chemically activated CD_3CHFCl molecules. **B.E. Holmes***, G. Heard, T. Brown, M. Nestler
708. DFT study of the hydrogenation of N_2 with H_2 to NH_3 by heterolytic outer sphere cleavage of H_2 between tungsten dinitrogen complexes and cationic rhodium complexes: Is a molecular Haber-Bosch catalyst in sight?. **M. Hölscher***, V. Moha, W. Leitner
709. Desk-top tool for eco-toxicity prediction of chemical substances. **Y. Inagaki***, T. Yamazaki, Y. Takahashi
710. Artificial intelligence tool for classification of chemical structures. **A. Iwamoto***, Y. Takahashi
711. Vibrational properties and energy redistributions in hydrogen bonded clusters obtaiuned from ab initio dynamics simulations. **S.S. Iyengar**
712. Molecular dynamics of designed and evolved enzymes. **G. Jimenez-Oses**, S. Osuna, K.N. Houk
713. Theoretical study on electron conductivities of 1D nickel(II) complexes. **Y. Kitagawa**, T. Takebayashi, M. Asaoka, K. Miyagi, Y. Shigeta, M. NAKANO
714. Effects of the anharmonic vibrational corrections on molecular structures of acetates and oximes: Gas-phase electron diffraction and quantum-chemical studies. **N. Kuze***, Y. Tajimi, A. Ishikawa
715. Infrared multiple photon dissociation spectroscopy and density functional theory (DFT) studies of protonated permethylated β-cyclodextrin-water non-covalent complexes. **S. Lee**, H. Oh, S. Lee
716. Molecular dynamics simulations with polarizable and reactive force fields for treating conformation changes and reactions in condensed phase. **J. Ma***
717. Solution-phase dynamics of Thioflavin-T: Experiment and computation. J. Breffke, B. Conway, **M. Maroncelli***
718. Single-molecule piezoelectrics: A novel approach to energy harvesting materials. **C.W. Marvin***, G. Hutchison
719. Electrostatic effects of the magnesium ions on the catalysis of critical mutants of the DNA Polymerase β. **R.A. Matute***, A. Warshel*
720. Rational design of inhibitors targeting human β-galactoside α-2,6-sialyltransferase I. **A. Montgomery**, R. Szabo, H. Yu, D. Skropeta
721. Electronic structure properties of nanohybrid supercapacitive materials comprising polyoxometalate Keggin-like structures deposited on graphene: A DFT study. **J. Muñiz***, A.K. Cuentas-Gallegos, M. Robles, M. Valdez
722. Theoretical study of isomerization process of fluvoxamine. **k. ODAI***, E. Ito
723. Study on ultrafast excited states dynamics of ortho-nitroaniline using femtosecond transient absorption spectroscopy. J. Yi*, **X. Pu***, M. Li*
724. Facile C_{sp2}-C_{sp2} bond cleavage in oxalic acid-derived radicals. R. Molt, T. Clark, R. Bartlett, **N. Richards***
725. ^{7}Li-NMR for corannulene sandwich-like aggregates: One molecule, three signals, two records. **A. Rogachev***
726. Structural and electronic properties of pristine and doped polythiophene: Periodic vs. molecular calculations. T.P. Kaloni, **G. Schreckenbach***, M.S. Freund
727. Lead discovery of telomerase inhibitors using virtual screening technique. **D. Song***, J. Yang, G. han
728. Pressure-induced deformations of the energy surfaces of compressed species and reaction systems. **J.A. Spooner***, N. Weinberg*
729. Electronic-structure-based chemoinformatics for molecular design and discovery. **M. Sugimoto***
730. Kinetic analysis for complex reaction networks: Application to organic reactions. **Y. Sumiya***, S. Maeda, T. Taketsugu
731. Quantum-chemical calculations of the scalar-pseudoscalar interaction in heteronuclear diatomic molecules. **A. Sunaga**, M. Abe*, B. Das, M. Hada

Hawaii Convention Center
308A

Modeling and Analyzing Exciton and Charge Dynamics in Molecules and Clusters (#44)

Organized by: S. Tretiak, G. Chen, Y. Tanimura
Presiding: S. Tretiak

8:00 Opening Remarks
8:05 – 732. Theoretical exploration of excitation energy transfer and charge separation dynamics in photosystem II. **D.F. Coker***, P. Huo, J. Moix, J. Cao
8:35 – 733. Quantum coherence in transport processes. **J. Cao***
9:05 – 734. Excited state nonadiabatic molecular dynamics in chlorophylls. **S. Fernandez Alberti***, L. Alfonso-Hernandez, P. Shenai, Y. Zhao, S. Tretiak
9:35 – 735. Benchmarking calculations of excitonic couplings between chlorophylls. E. Kenny, **I. Kassal**
9:55 Break
10:10 – 736. Optical dynamics and coherence of excitons in natural and synthetic molecular aggregates. **J. Knoester***
10:40 – 737. Characterization of excited state properties of molecular substituents using geometry and topology. **V.Y. Chernyak***
11:10 – 738. Vibronic spectra of organic aggregates and molecule-metallic nanoparticles. **W. Liang***
11:40 – 739. Ammonia and cesium adsorption on Keggin-type molybdophosphate studied by density function quantum chemistry calculations and batch experiments. **Z. Tan***, D. Lan*, Z. Huang*, X. Wang*

Hawaii Convention Center
Halls I, II, III

Multiscale Couplings of Molecular Theory of Solvation: Fundamentals and Applications (#60)

Organized by: A. Kovalenko, B. Pettitt, F. Hirata
Presiding: F. Hirata, A. Kovalenko, M. Pettitt

Poster Session
10:00 – 12:00

740. Free energy calculation for the ATP-induced dimerization of the nucleotide-binding domains in a maltose transporter: Importance of the water-mediated entropic force. **T. Hayashi**, S. Chiba, T. Furuta, **M. Sakurai***
741. Theoretical prediction of mutations leading to enhanced structural stability of GPCRs. **Y. KAJIWARA**, S. Yasuda, Y. TAKAMUKU, N. SUZUKI, T. MURATA, M. Kinoshita
742. Effects of cosolvent addition on the thermal stability of a protein. **S. Murakami***, M. Kinoshita
743. 3D-RISM study of water-meditated forces between the nucleotide binding domains responsible for the power stroke in an ABC transporter. T. Furukawa-Hagiya, N. Yoshida, S. Chiba, T. Hayashi, T. Furuta, **M. Sakurai***

Hawaii Convention Center
Halls I, II, III

Recent Progress in Molecular Theory for Excited-state Electronic Structure and Dynamics (#142)

Organized by: J. Hasegawa, M. Collins, M. Gordon, P. Piecuch, T. Taketsugu
Presiding: J. Hasegawa

Poster Session
10:00 – 12:00

744. Quantum chemical calculations for the excited states of *para*-methylcinnamate (p-MMC). **J. Kim***, J. Moon

*** Principle Author**

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745. Broad range electronic spectra of large molecules by simplified TD-DFT and TDA-DFT. **S. Grimme***
746. Excited state calculations with exact-exchange Kohn-Sham orbitals. **K. Hong**, J. Kim, S. Choi, S. Hwang, W. Kim*
747. Computed structures and energetics of *para*-propylaniline complexes with one and two argon atoms: A basis for interpretation of electronic and cationic spectra. **C. Trindle***, Q. Gu, J. Knee
748. Constricted variational density functional theory (CV-DFT): Idea and recent applications. **F. Senn***, Y. Park, M. Krykunov, I. Seidu, T. Ziegler
749. Optimization of complex orbital exponents by analytical gradient method for photoionization differential cross sections. **R. Matsuzaki**, S. Yabushita
750. Epoxidation reactions of alkenes using iron(IV)-oxo porphyrin π-cation species: A SO-CASPT2 study. **K. Ukaji**, M. Abe, H. Fujii, M. Hada
751. Introducing a numerical stable ΔSCF-DFT scheme based on the constricted variational density functional theory: Triplet calculations. **Y. Park**, F. Senn, M. Krykunov, T. Ziegler*
752. All-electron first-principles X-ray adsorption spectra calculations for acetone and acetic acid. **Y. Noguchi***, M. Hiyama, H. Akiyama, Y. Harada, N. Koga
753. Excited-state dynamics of *trans*-aminostilbene derivatives. **H. Yao***, . Cheng, J. Yang, I. Chen
754. Beyond semiclassics for heavy particle dynamics in chemical reactions. **S. Takahashi***, K. Takatsuka
755. Recent progress in ab initio multiconfigurational Ehrenfest method for molecular dynamics study. **K. Saita**, A. Kirrander, D.V. Shalashilin
756. Theoretical and experimental investigations on near-infrared absorption of trioxotriangulene derivatives with pi-stacked columnar structures. **Q. Wang**, Y. Ikabata, T. Yoshikawa, A. Ueda, T. Murata, K. Kariyazono, H. Okamoto, Y. Morita, H. Nakai
757. Combined molecular beam and matrix isolation methodology for the separation, trapping, and storage of nuclear spin isomers of water. **J. Vermette**, P. Turgeon*, P. Ayotte, G. Alexandrowicz

Hawaii Convention Center
304A

Self-organization in Chemistry (#165)

Organized by: S. Nakata, J. Pojman, O. Steinbock, Q. Gao, J. Wang, T. Yamaguchi, R. Yoshida, S. Nakabayashi
Presiding: S. Nakata, O. Steinbock, J. Wang

8:00 Opening Remarks
8:05 – 758. Pattern formation in structured media. **I.R. Epstein**
8:35 – 759. Metabolic network and glycolytic oscillations in yeast and cancer cells. **T. Amemiya***, K. Obase, N. Hiramatsu, K. Itoh, K. Shibata, M. Takinoue, T. Yamamoto, T. Yamaguchi
8:55 – 760. Interaction between bromate-based chemical oscillators and noble metal nanoparticles. **J. Wang**
9:15 – 761. Spectrophotometric study of the Belousov-Zhabotinsky batch pH oscillator. **G. Frerichs***, Y. Chen
9:30 – 762. Liesegang patterns produced by reduction reaction of metal ions. **H. Nabika***, M. Sato, Y. Shimizu, K. Unoura
9:45 coffee break
10:00 – 763. Morphology and phase separation kinetics of polymer mixtures driven by photopolymerization: Summary and perspectives. **Q. Tran-Cong-Miyata**
10:30 – 764. Synchronization and travelling waves of sulfur electro-deposition in the regions of passivation and transpassivation. **Q. Gao***, J. Yang, W. Bi, Y. He
10:50 – 765. Planetary atmospheres as self-organising systems based on Clausius' virial theorem. **I.R. Kennedy***
11:10 – 766. Perturbing Turing patterns formed by the chlorine dioxide-iodine-malonic acid reaction with halide salts. **D. Gaskins**, E. Pruc, M. Dolnik, I.R. Epstein*
11:25 – 767. Variation in dynamics of BZ reaction under various sets of chemical composition in catalyst and organic substrates. **Y. Mori**, F. Faqiryar, T. Fukuda, T. Matsumura*
11:40 – 768. Self-motion of aspirin crystals at the air-water interface. **A.F. Taylor***, T. Bansagi
11:55 Discussion

Hawaii Convention Center
310 Theatre

Recent Progress in Matrix Isolated Species (#199)

Organized by: T. Momose, Y. Lee, D. Anderson
Presiding: D.T. Anderson, S.A. Reid

8:00 – 769. Solvation of atomic dopants in solid parahydrogen: Quantum Monte Carlo studies. **R. Hinde***
8:30 – 770. High-resolution IR laser kinetic spectroscopy of CH_3F-(*ortho*-H_2)$_n$ cluster in solid *para*-H_2. **H. Kanamori***
9:00 – 771. Helium droplet assisted preparation and spectroscopy of alkali-alkaline earth diatomics. F. Lackner, J.V. Pototschnig, **W.E. Ernst***
9:15 – 772. Insights from the application of the full-configuration-interaction nuclear-orbital approach to small doped ^{3}He, ^{4}He and *para*-H_2 clusters. **M. De Lara-Castells***, A. Mitrushchenkov
9:30 – 773. Molecular dynamics in parahydrogen matrices. **C. Crepin***
10:00 Break
10:15 – 774. Spectroscopy of isolated molecules and chemistry in space-time. **V.A. Apkarian***
10:45 – 775. Spatial manipulation of amplitude and phase distribution of vibrational excitations in solid para-hydrogen. **H. Katsuki***
11:15 – 776. Multiscale simulations of dynamic processes in argon matrices. **E. Sanchez-Garcia***, M. Fernandez-Oliva, K. Bravo-Rodriguez, W. Sander
11:30 – 777. Superradiance of organic molecules attached to rare gas clusters. **F. Stienkemeier***, M. Müller, S. Izadnia, A. LaForge, A. Eisfeld
11:45 – 778. Coherent frequency conversion using quantum solid. **Y. Miyamoto**

Hawaii Convention Center
306B

Metal Ions and Protein Functions: Theoretical Models and Applications (#202)

Organized by: Q. Cui, M. Meuwly, T. Allen, Y. Gao
Presiding: Q. Cui

8:00 – 779. Selective recognition of heavy elements by protein-based reagents. **C. He***
8:40 – 780. Principles governing biological processes: Applications to drug design and drug target identification. **C. Lim***
9:20 – 781. Zn coordination chemistry: Validation of the XYG3 type of doubly hybrid density functionals. N. Su, **X. Xu***
10:00 Break
10:15 – 782. Polarizable molecular mechanics and quantum chemistry analyses of polyligated complexes of mono- and polyvalent metal cations: Alkali, alkaline-earth, transition, and heavy metal cations. **N. Gresh***
10:55 – 783. Accelerating metal-directed protein folding and molecular recognition with enhanced sampling techniques. **F. Feixas***, M. Swart

Hawaii Convention Center
313B

Single-molecule Fluorescence Imaging (#208)

Organized by: P. Chen, T. Majima, G. Cosa
Presiding: P. Chen, T. Majima

8:00 Nanooptics, nanophotonics, and nanoplasmonics
8:00 – 784. Microspectroscopy of single molecules and single gold nanoparticles. **M. ORRIT***
8:25 – 785. Spectroscopic investigation of electrochemically charged individual single-walled carbon nanotubes. **T.D. Krauss**, S. Schaefer
8:50 – 786. Photoluminescence of plasmonic nanostructure. **S. Link**
9:15 – 787. Antioxidation of semiconductor quantum dots by Auger ionization revealed by single-molecule fluorescence imaging. **V. Biju***, S. Yamashita, M. Hamada, S. Nakanishi, S. Wakida, H. Saito, Y. Nosaka
9:40 – 788. Synthesis and single-particle photoluminescence observation of hybrid organic-inorganic perovskite nanoparticles. **I. Karimata***, T. Tachikawa*, Y. Kobori
9:55 – 789. Photoluminescence enhancement and quenching in CdSe/ZnS single quantum dots. **M. Hamada**, S. Nakanishi, V. Biju
10:10 Break
10:20 Frontiers of methodology III
10:20 – 790. Real-time 3D multiresolution visualization of cellular uptake processes. **H. Yang***
10:45 – 791. Rapid sample flow strategy for the ultrafast tracking of single molecule fluorescence time series. **S. Takahashi***, H. Oikawa
11:10 Catalysis I
11:10 – 792. Single-particle, -molecule analysis of TiO_2 photocatalytic reaction. **T. Majima**
11:35 – 793. Nanoscale reactivity mapping guides the engineering of photoanodes for water splitting. **P. Chen***

Hawaii Convention Center
301A

Fundamental Science of Photon and Electron Induced Surface Processes (#228)

Organized by: H. Petek, J. Zhao, Y. Matsumoto
Presiding: K. Ishioka

8:00 – 794. Nonlinear light scattering probe of structure and dynamics at interfaces of DSSC and organic crystalline nanostructures. **H. Dai***
8:40 – 795. Ultrafast dynamics at liquid interfaces studied by time-resolved heterodyne-detected vibrational sum-frequency generation spectroscopy. **T. Tahara**
9:20 – 796. Structure and dynamics of interfacial water. **M. Bonn***
10:00 Coffee break
10:00 – 797. Real time measurement of the vertical binding energy during the birth and lifetime of a solvated electron. **J. Stähler***
10:40 – 798. Heterogeneous catalysis in emergent ordering of strongly correlated protons in ice. **T. Sugimoto***, N. Aiga, Y. Otsuki, K. Watanabe, Y. Matsumoto
11:20 – 799. Effect of applied electric field on condensed molecular films. Dipolar reorientation of molecules and Stark effect. **H. Kang***, S. Shin, H. Kang

Hawaii Convention Center
312

Interplay between Theory and Experiment in Catalytic Research (#277)

Organized by: M. Ehara, C. Cramer, S. Dai, C. Jones, T. Ziegler, T. Tsukuda

8:00 – 800. Recent material development for photocatalysis. **S. Dai***, J. Zhang
8:20 – 801. Combining theory and experimental validation in the use of TEMPO for anodic electrocatalysis. **S. Minteer***, D. Hickey, M. Sigman, D. Schiedler, M. McCammant, I. Matanovic, P. Atanassov
8:45 – 802. CO_2 fixation mechanism of bifunctional porphyrin catalyst: A theoretical study. **J. Hasegawa**
9:10 – 803. Bioinspired computational design of iron pincer complexes for base free hydrogenation of carbon dioxide. **X. Yang***
9:25 – 804. Unraveling the enantioselectivity-controlling surface processes in the proline-mediated isophorone hydrogenation on Pd supported catalyst. **L. Rodriguez Garcia***, F. Meemken, K. Hungerbühler, A. Baiker
9:40 Break
9:55 – 805. Combined theoretical and experimental studies on cyclohexene oxidation reaction; C-H activation reactions are not as simple as you thought. **K. Cho***, Y. Kim, S. Shaik, W. Nam
10:20 – 806. Highly efficient photo-SCR of NO with ammonia. **T. Tanaka***, A. Yamamoto, T. Shishido, K. Teramura
10:45 – 807. Design and applications of single-site photocatalysts using nanoporous materials. **H. Yamashita***
11:10 – 808. Analysis of the mechanism of electrochemical oxygen reduction and development of Ag- and Pt-alloy catalysts for low temperature fuel cells. **S. Linic**
11:35 – 809. Unique reactivity and in-situ synthesis of oxide-supported single atom Rh catalysts. **P. Christopher***

Hawaii Convention Center
306A

Science with Beams of Radioactive Isotopes (#340)

Organized by: S. Yennello, K. Starosta, Y. Zhao, H. Haba
Presiding: K. Starosta

8:00 Welcome
8:05 – 810. Nuclear science: Exploring the heart of matter, serving society, and educating the next generation of innovators. **A. Aprahamian***
8:35 – 811. Scientific programs with exotic nuclei at RIBF. **H. Sakurai**
9:05 – 812. Nuclear science program at ISAC/TRIUMF. **J. Dilling***
9:35 – 813. Transitioning NSCL into FRIB at MSU. **C. Gelbke***
10:00 break
10:15 – 814. Radioactive beam facilities in Europe - current status and future perspectives. **P. Egelhof***
10:40 – 815. Nuclear astrophysics experiment at China Jinping underground Laboratory. **X. Tang**
11:05 – 816. Nuclear forces and their impact on matter at neutron-rich extremes. **A. Schwenk**
11:30 – 817. Use of radioactive beams for the synthesis of the heaviest elements. **W. Loveland***
12:00 Lei Yang

*** Principle Author**

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305B

Photocatalysis and Charge Transfer at Interfaces and Nanomaterials (#344)

Organized by: D. Kilin, S. Kilina, I. Burghardt, G. Scholes, U. Diebold, A. Selloni, X. Gong, Q. Sun, R. Asahi, K. Donmen
Presiding: D. Kilin, B.A. Parkinson

8:00 Introductory Remarks: Photocatalysis Symposium #344
8:05 – 818. Water splitting by thin film metal-oxo catalysts. **D.G. Nocera**
8:35 – 819. Theoretical study of N-doped Ta_2O_5/Ru-complex system for photocatalytic CO_2 reduction. **R. Asahi***, A. Akimov, R. Jinnouchi, S. Shirai, O. Prezhdo
9:05 – 820. First principles simulations of materials and processes in photocatalysis . **A. Selloni**
9:35 – 821. NO adsorption and diffusion on hydroxylated rutile TiO_2(110): electron trapping and transferring. **Y. Yu**, X. Gong*
10:00 – 822. Cobalt doped TiO2: A computational analysis of surface dopant placement on anatase. **S. Jensen***, D. Kilin
10:15 Break
10:30 – 823. Efficient water splitting on photoelectrodes with surface modifications. **K. Domen***
11:00 – 824. Predicting photocatalytic materials: Condensed matter physics meets electrochemistry. **G. Galli***
11:30 – 825. Suspended inorganic nanostructures for photocatalytic water splitting. **F. Osterloh**

Hawaii Convention Center
301B

Applications of Coherent Multidimensional Spectroscopy to Chemistry, Biology, and Materials (#370)

Organized by: W. Zhao, W. Zhuang, M. Cho, G. Sholes
Presiding: W. Zhuang

8:00 – 826. Detection modes of vibrational and electronic coherence in multidimensional stimulated Raman signals. **S. Mukamel***, K. Bennett, H. Ando, B. Agarwalla, K. Dorfman
8:25 – 827. Multidimensional coherent optical photocurrent spectroscopy of a semiconductor microcavity. **S. Cundiff***
8:50 – 828. Structure and dynamics at electrode/catalyst interfaces probed by time-resolved vibration sum-frequency generation spectroscopy. **T. Lian**
9:15 – 829. Femtosecond stimulated Raman spectroscopy by six-wave mixing. **A. Moran**
9:40 – 830. Fifth order coherent multidimensional optical spectroscopies. **H. Tan***
10:05 Break
10:20 – 831. Fourier transform multidimensional vibrational-electronic spectroscopies. T.L. Courtney, Z. Fox, J.D. Gaynor, M. Balasubramanian, **M. Khalil**
10:45 – 832. Surface-specific 2D vibrational spectroscopy reveals dynamics of interfacial water . **M. Bonn***
11:10 – 833. 2D white-light spectroscopy reveals exciton dynamics in next-generation solar cells. T.J. McDonough*, R.D. Mehlenbacher, N.M. Kearns, M. Wu, M. Grechko, M.S. Arnold, **M.T. Zanni**
11:35 – 834. Probing structure and dynamics of preferential solvation in biomolecular hydration and photocatalysis using ultrafast 2D-IR spectroscopy. **K. Kubarych**

Hawaii Convention Center
305A

Practical Strategies for Modeling Non-Covalent Interactions (#372)

Organized by: G. Beran, Y. Jung, H. Nakai, J. Schmidt
Presiding: Y. Jung

8:00 Introduction
8:10 – 835. Modeling noncovalent interactions with RPA-type methods. V.K. Voora, G.P. Chen, M.M. Agee, B.S. Ganesh, **F. Furche***
8:40 – 836. Energetics of nanolayer structures from semi-analytic RPA-level theory. **J. Dobson***, T. Gould, S. Lebegue
9:10 – 837. Cost effective quantum chemical methods for organic crystal modeling. **G. Brandenburg**, S. Grimme
9:30 – 838. Properties of racemic and enantiopure crystals from density-functional theory. **E.R. Johnson***, A. Otero-de-la-Roza, J. Hein
10:00 Break
10:10 – 839. Toward large-scale quantum chemical calculations with static and dynamical electron correlations. **M. Kobayashi***, T. Taketsugu
10:40 – 840. Density-dependent dispersion correction for density functional theory: Local response dispersion approach. **Y. Ikabata***
11:10 – 841. Performance of BLYP can be significantly improved when used with both dispersion-correcting potentials and pair-wise dispersion corrections. **G. DiLabio***, J. van Santen
11:30 – 842. Improving accuracy and feasibilty for density functional calculations in molecules and solids. **Y. Jung**

Hawaii Convention Center
304B

Interfacial Phenomena for Bubbles, Droplets, Films and Soft Matter (#403)

Organized by: A. Amirfazli, Y. Zuo, J. Li
Presiding: A. Amirfazli, R. David, F. Duan, L. Jiang

8:00 Welcome
8:05 – 843. Splashing criterion for impact of complex drops. V. Grishaev, C.S. Iorio, **A. Amirfazli***
8:35 – 844. Branch-shaped particle assembly in drying a sessile colloidal droplet. A. Crivoi, X. Zhong, **F. Duan***
9:00 – 845. Droplet dynamics under the effect of airflow on superhydrophobic surfaces. **A. Dolatabadi***
9:20 – 846. Effect of contact angle on the orientation, stability, and assembly of dense floating cube. M. Donnell, R. Daniello, **J.P. Rothstein**
9:40 Coffee Break
9:50 – 847. Bioinspired interfacial materials with super-wettability. **L. Jiang***, W. Guo, L. Wen, Y. Tian
10:15 – 848. Theoretical model for interfacial tensions between low-energy liquids and solids. **R. David***, A. Neumann
10:40 – 849. Reversible switching between contrasting Cassie and Wenzel states. **A. Luzar**, D. Vanzo, D. Bratko
11:00 – 850. Dynamics of spreading on microtextured surfaces. **A. Mohammad Karim**, H. Kavehpour
11:20 – 851. Effect of surface energy on icephobicity. **E. Alizadeh-Birjandi**, H. Kavehpour

Hawaii Convention Center
Halls I, II, III

Frontiers of Plasmon Enhanced Spectroscopy (#428)

Organized by: Y. Ozaki, Z. Tian, B. Ren, N. Halas, A. Brolo, T. Itoh, M. Moskovits

Poster Session
10:00 – 12:00

852. Polyethylenimine-capped gold nanoparticle film with controlled interparticle distance: Preparation, characterization, and application as SERS substrate. **K. Shin***
853. Study of molecular behavior in dark SERS state by using power law analysis of blinking SERS. **Y. Kitahama***, D. Araki, Y.S. Yamamoto, T. Itoh, Y. Ozaki
854. Semiconductor-enhanced Raman scattering for monitoring the small inorganic molecule and ion. W. Ji*, Y. Wang*, . Tanabe*, **B. Zhao***, Y. Ozaki
855. Plasmon-induced ultrafast electronic dynamics in dye molecules showing surface-enhanced fluorescence. **T. Itoh***, Y.S. Yamamoto, H. Tamaru, V. Biju, S. Wakida, Y. Ozaki
856. Surface-enhanced hyper-Raman scattering for accessing two-photon molecular properties. **H.K. Turley***, J. Camden
857. Exploring Fano interferences of mixed metal nanoparticles. **S. Griffin**
858. Gold nanoparticle self-assemblies for on-dose-authentication of medical tablets. **T. Fukuoka**, A. Yamaguchi, Y. Utsumi, Y. Mori
859. Highly sensitive SERS detection for CBR materials . Y. Park, S. Jin, H. Hwang, J. Lee, **Y. Jung***
860. Biocompatible SERS nanoprobe for immunosorbent assay. L. Chen, Y. Sa, Y. Park, X. Wang, B. Zhao, **Y. Jung**
861. Chloramphenicol molecularly imprinted polymer synthesis and application on SERS detection. **Y. Xie***
862. Development of concavo-convex graphene aimed at controlling phonon mobility and their property evaluation by TERS. **Y. Wada***, S. Uemura, Y. Ozaki, S. Vantasin, B. Jeyadevan, T. Itoh, Y. Sunayama
863. Exploring intranuclear molecular information by SERS spectroscopy. **L. Liang**, **S. Xu**, W. Xu*
864. Fabrication of SERS substrates based on a hierarchical structural AAO template. **Y. Wang**, W. Xu, **S. Xu***
865. Online combination of high performance liquid chromatography with surface-enhanced Raman spectroscopy. W. Wang, M. Xu, **Y. Yuan***, J. Yao*
866. Improving the SERS detection on aromatic molecules by PDMS coated Au nanoparticle monolayer film. C. Qian, **Y. Yuan***, Q. Guo, J. Yao*
867. 3D SERS imaging using chemically synthesized nanoporous silver microparticles with highly symmetric geometry. **S. Vantasin**, H. Gatemala, Y. Tanaka, W. Ji, K. Wongravee, S. Ekgasit*, Y. Ozaki*
868. Rational fabrication of AFM TERS tips by electrodeposition method. **T. Huang***, L. Yang, Z. Zeng, M. Li, X. Wang, F. Yang, B. Ren
869. Surface-enhanced Raman scattering from size-controlled PbS quantum dots at gap of Au nanodimer. **X. Li***, K. Suzuki, T. Yoshii, S. Yasuda, K. Murakoshi
870. Tip-enhanced Raman spectroscopy of monolayer graphene island grown on 4H-SiC (0001) C-face. **S. UEMURA**, Y. Tanaka, Y. Kutuma, S. Vantasin, T. Kaneko, Y. Ozaki
871. Facile synthesis and characterization of silver nanoparticles produced by short-chain triazine derivatives and cationic surfactant. **J. Kurawaki**, R. Usman, Y. Niidome
872. Sterically-bulky self assemblies of gold nanoparticles. **T. Fukuoka***, R. Takahashi, Y. Utsumi, A. Yamaguchi

Hawaii Convention Center
Halls I, II, III

Developments in Spectroscopic Investigation of Intermolecular Interactions and Dynamics of Molecular Clusters (#438)

Organized by: H. Sekiya, T. Zwier, M. Fujii, E. Bieske, N. Kim
Presiding: M. Fujii, H. Sekiya

Poster Session
10:00 – 12:00

873. Relaxation dynamics following the photoexcitation of the $I^-(H_2O)_4$ cluster. **W. Sheu***, M. Chiou
874. IR spectroscopy of 5-hydroxyindole–methanol in the gas phase: Rearrangement of H-bond. **K. Yoneyama**, K. Sakota*, H. Sekiya
875. Rearrangement of hydrogen bond network in mono-hydrated 5-hydroxyindole cluster cations. **T. Ikeda***, K. Sakota, H. Sekiya
876. Study on the conformational structure of monomer and solvated cluster of benzyl methyl ether. **K. Nishizono**, Y. Yamada, Y. Nibu
877. 18C6—benzenediol complex: "Cage effect" for guest molecule structures and the S_1 dynamics. **F. Morishima**, R. Kusaka, Y. Inokuchi, T. Haino, T. Ebata
878. Structural investigation of aspartame, an artificial sweetening, and its hydrated clusters in the gas phase. **D. Nakamura**, H. Saigusa*
879. Photodissociation dynamics of mass-selected cluster ions studied by a linear-type tandem reflectron with an imaging detector. **K. Okutsu**, Y. Nakashima, K. Fujimoto, K. Yamazaki, M. Nakano, K. Ohshimo, F. Misaizu*
880. Infrared spectroscopy and theoretical study on $(CH_3)_3N\text{-}H^+\text{-}(H_2O)_n$, $n = 1 – 22$: Highly polarized hydrogen bond networks of hydrated clusters. **R. Shishido***, Y. Li, C. Tsai, D. Bing, A. Fujii, J. Kuo
881. Real-time observation of solvent reorientation associated with the intramolecular charge transfer reaction of (p-cyanophenyl)pentamethyldisilane-water cluster by picosecond time-resolved IR spectroscopy. **S. Matsuyama**, M. Miyazaki, H. Ishikawa, M. Fujii*
882. Theoretical study on novel intermolecular interactions observed in gas-phase or liquid-phase conditions: Halogen bond, chalcogen bond, and their simple modeling by effective fragment potential. **N. Kuroki**, A. Kawashima, H. Mori*
883. Computational study of vertical detachment energies for *o*-, *m*-, and *p*-bromochlorobenzene dimer anions. **J. Heo***
884. Vibrational/electronic spectroscopy and theoretical calculations for studying metal ions in formamide solutions. **N. Hikiishi**, K. Ohashi, H. Sekiya
885. Evolution of molecular stacking during freeze-drying fabrication of P3HT:PCBM bulk heterojuction solar cell. **Y. Lan***, P. Sher, S. Batjargal, C. Tsao, C. Lee, M. Hayashi, Y. Huang, P. Huang, C. Pao, J. Wang*
886. Silver phenyl-acetylide nano chiral structure induced by impurities. **S. Ito**, K. Judai
887. Is conformation of phenyl rings within a stilbene derivative in nanoparticles planar or nonplanar?. **Y. Fujimoto**, K. Furukawa, N. Yamamoto, H. Sekiya
888. Influence of molecular-weight specific adsorption of polyethylene glycol on two-state transition of myoglobin. **S. Yasutomi**, K. Sakota, H. Sekiya

Hawaii Convention Center
Halls I, II, III

Interplay between Chemistry and Dynamics in Biomolecular Machines (#441)

Organized by: S. Hayashi, A. Kitao, Y. Rhee, E. Tajkhorshid
Presiding: A. Kitao

Poster Session
10:00 – 12:00

889. Theoretical analysis of the redox reaction in solution by molecular theory of solvation. **Y. Seno***, N. Yoshida, H. Nakano
890. Difference in ion permeation mechanism through the Kv1.2 and KcsA channels: A molecular dynamics study. **T. Sumikama**, S. Oiki

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891. Machinery of new eubacterial light-driven pumps: Sodium and chloride pump rhodopsins. **K. Inoue**, Y. Kato, A. Mori, R. Abe-Yoshizumi, H. Kandori*
892. Plausible model for the inward-facing conformation of ADP/ATP carrier: A simulation study. **K. Tamura**, S. Hayashi*
893. Structural and functional roles of coupling helices in ABC transporter MsbA: Experimental and computational studies. **T. Furuta**, T. Yamaguchi, H. Kato, M. Sakurai
894. Molecular mechanism of Ca^{2+}-induced membrane fusion: A molecular dynamics study. **H.G. Tsai**
895. Analysis of the free energy landscape for the open-close dynamics of maltose transporter ATPase, MalK, using enhanced sampling MD simulation. **W. Hsu**, T. Furuta, M. Sakurai
896. Electron/immuno-electron tomography of autophagosomal membranes and bacterial multidrug efflux systems. **M. Hayashi-Nishino**, K. Nishino

Hawaii Convention Center
307AB

Structure and Spectroscopy of Linear Polyenes: Finite and Infinite (#456)

Organized by: B. Hudson, N. Hush, T. Kobayashi, Y. Weng, J. Paldus, R. Christensen
Presiding: B. Hudson

8:00 – 897. Energetics and dynamics of the low-lying electronic states of constrained polyenes: Implications for infinite polyenes. **R. Christensen***, M. Enriquez, N. Wagner, A. Peacock-Villada, C. Scriban, R. Schrock, T. Polivka, H. Frank, R. Birge
8:30 – 898. Synthetic development of cyclopolymerization of 1,6-heptadiyne derivatives and conformational study of polyene. **E. Kang**, T. Choi*
9:00 – 899. Cis-trans photoisomerization of 1,3,5-hexatrienes. **J. Saltiel***, C.E. Redwood, R. Samudrala, K. Laohhasurayotin
9:30 – 900. Dissecting the photoinitiated dynamics of carotenoids in solution and in light harvesting proteins. **D.S. Larsen***
10:00 – 901. Single- and double-quantum 2D electronic spectroscopy refine the energy level scheme of carotenoids. **J. Hauer***
10:30 – 902. Singlet fission in carotenoid dimers and aggregates probed by time-resolved resonance Raman spectroscopy. **M.J. Tauber**
11:00 – 903. Nature of the intramolecular charge transfer (ICT) and forbidden $^1B_u^-$ states of peridinin and peridinin analogs. **N. Wagner***, J. Greco, M. Enriquez, H. Frank, R. Birge

Thursday Afternoon

Hawaii Convention Center
308A

Modeling and Analyzing Exciton and Charge Dynamics in Molecules and Clusters (#44)

Organized by: S. Tretiak, G. Chen, Y. Tanimura
Presiding: Y. Tanimura

13:00 Opening remarks
13:05 – 904. Probing energy and charge transfer by broadband X-ray spectroscopy. **S. Mukamel**, J. Biggs, Y. Zhang, W. Hua
13:35 – 905. Nonlinear optical response in nanostructures induced by optical near-field. **K. Nobusada***
14:05 – 906. Simple and accurate method for time-dependent transport along nanoscale junctions. L. Chen*, T. Hansen, **I. Franco***
14:35 – 907. Decoherence in energy transfer dynamics from a mixed quantum-classical approach with the mapping formalism. **H. Kim**, Y. Rhee*
14:55 Break
15:10 – 908. First-principles method to simulate the dynamics of open electronic systems. **C. Yam**, G. Chen
15:40 – 909. Simulation of real-time electronic dynamics at molecule-bulk interfaces. R. Wang, **X. Zheng***
16:10 – 910. Description of many-electron dynamics by multi-determinantal wave functions and reduced density matrices. **T. Kato***
16:40 – 911. Modeling of proton coupled electron transfer reactions in the framework of density functional theory . **U. Raucci***, N. Rega

Hawaii Convention Center
304A

Self-organization in Chemistry (#165)

Organized by: S. Nakata, J. Pojman, O. Steinbock, Q. Gao, J. Wang, T. Yamaguchi, R. Yoshida, S. Nakabayashi
Presiding: Q. Gao, I.Z. Kiss, S. Nakabayashi

13:00 – 912. Dynamics of networks of electrochemical oscillations. **I.Z. Kiss***, J. Coleman, Y. Liu, M. Sebek
13:30 – 913. Complex composite oscillations in the glucose- glucose oxidase- ferricyanide reaction under aerobic conditions. F. Muzika, K. Ponomareva, **L. Schreiberova***, I. Schreiber
13:50 – 914. Exploring the collective behavior of redox polymer gels. **Z.A. Jimenez***, I.R. Epstein*
14:05 – 915. Application of oscillation in bacterial growth. **S. Sasaki**, M. Hosoki, H. Kato
14:20 coffee break
14:35 – 916. Multi-oscillator model of the circadian clock system and experiments: Why is eastbound long-distance trip so heavy?. **H. Kori***
15:05 – 917. Cooperative phenomena in a set of nonlinear chemical oscillators. **A.P. Munuzuri***
15:25 – 918. Synchronization patterns in reactive dynamical chemical systems. **E. Panagakou**, N.M. Awal, I.R. Epstein*
15:40 – 919. Crowd synchrony in chaotic oscillators. **H. singh**, P. Parmananda
15:55 – 920. Synthesis of silica-supported cadmium oxide and phosphorescent zinc sulfide precipitation tubes using nonequilibrium processes. **J.J. Pagano**
16:10 – 921. Macroscopic self-oscillation dynamics of plate-like crystals under continuous blue light irradiation. **T. Ikegami**, Y. Kageyama, S. Takeda
16:20 Discussion

Hawaii Convention Center
310 Theatre

Recent Progress in Matrix Isolated Species (#199)

Organized by: T. Momose, Y. Lee, D. Anderson
Presiding: R. Hinde, T. Momose

13:00 – 922. Hydrogen atom reactions in solid parahydrogen. M.E. Balabanoff, F.M. Mutunga, **D.T. Anderson***
13:30 – 923. Laser spectroscopy of radicals, carbenes, and ions in superfluid helium droplets. **G.E. Douberly***
14:00 – 924. Capture and characterization of an activated carbon dioxide molecule on a Ni(I) complex using cryogenic vibrational predissociation spectroscopy. **M.A. Johnson**
14:30 – 925. Infrared spectra of free radicals and protonated species isolated in solid *para*-hydrogen. **Y. Lee***
14:50 Break
15:00 – 926. Hydrogen activation via quantum mechanical tunneling. S. Henkel, M. Ertelt, **W. Sander***
15:30 – 927. Vibrational spectroscopy of noble-gas compounds in matrix environments: A hybrid quantum-classical simulation. **A. Nakayama**
16:00 – 928. Ab initio study of O_4H^+: A tracer molecule in the interstellar medium?. **R. Hernandez***
16:15 – 929. Investigation on imidazolium ionic liquids and water molecules by matrix isolation infrared spectroscopy. **W. Sung**, D. Kim*
16:30 – 930. Infrared spectra of protonated ovalene ($C_{32}H_{15}^+$) and its neutral counterpart in solid para-hydrogen: Formation mechanisms and implication to unidentified infrared emission. **M. Tsuge**, Y. Lee
16:45 – 931. Infrared spectra of $NgBeSO_2$ (Ng = Ne, Ar, Kr, Xe) in noble-gas matrices. **X. Wang***

Hawaii Convention Center
306B

Metal Ions and Protein Functions: Theoretical Models and Applications (#202)

Organized by: Q. Cui, M. Meuwly, T. Allen, Y. Gao
Presiding: K.M. Merz

13:00 – 932. Modulation of metalloregulator unbinding kinetics for transcription regulation in living cells. **P. Chen***
13:40 – 933. Allosteric regulation of nucleosome core particle by transition metal anticancer drugs . **U. Rothlisberger***
14:20 – 934. Mechanistic structural view of ras biology. **R. Nussinov***, T.S. Chavan, H. Jang, L. Khavrutskii, N. Tarasova, V. Gaponenko
15:00 Break
15:15 – 935. Accurate modeling of metal ions in aqueous solution. **K.M. Merz***
15:55 – 936. Valence bond based force field for hypervalent molecules. **M.H. Schmid**, C.R. Landis
16:35 – 937. Active site dynamical effects that affect the hydrogen transfer rate-limiting step in the catalysis of linoleic acid by soybean lipoxygenase-1 (SLO-1): Primary and secondary isotope studies constructed using a new rare-events sampling ab initio dynamics methodology. **S.S. Iyengar**

Hawaii Convention Center
313B

Single-molecule Fluorescence Imaging (#208)

Organized by: P. Chen, T. Majima, G. Cosa
Presiding: C.F. Landes, M. Roeffaers

13:00 Catalysis II
13:00 – 938. Super-resolution fluorescence and stimulated Raman microscopy study of acid mordenite zeolites. **M. Roeffaers***, A. Kubarev, K. Liu, J. Hofkens
13:25 – 939. Copper nanocatalysis of the "click" reaction. **J. Scaiano***, M.R. Decan, S. Impellizzeri , M. Marin
13:50 – 940. Single-molecule and -particle fluorescence microscopy for organic chemistry and catalysis. **S. Blum**
14:15 – 941. Single-molecule chemical reaction reveals molecular reaction kinetics and dynamics. **W. Xu***
14:30 – 942. Enzymatic catalysis: Disentangling chemical and conformational steps. I. Grosmann*, H. Aviram, G. Armony, A. Horovitz, H. Hofmann, **G. Haran**, D. Fass
14:45 Break
15:00 Molecule-surface and molecule-host interactions
15:00 – 943. Molecular transport at wet interfaces. **D. Schwartz***
15:25 – 944. Hit 'em where they ain't: Super-resolution imaging of porous nanomaterial. **C.F. Landes***
15:50 – 945. Anomalous diffusion of guest dyes in amorphous polymer solids as revealed by single molecule tracking. **H. Miyasaka**, Y. Taga, K. Hiratsuka, Y. Arai, S. Ito
16:15 – 946. Following single molecules to a better understanding of mass transport phenomena in organized 1D silica mesopores. **D.A. Higgins***, R. Kumarasinghe, S. Park, T. Ito
16:30 – 947. 3D single-molecule tracking of various dye molecules in polymer films. **K. Hiratsuka***, Y. Taga, S. Takei, D. Kitagawa, S. Kobatake, S. Ito, H. Miyasaka
16:45 – 948. Visualizing the function of surface-bound fluorescent molecular rotors. **J.A. Hutchison***, H. Ujii, J. Hofkens, A. Herrmann, K. Müllen

Hawaii Convention Center
301A

Fundamental Science of Photon and Electron Induced Surface Processes (#228)

Organized by: H. Petek, J. Zhao, Y. Matsumoto
Presiding: M. Feng

13:00 – 949. Probing ultrafast surface chemistry and catalysis using LCLS. **A. Nilsson**
13:40 – 950. Ultrafast dynamics of photoexcited insulators probed by time- and angle-resolved photoemission. **M. Wolf***
14:20 – 951. Active electrons carried by surface plasmons. **V.A. Apkarian***
15:00 Coffee break
15:00 – 952. Charge transfer excitons at van der Waals interfaces. **X. Zhu**
15:40 – 953. Electronic excitation at organic film/substrate interfaces. **T. Munakata***, T. Yamada
16:20 – 954. Dynamics of charge transfer processes at well-defined metal/organic interfaces. **U. Höfer***

Hawaii Convention Center
312

Interplay between Theory and Experiment in Catalytic Research (#277)

Organized by: M. Ehara, C. Cramer, S. Dai, C. Jones, T. Ziegler, T. Tsukuda

13:00 – 955. Metal clusters in catalysis: Opportunities and challenges. **T. Tsukuda***
13:20 – 956. Atomically precise gold and bimetal nanoclusters for catalysis. **R. Jin**
13:45 – 957. Metastable platinum clusters acting as a superior catalyst. **T. Imaoka***, K. Yamamoto
14:00 – 958. Bimetallic platinum nanoparticles as electrocatalysts: Determining structure-activity relationships using X-ray absorption spectroscopy. **P.N. Duchesne**, C. Deming, S. Chen, P. Zhang
14:15 Break
14:30 – 959. Theoretical investigation of the catalytic activities for Au cluster catalysts. **M. Okumura***
14:55 – 960. Metal clusters as catalysts: Experimental analysis underpinned by DFT calculations. **G.F. Metha***, G.G. Andersson*, V. Golovko*, T. Nakayama*, K. Kimoto*, J. Alvino, T. Bennett, H. Al Qahtani, B. Donoeva, R. Adnan, D. Ovoshchnikov, D. Anderson, R. Kler
15:20 – 961. Size and support effects in catalysis by supported size-selected clusters. **S. Vajda**

*** Principle Author**

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15:35 – 962. Reactivity of metal atoms and clusters on carbon surfaces: Insights from Reax simulations and DFT calculations. M. Mahmoodinia, **P. Åstrand***, D. Chen
15:50 – 963. New insight into the mechanism of ammonia formation in the Haber-Bosch process. **A.L. Garden**, E. Skúlason*
16:05 – 964. Supported M-salen catalysts for enantioselective reactions: Catalyst design, structure-reactivity trends, and reaction pathways. K. Venkatasubbaiah, M. Kennedy, C.D. Sherrill, **C. Jones**

Hawaii Convention Center
306A

Science with Beams of Radioactive Isotopes (#340)

Organized by: S. Yennello, K. Starosta, Y. Zhao, H. Haba
Presiding: X. Tang

13:00 – 965. Potential for harvesting of long-lived radioisotopes at the Facility for Rare Isotope Beams (FRIB): Synergistic activities for basic and applied nuclear science. **S.E. Lapi**, G.F. Peaslee, A. Pen, B. Marois, N. Hubley, T. Mastren, S. Loveless, E. Bollinger, D.J. Morrissey
13:30 – 966. High-power target solutions for large-scale direct Tc-99m production via the Mo-100 (p,2n) reaction. S. Zeisler, K. Buckley, V. Hanemaayer, B. Hook, S. McDiarmid, M. Dodd, A. Celler, J. Tanguay, X. Hou, J. Valliant, F. Prato, M.S. Kovacs, T. Ruth, F. Benard, **P. Schaffer**
14:00 – 967. Applications of nuclear science for nuclear security. **J.A. Cizewski***
14:30 – 968. Story of Miharu in response to the Fukushima Daiichi nuclear power plant accident. **T. Koike***, Y. Suzuki, S. Genyu, I. Kobayashi, H. Komori, H. Otsu, H. Sakuma, E. Sarausad, K. Shimada, T. Shinozuka, H. Tamura, K. Tsukada, M. Ukai, T. Yamamoto
15:00 Break
15:15 – 969. Simulating the supernova neutrinosphere with heavy ion collisions including neutron rich radioactive beams. **C. Horowitz***
15:45 – 970. Radioactive isotope beam developments at TRIUMF. **P. Kunz***, P. Bricault, J. Lassen, A. Teigelhöfer, C. Andreoiu, F. Gracia
16:15 – 971. Beta-delayed neutron spectroscopy using trapped ions. **N. Scielzo***, A. Aprahamian, S. Caldwell, J. Clark, A. Czeszumska, S. Marley, E. Norman, S. Padgett, A. Perez Galvan, G. Savard, R. Segel, K. Sharma, K. Siegl, S. Strauss, B. Wang
16:40 – 972. Neutron generator facility at SFU - GEANT4 dose prediction and verification. **J. Williams***, K. Starosta

Hawaii Convention Center
305B

Photocatalysis and Charge Transfer at Interfaces and Nanomaterials (#344)

Organized by: D. Kilin, S. Kilina, I. Burghardt, G. Scholes, U. Diebold, A. Selloni, X. Gong, Q. Sun, R. Asahi, K. Donmen
Presiding: F. De Angelis, S. Jensen

13:00 – 973. Sensitized photoinduced electron transfer across single crystal semiconducting oxide interfaces. **B.A. Parkinson***
13:30 – 974. Driving force of charge transfer at heterogeneous interfaces. **V. Vaissier**, M. Mavros, E. Hontz, T. Van Voorhis
13:55 – 975. On-the-fly fewest switches TD-DFT surface hopping method: Application to nonradiative relaxation in ZnO nanocrystals. X. Li, **D. Lingerfelt**
14:20 Break
14:30 – 976. Modeling organohalide perovskites for photovoltaic applications: From materials to interfaces. **F. De Angelis***
15:00 – 977. Recent progress in organo-metal halide perovskite solar cells. **N. Park***
15:30 – 978. From engineering interfaces in soft electronic materials to efficient perovskite photovoltaics. **S. Tretiak**
16:00 – 979. Carrier dynamics of organic-inorganic metal halide perovskite semiconductors. **K. Yamashita***
16:30 – 980. Non-equilibrium realtime TDDFT and application to lead-halide perovskites. **J.A. Parkhill***, T. Nguyen, R. Nanguneri

Hawaii Convention Center
301B

Applications of Coherent Multidimensional Spectroscopy to Chemistry, Biology, and Materials (#370)

Organized by: W. Zhao, W. Zhuang, M. Cho, G. Sholes
Presiding: G. Scholes

13:00 – 981. Structure and excited state dynamics of electronically coupled molecular dimers in DNA by 2D fluorescence spectroscopy. **A.H. Marcus***
13:25 – 982. Molecular modeling of 2D electronic spectra and energy transfer dynamics in photosynthetic systems. C. Feng, **Y. Cheng***
13:50 – 983. 2D electronic-vibrational spectra: modeling correlated electronic and nuclear motion. F. Terenziani, **A. Painelli**
14:15 – 984. Mapping the nanoscale exciton diffusivity in heterogeneous electronically coupled materials with time-resolved super-resolution imaging. S.B. Penwell, L.D. Ginsberg, **N.S. Ginsberg***
14:40 – 985. Exploring coherent dynamics and electronic structure in porphyrin nanorings by 2D spectroscopy. V. Butkus, J. Alster, E. Basinskaite, R. Augulis, P. Neuhaus, L. Valkunas, H. Anderson, D. Abramavicius, **D. Zigmantas***
15:05 Break
15:20 – 986. Gaining insights into nanoaggregate structures of polycyclic aromatic hydrocarbons with 2D IR spectroscopy. **A. Krummel***, J. Cyran
15:45 – 987. Vibrational frequency fluctuation of ions in aqueous solutions studied by nonlinear infrared spectroscopy. M. Okuda, K. Ohta, **K. Tominaga***
16:10 – 988. Hydration structure and dynamics of cyanoferrate anions revealed by ultrafast vibrational spectroscopy. **J. Wang***
16:35 – 989. Thermal denaturation of DNA studied by ultrafast 2D-IR spectroscopy. **N. Hunt***, G. Hithell, G. Greetham, M. Towrie, A. Parker, G. Burley, M. Baker

Hawaii Convention Center
305A

Practical Strategies for Modeling Non-Covalent Interactions (#372)

Organized by: G. Beran, Y. Jung, H. Nakai, J. Schmidt
Presiding: H. Nakai

13:00 – 990. Ab initio molecular crystal and liquid structure, spectra, and phase diagrams. **S. Hirata**
13:30 – 991. Embedding theories for chemical reactions in the condensed phase. **T.F. Miller**
14:00 – 992. Challenges of modeling three-body intermolecular interactions. **G. Beran***
14:20 – 993. Analysis of hydrogen bond energies and hydrogen bonding networks in water clusters using the locally projected molecular orbital perturbation theory. **D. Akase**, M. Aida, K. Ohno, S. Iwata
14:40 Break
14:50 – 994. Examining noncovalent interactions using modern computational approaches. **C. Corminboeuf***, P. de Silva, A. Prlj, e. pastorczak
15:20 – 995. Fragment-based analysis of intermolecular interactions using fragment symmetry adapted perturbation theory (F-SAPT). **C.D. Sherrill**
15:50 – 996. Testing theoretical models of aromatic stacking and CH-pi interactions. **K.D. Shimizu***
16:10 – 997. Benchmark harmonic vibrational frequencies for hydrogen bonding in water clusters and explicitly hydrated systems. **G.S. Tschumper***
16:30 – 998. Accurate and efficient quantum chemistry methods for non-covalent interactions in many-body systems. **J. Herbert***

Hawaii Convention Center
304B

Interfacial Phenomena for Bubbles, Droplets, Films and Soft Matter (#403)

Organized by: A. Amirfazli, Y. Zuo, J. Li
Presiding: A. Amirfazli, R. Miller, J.I. Siepmann

13:00 – 999. Comparative adsorption studies of surfactants at water/air, water/alkane vapor, and water/bulk alkane interface. A. Javadi, N. Mucic, E.V. Aksenenko, V.B. Fainerman, **R. Miller***
13:30 – 1000. Determination of the way to make a Langmuir monolayer of particles at an air/aqueous interface whose stiffness is not reduced after collisions by foreign material. **C. McNamee**, H. Butt, M. Kappl
13:50 – 1001. Measurement of resonant vibrations of small sessile water droplets and its application to the determination of surface tension. **S. Yamashita***, K. Amano, N. Nishi, T. Sakka
14:10 – 1002. Determining surface and interfacial tensions with multiple drop and bubble configurations. **J. Yang**, Y. Zuo*
14:30 – 1003. Water Repellent Coatings to Prevent Icing in Ski Lifts. F. Montes Ruiz-Cabello, M. Rodriguez-Valverde, A. Amirfazli, **M. Cabrerizo-Vílchez***
14:50 Coffee Break
15:00 – 1004. Monte Carlo simulations of alkane/water/surfactant mixtures: Liquid-liquid equilibria and interfacial properties. **J.I. Siepmann**, D. Harwood, P. Bai, R. Lindsey, S. Warrag, C. Peters
15:25 – 1005. Spontaneous and forced resonance of liquid surface in micrometers-sized confined geometry. **A. Hibara***
15:45 – 1006. Metastable vapor in a Janus nanoconfinement. **D. Bratko***, J.D. Driskill, D. Vanzo, S. Jabes, A. Luzar
16:05 – 1007. Spreading of liquid Pb droplets on an Al surface exhibiting solid-liquid interfacial premelting. **B.B. Laird***, Y. Yang
16:25 – 1008. System size dependency analysis of homogeneous bubble nucleation by molecular dynamics. **M. Nakamura**, D. Suh, K. Yasuoka*

Hawaii Convention Center
307AB

Structure and Spectroscopy of Linear Polyenes: Finite and Infinite (#456)

Organized by: B. Hudson, N. Hush, T. Kobayashi, Y. Weng, J. Paldus, R. Christensen
Presiding: R. Christensen

13:00 – 1009. Linear conjugated polyenes: Extrapolation to the infinite chain limit. **B. Hudson***
13:30 – 1010. Photophysics and excited-state levels of some of linear polyenes. **T. Itoh***
14:00 – 1011. Ring-substituted diphenylhexatrienes: Controlling solid-state photoproperties by short alkyl chains. **Y. Sonoda**
14:30 – 1012. Photoinitated excited state dynamics and time-resolved spectroscopy of linear polyenes. **M.S. Schuurman***, S. Neville
15:00 – 1013. Annealing effect on the performance of P3HT:PCBM solar cells by ultrafast spectroscopy. Y. Wang, M. Chen, C. Lin, J. Fan, C. Chang, C. Luo, A. Yabushita, K. Wu, **T. Kobayashi***
15:30 – 1014. ESR spectroscopy of excited states in conducting polymers and their devices. **K. Marumoto**
16:00 – 1015. Application of polyene molecule as an interfacial probe for characterization of nanoparticulate TiO_2 surface property and protein . **Y. Weng***
16:30 – 1016. Advances in conjugated polymers. **K. Akagi***
17:00 – 1017. On the cooperative effect of donor and acceptor substituents coupled through a polyene chain of various lengths. **P.A. Limacher***

Thursday Evening

Hawaii Convention Center
301B

Synergistic Relationships between Computational Chemistry and Experiment (#9)

Organized by: S. Wetmore, H. III, L. Radom, P. Schwerdtfeger, R. Wah, H. Nakai, K. Kim
Presiding: G. DiLabio

19:00 – 1018. Professor Russell J. Boyd: A career of scientific distinction. **H.F. Schaefer***
19:20 – 1019. Arvi Rauk: Some scientific adventures. **L. Radom***
19:40 – 1020. Elucidation of complicated reactions around electrolyte – electrode interfaces in Li-ion battery. **Y. Tateyama***, K. Sodeyama, J. Haruyama
20:00 – 1021. Room-temperature ionic liquids at solid interfaces: A combined computational and experimental investigation. **D.M. Smith***
20:20 – 1022. Generalized energy-based fragmentation approach for structures and spectra of large molecules and molecular crystals . **S. Li**
20:40 – 1023. Computational study on CO_2 chemical absorption process: Thermodynamic and dynamic analyses. **H. Nakai**

Hawaii Convention Center
Halls I, II, III

Modeling and Analyzing Exciton and Charge Dynamics in Molecules and Clusters (#44)

Organized by: S. Tretiak, G. Chen, Y. Tanimura

Poster Session
19:00 – 21:00

1024. Molecular modeling and structural analysis of two-pore domain potassium channels TASK-1 interacting with the blocker A1899. **D.M. Ramirez**, B.a. Arevalo, G. Martinez, N. Decher, W. Gonzalez

Hawaii Convention Center
Halls I, II, III

Chemistry of Atmospheric Aerosols (#56)

Organized by: A. Laskin, S. Nizkorodov, A. Bertram, X. Yang, C. Ro, E. Bieske
Presiding: A. Bertram, E. Bieske, A. Laskin, S. Nizkorodov, C. Ro, X. YANG

*** Principle Author**

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Poster Session
19:00 – 21:00

1025. Online hygroscopicity and chemical measurement of urban aerosol in Shanghai, China. **X. YANG**
1026. Photolysis of secondary organic aerosol material as a source of small oxygenated volatile organic compounds. **K. Malecha**, S. Nizkorodov*
1027. Aqueous photochemical aging and molecular-level characterization of secondary organic aerosol using high-resolution mass spectrometry. **D. Romonosky***, J. Laskin, A. Laskin, S. Nizkorodov
1028. Viscosity and diffusion in organic particles. M. Song, J.W. Grayson, Y. Chenyakin, P. Liu, Y. Zhang, S. Kamal, S. Martin, **A. Bertram**
1029. Chemical composition of $PM_{2.5}$ and VOC emissions from household cookstoves in Palwal District, Haryana, India. **L.T. Fleming**, S. Nizkorodov*, D.R. Blake, R.D. Edwards, P. Lin, A. Laskin, J. Laskin, K.R. Smith, N.K. Arora, M. Vaswani
1030. Effects of humidity, NO_x, and ammonia on the optical properties and molecular composition of photo-oxidized naphthalene secondary organic aerosols. **P.K. Aiona**, A. MacMillan, J. Lee, X. Zhang, T. Helgestad, G. Novak, P. Lin, V. Perraud, J. Laskin, A. Laskin, T. Bertram, C. Cappa, S. Nizkorodov*
1031. Size-segregated analysis of ionic composition of aerosols transported from East Asia to Cape Hedo, Okinawa through Kumamoto City. **S. Tatsuta**, K. Shimada, A. Yoshino, A. Takami, S. Hatakeyama*
1032. Long term and seasonal variation of carbonaceous aerosols in Okinawa, Japan. **Y. Taniguchi**, K. Shimada, A. Fushimi, A. Takami, S. Hatakeyama*
1033. Hydrogen peroxide produced by carbonaceous particles in physiologically relevant medium. D. Hinz, J. Barnes, C. Gutierrez, **A.M. Johansen***
1034. Liquid chromatography separation of brown carbon constituents produced in methylglyoxal-ammonium sulfate mixtures. **P. Lin***, J. Laskin, A. Laskin
1035. Characterization of Antarctic sea-salt aerosols collected at King George Island by the combined use of low-*Z* particle EPMA, Raman microspectrometry, and ATR-FTIR imaging. **H. Eom***, H. Cho, H. Hwang, S. Hur, Y. Gim, D. Gupta, **C. Ro***
1036. Volatilization of acid from levitated single aerosol droplet in air studied by laser trapping-microspectroscopy. **A. Miura**, A. Hori, N. Kitamura
1037. Investigation of chemical compositions of urban haze aerosols at Shanghai and Taiyuan, China using low-*Z* (atomic number) particle electron probe X-ray microanalysis. **H. Geng***, H. Zhou, Y. Zhang, R.J. Zeng, Y. Song, L. Wu, C. Ro
1038. Sea salt aerosols as a reactive surface for inorganic and organic acids in the arctic troposphere. J. chi, Y. Zhang, **w. li***
1039. Single-particle characterization of aerosols collected at Baengnyeong Island by low-*Z* particle EPMA. **H. Hong***, D. Gupta, A. Malek, H. Jung, H. Geng, **C. Ro***
1040. Source identification of particulate matters in an industrial city. S. Lee, J. Cho, **S. Choi***
1041. Prediction of spatial and seasonal distributions of particulate polycyclic aromatic hydrocarbons using passive air samplers and gas/particle partitioning models. **S. Kim***, H. Kwon, M. Park, S. Choi
1042. Size distribution and chemical composition of particulate matters in the multi-industrial city of Ulsan, Korea. **M. Park***, S. Kim, Y. Gim, H. Kwon, S. Choi
1043. Microfluidic system for bioaerosol analysis. W. Jing, L. Zheng, S. Liu, **G. Sui**
1044. Laser trapping and spectroscopy of single supercooled water droplets in air. **S. Ishizaka***, A. Oomae, T. Fujiwara
1045. Determination of accurate vibrational line shapes and decoherence lifetimes of α-pinene using high-resolution broadband sum frequency generation (HR-BB-SFG) spectroscopy. **A.L. Mifflin***
1046. Laser trapping and fluorescence correlation spectroscopy for the study on viscosity of single supercooled water droplets in air. **T. Ishikawa**, T. Fujiwara, S. Ishizaka*
1047. Laser trapping of black carbon particles in air with a single focused laser beam. **M. Uraoka**, T. Fujiwara, S. Ishizaka*
1048. Aerosol formation of water on solid seeds by molecular dynamics. **D. Suh**, K. Yasuoka
1049. Organic speciation and source investigation of atmospheric fine particulate matter in the Pearl River Delta region. **X. Huang**, T. Zhang, Y. Feng, Q. Zhang, J. Yu*
1050. Characterization of ambient aerosols from Amazonian rainforest and city of Manaus, Brazil. **L. Wu***, X. Li, H. Eom, D. Gupta, H. Chae, R. Godoi, C. Ro*
1051. Molecular characterization of organic content of soot along the centerline of a coflow diffusion flame. J. Cain, **A. Laskin**, M. Kholghy, M. Thomson, H. Wang
1052. Change of organic composition with atmospheric condition in PM 2.5 and TSP collected at urban and non-urban sites. **J. Lee***, y. kim, C. Jung, P. Lin, J. yu, J. kim
1053. Hygroscopic properties and aqueous phase chemical reaction of micrometer-sized NaCl-malonic acid mixture aerosol particles. **X. Li***, D. Gupta, G. Park, J. Lee, C. Ro*

Hawaii Convention Center
313C

Recent Progress in Molecular Theory for Excited-state Electronic Structure and Dynamics (#142)

Organized by: J. Hasegawa, M. Collins, M. Gordon, P. Piecuch, T. Taketsugu
Presiding: J. Hasegawa

19:00 – 1054. Excited-state multiple proton transfer reactions of 7-azaindole with methanol, water, and ammonia clusters in the gas phase: Molecular dynamics simulations. **N. Kungwan***
19:20 – 1055. Excited state ab-initio molecular dynamics to model the green fluorescent protein photo-induced reactivity. **G. Donati***, A. Petrone, P. Cimino, N. Rega*
19:40 – 1056. Ab-initio molecular dynamics combined with different solvation models for simulating excited state proton transfer. **U. Raucci***, N. Rega*
20:00 – 1057. Moving past the particle-hole description of excited states: Affordable methodologies. **D.B. Williams-Young***, W. Yang, X. Li
20:20 – 1058. Evaluating ΔSCF-like strategies for efficient exploration of excited state potential energy surfaces. K. Komoto, V. Laszlo, **T. Kowalczyk**
20:40 – 1059. Transition properties in X-ray spectroscopy. **P.J. Lestrange***, X. Li

Hawaii Convention Center
Halls I, II, III

Self-organization in Chemistry (#165)

Organized by: S. Nakata, J. Pojman, O. Steinbock, Q. Gao, J. Wang, T. Yamaguchi, R. Yoshida, S. Nakabayashi
Presiding: S. Nakata, O. Steinbock, J. Wang

Poster Session
19:00 – 21:00

1060. Studies of micellization of dodecyltrimethylammonium bromide-sodiumdodecyl sulphate in pure water and methanol-water mixed solvent media. **A. Bhattarai***
1061. Self-propelled oil droplet chasing pH wave-front propagation. **N. Magome***, H. Sakuta, T. Okuda, N. Umezawa, Y. Mori, K. Yoshikawa
1062. Batch oscillations in the acidic periodate-bromide system. **G. Frerichs**
1063. Dynamic responses of an amphiphilic molecular layer to chemical stimuli. **A. Deguchi**, Y. Seki, K. Fukuhara, N. Kumazawa, S. Nakata
1064. Characteristic motion and mode-bifurcation of a self-propelled motor on water depending on the physico-chemcial environment. **M. Yoshii***, Y. Matsuda, N.J. Suematsu, S. Nakata
1065. Coexistence and transition of precipitation wave and stationary Liesegang rings. J. Zheng*, **C. Pan***, **L. Ren**, **Q. Gao***
1066. Synchronization patterns of a reduced coupled oregonator model using piecewise linear approximation. **N.M. Awal**, E. Panagakou, I.R. Epstein*
1067. Self-assembly behavior of mixed surfactants at interfaces. **Y. Li***, Y. Sun, Y. Zhang, Q. Deng, H. Sun
1068. Rebirth of dead oscillator in Ferroin-catelyzed BZ reaction. **Y. Unegi**, **M. Minato**, H. Sawahata*
1069. I-F relationship and light-driven directional movement of self-oscillating gel. **L. Ren***, H. Luo, **I.R. Epstein**, **Q. Gao**
1070. Novel micromotor working under stationary DC electric field. **S. Mori***, T. Kurimura, M. Miki, D. Yamamoto, A. Shioi, K. Yoshikawa
1071. Continually propagating chemical pathway responds to environmental changes. **M. hardy**
1072. Application of oscillation in bacterial growth. **M. Hosoki***, S. Sasaki
1073. Optochemically organized filaments of light: From waveguide encoded intersecting (WIDEI) polymer lattices to spontaneous, all-optical transfer of signals. **K. Saravanamuttu**, H. Lin, I. Hosein, A. Hudson, D. Basker, M. Ponte
1074. Escaping liquid-droplet against unfavorable gas stimulus: Self-propelling motion driven by interfacial instability. **H. Sakuta***, N. Magome, Y. Mori, K. Yoshikawa
1075. Network motifs and mechanisms for oscillatory dynamics of enzyme reactions. F. Muzika, D. Denisov, V. Radojkovic, L. Schreiberova, M. Pribyl, **I. Schreiber***
1076. Behaviors of the Belousov-Zhabotinsky reaction system in the presence of acrylic monomers. **Y. Furue**, T. Banno, K. Asakura
1077. Collective motion of intermittent camphor boats. **T. Ichino**
1078. "Surface-inactive" effect induced by adding nonionic surfactants on a mixture of water and organic solvent. **M. Hachiya**, K. Sadakane, K. Fukao
1079. Numerical experiments of surface and bulk flow emerging with single chemical wave propagation in Belousov-Zhabotinsky reaction. **A. Nomura***, T. Sakurai, H. Miike
1080. Construction of vesicular system containing catalyst-producing system. **K. Kurihara***, L. Sheng
1081. Giant vesicle containing a photosensitive smaller giant vesicle. **K. Machida**, K. Suzuki, T. Sugawara, K. Yamaguchi
1082. Self-emergence of spatial order on number of standing objects with the time-development through reentrant bifurcation, stationary-fluctuation-stationary: Experiment with vibrating plate. **S.I. Takatori***, T. Ichino, K. Yoshikawa
1083. Lifetime of a Turing pattern generated by the CIMA reaction in an open gel reactor composed of alkyl ammonium cationic side chains. **Y. Miyazaki**, T. Banno, K. Asakura*
1084. Conformation change and odd/even effect observed in Langmuir layer of anthraquinone derivative at liquid-air interface. **Y. Tamaki***, A. Honda, Y. Takahashi, K. Miyamura
1085. Time-development of spatial ordering from circular pearling to 2D hexagonal packing through a 1D linear array of emerging droplets. **D. Yamamoto**, A. Shioi, M.P. Krafft, K. Yoshikawa
1086. Navigation speed of a camphor boat on bubbly water. **M. Shimokawa**, R. Egashira
1087. Morphological diversity of giant vesicle-based protocell depending on degree of complexation of DNA and catalysts. **M. Matsuo**, K. Kurihara, T. Toyota, T. Sugawara
1088. Standing thin-film formation of the rotator phase of perfluoroborate with wet process. **S. Tanaka***, F. MUHAMMAD, A. Taguchi, H. Honda
1089. Colloidal ordering and membrane deformation in giant vesicles encapsulating two kinds of particles. **Y. Natsume***, K. Ito, K. Kurihara
1090. Self-inverted reciprocation of an oil droplet on a surfactant solution. **S. Nakata**, Y. Sogabe, S. Tanaka

Hawaii Convention Center
310 Theatre

Recent Progress in Matrix Isolated Species (#199)

Organized by: T. Momose, Y. Lee, D. Anderson
Presiding: M.S. Gudipati

19:00 – 1091. Spectroscopy of isolated amino acids and amino acid-water complexes. **G. Tarczay**, G. Bazsó, E. Najbauer, G. Magyarfalvi
19:30 – 1092. Infrared spectroscopy of peptides and proteins embedded in helium droplets. **G. von Helden***
20:00 – 1093. Chiroptical spectral signatures of flexible chiral molecules and their hydrogen-bonded clusters in cold matrices. A. Perera, C. Merten, J. Thomas, **Y. Xu***
20:30 – 1094. First observation of the elusive triazene molecule (N_3H_5). **M. Förstel***, P. Maksyutenko, R. Kaiser
20:45 – 1095. Infrared spectroscopy of amino acids in parahydrogen matrices. **T. Momose***

Hawaii Convention Center
306B

Metal Ions and Protein Functions: Theoretical Models and Applications (#202)

Organized by: Q. Cui, M. Meuwly, T. Allen, Y. Gao
Presiding: Y. Gao

19:00 – 1096. Electron flow through biological molecules. H.B. Gray, **J.R. Winkler***
19:40 – 1097. Redox-driven proton pumps: Insights from computer simulations. **A.A. Stuchebrukhov***
20:20 – 1098. Molecular dynamics simulation of enzyme-catalized reactions with metal cofactors. **J. Gao**

Hawaii Convention Center
Halls I, II, III

Single-molecule Fluorescence Imaging (#208)

Organized by: P. Chen, T. Majima, G. Cosa

*** Principle Author**

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Poster Session
19:00 – 21:00

1099. Single molecule perspective on mass transport over chemically graded self-assembled monolayers. **D.A. Higgins**, D. Giri*, K. Ashraf, M.M. Collinson

Hawaii Convention Center
301A

Fundamental Science of Photon and Electron Induced Surface Processes (#228)

Organized by: H. Petek, J. Zhao, Y. Matsumoto
Presiding: M. Kawai

19:00 – 1100. STM tip-induced reaction of methanol on TiO_2 (110) surface. s. Tan, H. Feng, y. Ji, **B. Wang***, Q. Zeng, Y. Shi, J. Zhao, A. Zhao, Y. Luo, J. Yang, J. Hou
19:40 – 1101. Reversible reactions of methanol on rutile TiO2(110) mediated by proton transfer. **S. Tan**, Q. Zheng, H. Feng, J. Zhao*, B. Wang, **X. Cui***
20:00 – 1102. Advanced modeling of heterogeneous photocatalysis: From ground-state quasiparticle level alignment to photoreaction mechanism. **A. Migani***
20:20 – 1103. On the mechanism of heterogeneous photocatalysis under magnetic field. **H. OKUMURA***, S. Endo, E. YAMASUE, K.N. Ishihara
20:40 – 1104. Evaluation of energy–resolved density of electron traps in particulate photocatalysts by reversed double–beam photoacoustic spectroscopy. **A. Nitta***, M. Takase, B. Ohtani

Hawaii Convention Center
305B

Photocatalysis and Charge Transfer at Interfaces and Nanomaterials (#344)

Organized by: D. Kilin, S. Kilina, I. Burghardt, G. Scholes, U. Diebold, A. Selloni, X. Gong, Q. Sun, R. Asahi, K. Donmen

19:00 introducing remarks
19:01 Dynamics and Charge Transfer at interfaces
19:01 – 1105. In-situ evaluation of photocatalytic carriers on TiO_2/liquid interface with the transient grating method. **S. Kuwahara**, K. Katayama
19:16 – 1106. Experimental and theoretical studies on transient kinetics of carriers in LaTiO2N solid photocatalyst affected by trap states. **K. Seki**, Y. Suzuki, A. Furube, R. Singh, H. Matsuzaki, T. Minegishi, T. Hisatomi, K. Domen
19:31 – 1107. Theoretical study of charge transfer type excitons at donor/acceptor interfaces of organic solar cells. **A. MURAOKA**, M. Fujii, K. Mishima, R. Jono, K. Yamashita
19:46 – 1108. Electron injection mechanism of squaraine-based sensitizers adsorbed on a TiO_2 cluster in dye-sensitized solar cells: A DFT/TDDFT investigation. **C. Tan**, H.G. Tsai
20:01 – 1109. Titanium hydroxide and polyoxotitanate clusters: A nanostructure comparison. **D.J. Vogel**, D. Kilin*
20:15 Photocatalytic Reactions
20:15 – 1110. FT-IR and mass spectroscopic investigation of photochemistry of mesoporous nanomaterial. **D. Paul***
20:30 – 1111. CO_2 reduction under periodic illumination of ZnS. **R. Zhou**, **M.I. Guzman***

Hawaii Convention Center
Halls I, II, III

Practical Strategies for Modeling Non-Covalent Interactions (#372)

Organized by: G. Beran, Y. Jung, H. Nakai, J. Schmidt

Poster Session
19:00 – 21:00

1112. Correcting for basis set superposition error on reactive potential energy surfaces. **M. Gutowski***, S.G. Escher, A. Whiteside
1113. Synergistic effect of B. . .N coordinate bonding and ring strain makes 2-APB an ideal drug with dual effect. **H. Dong***, W. Li, J. Sun, S. Li, M.L. Klein
1114. Molecular mechanisms of ZnO nanoparticle dispersion in solution: Modeling of surfactant association, electrostatic shielding, and counter ion dynamics. **P. Duchstein***, T. Milek, D. Zahn
1115. Reverse-docking and virtual screening of asymmetric organocatalysts. **G. Deslongchamps***
1116. Comparative investigation of the non-covalent binding of nonsteroidal anti-inflammatory drugs with the active site of cyclooxygenase isoforms. F. Aksakal*, P. Aksu, **Ö. Türkay**, A. Dimoglo

Hawaii Convention Center
313A

Reactive Intermediates in Combustion and Atmospheric Chemistry (#419)

Organized by: D. Osborn, S. Kable, K. Liu, J. Lane, Y. Kajii, X. You
Presiding: D. Osborn

19:00 Opening Remarks
19:02 – 1117. Keto-enol photo-tautomerization is responsible for the formation of organic acids in the atmosphere. M. Shaw, A. Kharazmi, B. Sztaray, L. Whalley, D. Heard, D. Osborn, M. Jordan, **S. Kable***
19:32 – 1118. Formation and oxidation mechanisms of atmospheric enols. **G. da Silva***
20:02 – 1119. Using the master chemical mechanism as a framework to explore the impacts of newly discovered chemical processes on atmospheric composition and oxidising capacity. **L. Whalley***, D. Heard, R. Hansen, M. Blitz, P. Seakins, T. Ingham, S. Kable, M. Jordan, M. Shaw, D. Osborn, B. Sztaray, C. Fittschen
20:22 – 1120. Atmospheric chemistry of short-chain haloolefins. **T.J. Wallington***, M. Andersen, O.J. Nielsen
20:42 Poster Slam

Hawaii Convention Center
307AB

Developments in Spectroscopic Investigation of Intermolecular Interactions and Dynamics of Molecular Clusters (#438)

Organized by: H. Sekiya, T. Zwier, M. Fujii, E. Bieske, N. Kim
Presiding: E. Bieske

19:00 – 1121. Mechanism of the ionization induced isomerization of phenol–Ar cluster studied by mass analyzed threshold ionization detected infrared spectroscopy. **M. Miyazaki**, K. Müller-Dethlefs, O. Dopfer, M. Fujii*
19:20 – 1122. On the Stark effect in open shell complexes exhibiting partially quenched electronic angular momentum. **G.E. Douberly***, C.P. Moradi
19:40 – 1123. Cooperative effects on hydrogen-bonded networks in molecular clusters and crystals studied via vibrational spectroscopy and quantum chemical calculations. **H. Sekiya***
20:05 – 1124. Electronic circular dichroism spectroscopy of chiral molecules and clusters in a supersonic jet. **N. Kim***
20:30 – 1125. Effect of aromatic molecules on the spectroscopy and structure of water clusters. E.G. Buchanan, P.S. Walsh, D.P. Tabor, E.L. Sibert, **T.S. Zwier**
20:55 Closing Remarks

Hawaii Convention Center
Halls I, II, III

Structure and Spectroscopy of Linear Polyenes: Finite and Infinite (#456)

Organized by: B. Hudson, N. Hush, T. Kobayashi, Y. Weng, J. Paldus, R. Christensen
Presiding: R. Christensen, B. Hudson, T. Kobayashi

Poster Session
19:00 – 21:00

1126. Necessary lack of bond alternation in polyacetylene. **B. Hudson**
1127. Excited electronic states and spectroscopy of methylphenylpolyenes. **T. Itoh***
1128. Resonant Raman and infrared absorption studies of isolated and conjugated polyene chains embedded in a urea inclusion complex. **S.A. Dinca**, D. Allis, M.B. Sponsler, B. Hudson
1129. Electronic absorption spectra and photophysics of diiodo linear polyenes and photopolymerization of α,ω-diiodoalkanes in host urea inclusion compounds. **P.F. McLaughlin**, B. Hudson

Friday Morning

Hawaii Convention Center
301B

Synergistic Relationships between Computational Chemistry and Experiment (#9)

Organized by: S. Wetmore, H. III, L. Radom, P. Schwerdtfeger, R. Wah, H. Nakai, K. Kim
Presiding: A. East, H.F. Schaefer

8:00 – 1130. Statistical fluctuations, dynamics, and de novo enzyme catalysis. **T. HeadGordon***
8:20 – 1131. In silico prediction of pharmaceutical degradation pathways: A Zeneth benchmarking study. **D.L. Reid***
8:40 – 1132. Computational studies of catalytic reactions of organic molecules, enzymes, and metal-organic frameworks. **H. Hirao***
9:00 – 1133. Quantum-chemical structure optimization of biomolecules: are the popular methods really the best possible choice?. **L. Goerigk***
9:20 – 1134. SP Explorer: Novel software facilitating the exploratory analysis of chemical simulations. **K.W. Hall***, C. Hurter, S. Carpendale, P.G. Kusalik
9:40 Break
9:50 – 1135. Antiaufbau electron configurations in DNA. **G. Jiande***, M.L. Coote
10:10 – 1136. Impact of bulky carcinogens on DNA structure and function. **S. Wetmore**
10:30 – 1137. DNA damage by aristolochic acids and ochratoxin A: A tale of two toxins. **P. Sharma**
10:50 – 1138. Hierarchical multiscale study of DNA structure and dynamics. **A. Laaksonen***
11:10 Break

Hawaii Convention Center
308A

Modeling and Analyzing Exciton and Charge Dynamics in Molecules and Clusters (#44)

Organized by: S. Tretiak, G. Chen, Y. Tanimura
Presiding: G. Chen

8:00 Opening Remarks
8:05 – 1139. Bottom-up excitonics. **A. Aspuru-Guzik***
8:35 – 1140. Computational studies of energy transfer in dendrimers. **A.E. Roitberg***
9:05 – 1141. Theoretical studies on triplet-triplet annihilation processes of diphenylanthracene derivatives in solution. **Y. Shigeta***
9:35 – 1142. Ultrafast electron-hole dynamics in dinaphtho[2,3-b:2',3']thieno[3,2-b]-thiophene (DNTT) organic semiconductor. **T. Fujita***, S. Atahan-Evrenk, N. Sawaya, A. Aspuru-Guzik
9:55 Break
10:10 – 1143. Quantum simulation of coherent exciton dynamics in conjugated systems. **P.J. Rossky***
10:40 – 1144. Understanding and tuning excitons of organic materials. **L. Wang**
11:10 – 1145. Theoretical study on photoinduced charge transfer at molecular interfaces. **K. Yamashita**
11:40 – 1146. Ground and excited state ab-initio molecular dynamics with non periodic boundary conditions to model charge transfer processes in condensed phase. **N. Rega***

Hawaii Convention Center
313B

Chemistry of Atmospheric Aerosols (#56)

Organized by: A. Laskin, S. Nizkorodov, A. Bertram, X. Yang, C. Ro, E. Bieske
Presiding: S. Nizkorodov, C. Ro

8:00 opening remarks
8:05 – 1147. Water uptake and heterogeneous chemistry of authentic and model sea spray aerosol particles. **V. Grassian***
8:35 – 1148. Evidence for biological and photochemical seawater influence on sea spray aerosol water soluble and water insoluble organic matter composition revealed by ultrahigh resolution mass spectrometry. **A.S. Wozniak**, A. Willoughby, S. McElhenie, P.K. Quinn, D.J. Coffman, P.G. Hatcher
8:50 – 1149. Hygroscopic behavior of NaCl-$MgCl_2$ mixture particles as nascent sea spray aerosol surrogates including dynamic structural rearrangement in $MgCl_2$-hydrates. **D. Gupta**, H. Eom, H. Cho, J. Lee, **C. Ro***
9:05 – 1150. Humidity-dependent surface tension measurements of individual submicrometer liquid particles. **A.V. Tivanski**
9:20 – 1151. Atmospheric particles: Viscosity, phase, and response to relative humidity. **M.K. Gilles***, T.H. Harder, B. Wang, R.E. O'Brien, S. Nizkorodov, A. Laskin
9:50 Break
10:00 – 1152. Insights into atmospheric ice nuclei from laboratory and field measurements. D. Haga, R. Mason, R. Iannone, M. Wheeler, C. Chou, V. Irish, M. Si, R. Dickie, **A. Bertram**, C.L. Schiller, J.P. Abbatt, J.A. Huffman, J. Li
10:20 – 1153. Imaging the interiors of individual aerosol particles using transmission electron microscopy. **K. Adachi***, P.R. Buseck
10:50 – 1154. Physical state of the atmospheric particle population above a tropical rain forests in GoAmazon2014/5. **S. Martin***, A. Bateman, R. Souza, P. Artaxo
11:10 – 1155. Molecular characterization and chemical imaging of atmospheric organic particles collected in the Amazonia. **A. Laskin***, J. Laskin, P. Lin, B. Wang, A.B. Guenther, P. Artaxo, S. Nizkorodov, R. O'Brien, M.K. Gilles

*** Principle Author**

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11:30 – 1156. Aerosol physical and chemical properties in Amazonia investigated in the GoAmazon 2014/15 experiment. **P. Artaxo**, H. Barbosa, S. Carbone, J.F. Brito, B. Holanda, G. Cirino, R. Souza, L. Rizzo, S.T. Martin, M.O. Andreae

Hawaii Convention Center
308B

Advances in Quantum Monte Carlo (#80)

Organized by: S. Tanaka, L. Mitas, P. Roy
Presiding: P. Roy

8:00 – 1157. Approach to pure-sampling quantum Monte Carlo. **S. Rothstein***
8:30 – 1158. Exact QMC calculations for the H-H-H system using flexible single-determinant trial functions. **J.B. Anderson***
9:05 – 1159. How do exact quantum Monte Carlo projection methods behave in the thermodynamic limit?. **D. Ceperley***, M. Holzmann
9:40 – 1160. It's NO MAGIC: A new method for electronic structure theory that uses compressed sensing and imaginary time evolution. **A. Aspuru-Guzik***
10:05 Break
10:15 – 1161. Window on universality through simulations of entanglement entropy. **R.G. Melko***
10:50 – 1162. Entanglement in quantum fluids and gases. **A. Del Maestro***
11:25 – 1163. Using quantum Monte Carlo to study magnetism, delocalization, and electronic correlation in materials. **L.K. Wagner**

Hawaii Convention Center
304A

Self-organization in Chemistry (#165)

Organized by: S. Nakata, J. Pojman, O. Steinbock, Q. Gao, J. Wang, T. Yamaguchi, R. Yoshida, S. Nakabayashi
Presiding: A. De Wit, H. Kitahata, N.J. Suematsu

8:00 – 1164. Liesegang patterns of calcium carbonate and calcium phosphate in various gel medium. **A. Kaminaga***, J. Kurawaki
8:15 – 1165. Pattern formation in reactive flows. **A. De Wit***
8:45 – 1166. Oscillatory motion of self-propelled Belousov-Zhabotinsky droplet. **N.J. Suematsu***, K. Ito, T. Amemiya, Y. Mori, S. Nakata
9:05 – 1167. Spontaneous interfacial convection and the corresponding electrical potential oscillation in three-phase liquid membrane system. **B. Nanzai***, D. Terashita, Y. Koyano, H. Kitahata, M. Igawa
9:25 – 1168. Division of self-propelled oil droplet induced by amphiphilic precursor. **T. Banno**, K. Asakura, T. Toyota*
9:40 coffee break
9:55 – 1169. Self-propelled nanomotors and nonlinear chemical dynamics. **R. Kapral**, B. Robertson
10:25 – 1170. Blebbing motion of an oil-water interface induced by transition of lamellar structure. **Y. Sumino***, N. Yamada, M. Nagao, H. Kitahata, Y. Melnichenko, H. Seto
10:45 – 1171. Oscillatory dynamics of active deformable particles. **M. Tarama***, T. Ohta
11:00 – 1172. Spontaneous movement of oil-droplet emerged after photochemical reaction. **K. Suzuki***, N. Nakayama, T. Sugawara*
11:15 – 1173. Theoretical approach to congestion of camphor boats. **K. Ikeda***, S. Ei, M. Nagayama, A. Tomoeda
11:30 Discussion

Hawaii Convention Center
310 Theatre

Recent Progress in Matrix Isolated Species (#199)

Organized by: T. Momose, Y. Lee, D. Anderson
Presiding: Y. Lee, W. Sander

8:00 – 1174. Molecular reactions on water and ice media. **B.R. Gerber**
8:30 – 1175. Matrix-isolation in water-ice: Applications to chemistry, astrophysics, and planetary sciences. **M.S. Gudipati**
9:00 – 1176. Irradiation of N_2-dominated ices relevant to Triton and Pluto. **Y. WU***
9:30 – 1177. Kuiper Belt objects: A case study of matrix isolated species on the macroscopic scale. **R. Kaiser**
10:00 Break
10:15 – 1178. Nuclear spin conversion of H2O in rare gas matrices. J. Vermette, **P. Turgeon***, P. Ayotte, X. Michaut
10:30 – 1179. Low temperature studies of halogenated reaction intermediates: From iso-halocarbons to radical-molecule complexes. **S.A. Reid**
11:00 – 1180. Matrix isolation spectroscopic studies of coronene reactions with water and iron: New insights in astrochemistry of neutral PAHs. **J. Mascetti**, J.A. Noble*, A. Moudens, C. Aupetit
11:30 – 1181. Electronic spectroscopy of mass-selected hydrocarbon ions and radicals in neon matrices. **J.P. Maier**

Hawaii Convention Center
306B

Metal Ions and Protein Functions: Theoretical Models and Applications (#202)

Organized by: Q. Cui, M. Meuwly, T. Allen, Y. Gao
Presiding: M. Meuwly

8:00 – 1182. Artificial metalloenzymes: Challenges and opportunities. **T.R. Ward**
8:40 – 1183. Force field-based simulations of metal-containing systems. **M. Meuwly***
9:20 – 1184. Metalloenzymes from quantum many-body wavefunctions. **G.K. Chan**
10:00 Break
10:10 – 1185. Ab initio QM/MM molecular dynamics simulations of zinc-dependent histone deacetylases. **Y. Zhang**
10:50 – 1186. QM/MM calculations of reactions in proteins. **U. Ryde***
11:30 – 1187. Understanding metalloenzyme catalysis with QM/MM free energy simulations. **Q. Cui***

Hawaii Convention Center
Halls I, II, III

Molecular Perspectives on Interfacial Electrochemistry and Electrocatalysis (#218)

Organized by: M. Eikerling, G. Jerkiewicz, S. Mitsushima, A. Gewirth

Poster Session
10:00 – 12:00

1188. Theoretical study of the prediction of the electronic and inhibition properties of Schiff base (*E*)-2-(4-hydroxybenzylideneamino) phenylarsonic acid. **M. Castro***, M.J. Percino, M. Ceron, J. Soriano, V. Chapela, O. Rodríguez
1189. Morphology-controlled synthesis of platinum-based nanocrystals and their electro-catalytic activities toward oxygen reduction reaction. **Y. Li***, F. Quan, L. Chen
1190. CO_2 electroreduction over Cu and Au nanostructured catalysts: Size, oxidation state, and interparticle distance effects. H. Mistry, R. Reske, F. Behafarid, P. Strasser, **B. Roldan Cuenya***
1191. Influence of surface charges at insulating materials on the voltammetric behavior of nanoelectrodes. **C. Kubeil***, A. Bund

Hawaii Convention Center
301A

Fundamental Science of Photon and Electron Induced Surface Processes (#228)

Organized by: H. Petek, J. Zhao, Y. Matsumoto
Presiding: V.A. Apkarian

8:00 – 1192. Electron transport through a single molecule and the excitation observed by STM. **M. Kawai***
8:40 – 1193. Inelastic tunneling probe of bonds and chemical interactions. **W. Ho***
9:20 – 1194. Construction and manipulation of individual molecules: From reversible conductance transition to reversible single spin control. **H. Gao**
10:00 – 1195. Observation of Franck-Condon blockade in single molecules gated by local electric field. **A. Zhao**
10:20 Coffee break
10:35 – 1196. Recent progress in the study of single molecule chemistry at the nanometer length scale and picosecond time scale. **R.P. Van Duyne***
11:15 – 1197. Time-resolved tip-enhanced coherent anti-Stokes Raman scattering in an STM junction. **N. Tallarida**, J. Lee, L. Rios, K.T. Crampton, A. Zeytunyan, V.A. Apkarian
11:35 – 1198. Toward time-resolved single molecule chemistry: Probing plasmonic nanostructures with femtosecond light. **K.T. Crampton**, A. Zeytunyan, V.A. Apkarian*

Hawaii Convention Center
Halls I, II, III

Interplay between Theory and Experiment in Catalytic Research (#277)

Organized by: M. Ehara, C. Cramer, S. Dai, C. Jones, T. Ziegler, T. Tsukuda

Poster Session
10:00 – 12:00

1199. Experimental vs. computational ruthenium-xantphos catalyzed olefin hydrogenation – can contemporary density functionals be used for in-silico-catalyst design prior to experimental art?. **M. Hölscher***, K. Rohmann, W. Leitner*
1200. Construction of QSAR models in catalytic asymmetric reactions by using L1-regularization method. **S. Yamaguchi***, T. Nishimura, H. Sato
1201. Density functional theory investigation of planar and cubane tetrametallic complexes of first-row transition metals for catalytic hydrotreatment. **F. Spillebout***, O. Zelyak, S. Stoyanov, J. Stryker, A. Kovalenko
1202. Accurate thermochemistry by harmonic solvation model: Application to catalytic reactions in solution. **A. Ishikawa***, H. Nakai
1203. Tuning of barrier gaps between competing reactions. **C. Ehm***, P.H. Budzelaar, V. Busico
1204. Reactivity of Mo-Mo multiple bond and its application to catalytic reaction: Theoretical understanding. Y. Chen, **S. Sakaki**
1205. Computational study on Cp*Ir complex-mediated 1-phenylethanol dehydrogenation and acetophenone hydrogenation with or without existence of acidic compounds. **E. Maeyama**, M. Sumimoto, K. Hori*
1206. Theoretical study of the nucleophilic substitution reaction via complex formation of propargyl alcohol derivatives and $SnCl_2$. **M. Nakamura***, S. Nanbu
1207. Reaction mechanism of fructose dehydration to 5-hydroxyl-methyl-furfural on external surface of H-ZSM-5 zeolite. **S. Namuangruk***
1208. Adsorption characteristics of thiophene on seven transition metal surfaces: A density functional study. L. Wang*, **L. Zhao***, J. Ji, C. Xu, J. Gao
1209. Low-temperature reduction of N_2 with H_2 on palladium surfaces. **J. Murakami***, M. Futamata, K. Bando, Y. Shimoi
1210. Chemical reactivity of metal-supported ceria thin films: A DFT+U study. **L. Szabova**, V. Matolin, Y. Tateyama, S. Fabris
1211. Theoretical studies on interaction between metal cluster and ceria: The role of ceria in CO adsorption. **R. Kindaichi***, H. Ushiyama, K. Yamashita
1212. Theoretical studies on the mechanism of alkali carbonate loaded on aluminosilicate catalysts for soot combustion. **T. Imamura***, H. Ushiyama, K. Yamashita
1213. Oxidation of silanes to silanols on Pd nanoparticles:H_2 desorption accelerated by surface oxygen atom. **T. Kamachi***, K. Shimizu, K. Igawa, K. Tomooka, K. Yoshizawa
1214. DFT study on reaction mechanisms for selective photocatalytic oxidation of benzyl alcohol on partially hydrated anatase (101) surfaces. **H. Kobayashi***, S. Higashimoto
1215. Reaction mechanism of ethylene epoxidation on a mesoporous metal-substituted silica heterogenous catalyst: An experimental and theoretical investigation. **P.D. Patel***, W. Yan, A. Ramanathan, B. Subramaniam, B.B. Laird, W.H. Thompson
1216. Practicable measure and visualization of static electron correlation effects and its application for catalysts modeling. **A. Hansen***
1217. Mechanism of NO reduction on a dinuclear metal complex. **K. Yoshizawa***, H. Tanaka, T. Suzuki, Y. Shiota, S. P.K., Y. Arikawa
1218. Understanding the formation process and selective nitrile hydrogenation performance of Ru nanocatalysts on K-Al_2O_3 by in-situ spectroscopy and theoretical calculation. **S. Muratsugu***, S. Kityakarn, F. Wang, N. Ishiguro, O. Sekizawa, T. Uruga, T. Kamachi, K. Yoshizawa, M. Tada
1219. MoS_2 supported platinum single atom and its superior catalytic activity for low temperature CO oxidation: A density functional theory study. **H. Lin***, Y. Li*
1220. Immobilizing metal nanoparticles on single wall nanotubes. Effect of surface curvature. **A. Staykov***, T. Ishihara
1221. Computational study of the heterojunction effect in polymer-stabilized Au cluster. **K. Sakata***, K. Tada, A. Oguni, Y. Kondo, T. Saito, T. Kawakami, S. Yamanaka, M. Okumura
1222. DFT calculations for the investigation on the phenomena during preparation of Au cluster supported catalysts. **K. Tada***, H. Koga, K. Sakata, A. Oguni, Y. Kondo, T. Saito, T. Kawakami, S. Yamanaka, M. Okumura
1223. Synthesis of dendronized gold clusters with peptide-dendron-thiolates. **K. Ishibashi**, K. Isozaki, H.R. Takaya, M. Nakamura*

Hawaii Convention Center
312

Quantum Coherence in Energy Transfer: Electronic Energy Transfer in Molecular Systems (#297)

Organized by: J. Cao, P. Brumer, J. Wu

8:00 – 1224. Nature and role of coherence in photosynthetic light harvesting. **B. Whaley***

*** Principle Author**

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8:35 – 1225. Persistent electronic coherence despite rapid loss of electron-nuclear correlation. **A. Akimov**, O. Prezhdo
9:10 – 1226. Anomalous localization and optics of excitons in nanotubular molecular aggregates. **J. Knoester***
9:45 – 1227. A few lessons from non-adiabatic excited state dynamics simulations of large molecules. **S. Tretiak**
10:20 – 1228. New frontier in electronic structure: Establishing the connection between electronic correlation and decoherence. **I. Franco***
10:55 – 1229. Localized operator partitioning method for electronic energy transfer. **A. Izmaylov***
11:25 – 1230. Highly efficient energy transfer in FMO: Optimization and cluster-based dynamics. **J. Wu**

Hawaii Convention Center
306A

Science with Beams of Radioactive Isotopes (#340)

Organized by: S. Yennello, K. Starosta, Y. Zhao, H. Haba
Presiding: H. Haba

8:00 – 1231. SπRIT project at RIBF, RIKEN - exploring symmetry energy at supra-density. **T. Murakami**
8:30 – 1232. Dipole response of exotic nuclei and the nuclear symmetry energy. **T. Aumann**
9:00 – 1233. Learning from the continuum structure of light nuclei. **L.G. Sobotka***
9:30 Break
9:45 – 1234. Partial dynamical symmetries in nuclei. **R.F. Casten***, R. Cakirli, A. Couture
10:05 – 1235. In-trap decay spectroscopy for electron capture branching ratios using TITAN at TRIUMF. **C. Andreoiu***
10:25 – 1236. Measured charge density difference between the isotones ^{206}Pb –^{205}Tl. **S. Shlomo***
10:40 – 1237. Investigating the low-lying structure of ^{46}Ca from the β^- decay of ^{46}K. **J.L. Pore**
10:55 – 1238. Doppler shift lifetime measurements using the TIGRESS Integrated Plunger. **A. Chester**

Hawaii Convention Center
305B

Photocatalysis and Charge Transfer at Interfaces and Nanomaterials (#344)

Organized by: D. Kilin, S. Kilina, I. Burghardt, G. Scholes, U. Diebold, A. Selloni, X. Gong, Q. Sun, R. Asahi, K. Donmen
Presiding: V. Batista, S. Kilina

8:00 – 1239. Quantum dynamics of exciton migration and dissociation in functional organic polymer materials. **I. Burghardt***, R. Binder, J. Wahl, H. Tamura
8:30 – 1240. Energy and charge transfer in polynuclear metal complexes. J. Tate, s. Yamazaki, A. cadranel, P.S. Oviedo, L.M. Baraldo, **V. Kleiman**
9:00 – 1241. Engineered semiconductor quantum dots for solar energy conversion. **V.I. Klimov***
9:30 Break
9:40 – 1242. Nonadiabatic molecular dynamics of singlet fission and charge separation. **A. Akimov***, O. Prezhdo
10:05 – 1243. Large-area quantum dot-based luminescent solar concentrators: General considerations and Monte Carlo ray tracing modeling. **K.A. Velizhanin***
10:30 – 1244. Photomobilities at nanostructured semiconductor surfaces from ab initio atomic modeling: A combined density matrix and energy band states treatment of excited electrons and holes at Si surfaces. **D.A. Micha***, R.H. Hembree, T. Vazhappilly
11:00 – 1245. Technical and operational perspective on the DOE energy innovation hub in fuels from sunlight, the Joint Center for Artificial Photosynthesis. **N.S. Lewis***
11:30 Concluding remarks

Hawaii Convention Center
305A

Practical Strategies for Modeling Non-Covalent Interactions (#372)

Organized by: G. Beran, Y. Jung, H. Nakai, J. Schmidt
Presiding: J. Schmidt

8:00 – 1246. Effective fragment potential method for biological systems. **L. Slipchenko**
8:30 – 1247. Energy decomposition analysis of intermolecular interactions from block-localized density functional theory. **J. Gao**
9:00 – 1248. Accurate, ab-initio-quality PES for H_2 adsorbed to MOF-5. **J. D'Arcy***, M. Jordan, T.J. Frankcombe, M. Collins
9:20 – 1249. Ab initio many-body potentials for chemically accurate simulations from the gas to the condensed phase. **F. Paesani**
9:50 Break
10:00 – 1250. Insight into structure and transport of battery electrolyte from molecular simulation. **O. Borodin***, M. Olguin, K. Xu, L. Suo, C. Wang, W. Henderson
10:30 – 1251. High performance polarizable molecular dynamics: Large scale modeling of noncovalent interactions. **J. Piquemal***
11:00 – 1252. Visualizing cooperativity: Non-additive contributions to the deformation density. **C. Mück-Lichtenfeld***
11:20 – 1253. Fixed diabatic atomic charge formalism: An efficient route for simulating dynamics with electronic excitations. **Y. Rhee**
11:50 Closing Remarks

Hawaii Convention Center
304B

Interfacial Phenomena for Bubbles, Droplets, Films and Soft Matter (#403)

Organized by: A. Amirfazli, Y. Zuo, J. Li
Presiding: K. Ariga, J. Huang, T. Liedl, D. PANG

8:00 – 1254. Hand-operating nanotechnology: Manual handling of molecular machines at interfaces. **K. Ariga**
8:30 – 1255. Self-assembly of DNA origami arrays on lipid membranes. **T. Liedl***
8:55 – 1256. Peptides-modulated self-assembly of photoactive dyes toward complex functional systems. **X. Yan***
9:20 – 1257. On the formation of lipid nanoscale structures at interfaces beyond planar bilayers. A. Dabkowska, C. Niman, G. Piret, H. Persson, H. Wacklin, H. Linke, C. Prinz, **T. Nylander***
9:45 – 1258. Molecular-scale mechanism of protein adsorption resistance of oligo (ethylene glycol) terminated-SAMs investigated by frequency modulation AFM in liquid. **N. Inada**, H. Asakawa, K. Miyazawa, T. Fukuma*
10:05 Coffee Break
10:15 – 1259. Controllable live-cell synthesis of fluorescent semiconductor quantum dots: How to have cells do what they cannot do?. **D. PANG***, R. Cui, Y. Li, H. Liu, Z. Xie, Z. Zhang, B. Hu
10:40 – 1260. Bioinspired controllable liquid transfer by topological asymmetric fibers. **H. Liu***, L. Jiang
11:00 – 1261. Underwater wettability of bioinspired adhesive surfaces. **B. Soltannia**, **D. Sameoto** , **P.R. Waghmare***
11:20 – 1262. Numerical simulation and experimental study on the mass transport in biogranules with implication to their deformable feature. **W. SUN***, X. Li

Hawaii Convention Center
313A

Reactive Intermediates in Combustion and Atmospheric Chemistry (#419)

Organized by: D. Osborn, S. Kable, K. Liu, J. Lane, Y. Kajii, X. You
Presiding: S. Kable

8:00 – 1263. Directly measuring the kinetics of key intermediate species in hydrocarbon oxidation. **C.A. Taatjes***
8:30 – 1264. The biosphere is CO_2L? The role of reactive intermediates in offsetting climate change. D. Shallcross, **A.H. Khan**
9:00 – 1265. Microwave perspective on the chemistry of reactive oxygen molecules. **M.C. McCarthy***
9:30 – 1266. Directly detecting QOOH radicals: Key intermediates in combustion and atmospheric chemistry. **D. Osborn**
10:00 – 1267. Atmospheric autoxidation via fast hydrogen shift reactions. **H.G. Kjaergaard**
10:30 – 1268. Underemployed and looking for action: The plight of unpaired electrons in reactive intermediates and other elusive species. **A. Sanov***
11:00 – 1269. Role of polycyclic aromatic hydrocarbons with a multiradical character in soot formation. **X. You***
11:30 – 1270. Toward high-level theoretical studies of large biodiesel molecules: An ONIOM [QCISD(T)/CBS:DFT] study of reactions of unsaturated methyl esters with hydrogen radical. L. Zhang, **P. Zhang***

Hawaii Convention Center
307AB

Structure and Spectroscopy of Linear Polyenes: Finite and Infinite (#456)

Organized by: B. Hudson, N. Hush, T. Kobayashi, Y. Weng, J. Paldus, R. Christensen
Presiding: T. Kobayashi

8:00 – 1271. Butadiene, the simplest polyene? Not by a long shot. **R.J. Cave***, S. Rabidoux, J. Stanton
8:30 – 1272. Defining and (at least partly) meeting the challlenges of developing electronic structure methods suitable for describing polyenes. **M. Head-Gordon**
9:00 – 1273. Bootstrap embedding. **M. Welborn***, T. Tsuchimochi, T. Van Voorhis
9:30 – 1274. Non collinear Hartree-Fock soultions of fullerenes and other carbon systems. **G. Scuseria***, C. Jimenez-Hoyos
10:00 – 1275. Electronic structure of trans-polyenes from two electron functions. **K. Boguslawski***, P. Tecmer, P. Ayers
10:30 – 1276. The many particle expansion: A systematic method for removing self-interaction from DFT. **T. Van Voorhis**, T. Zhu, H. van Aggelen
11:00 – 1277. Large scale modelling of strong electron correlation effects in extended systems from geminals. **P. Tecmer***, K. Boguslawski, P. Ayers
11:30 – 1278. Not just linear polyenes: The intriguing case of squaraine dyes. **C. Sissa***, S. Sanyal, F. Avila, J. Cerezo, F. Santoro, A. Painelli

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Physical, Theoretical & Computational General Posters

Presiding: M. Waterland, K. Yamanouchi
10:00 – 12:00

Data Base Development
1279. InChI - recent developments in the worldwide IUPAC chemical structure identifier standard. **S. Heller***
Gas Phase (Experimental)
1280. Characterizing the electronic states of gold monosulfide, AuS. **T.D. Varberg***, B.W. Pearlman, I.A. Wyse, D.L. Kokkin, R. Zhang, T.C. Steimle
1281. A step closer to understanding acid solvation: Dissociation dynamics of mixed HCl and H_2O clusters. **K. Zuraski**, D. Kwasniewski, A.K. Samanta, H. Reisler*
1282. Electronic state separation of NH_n^+ (n=1-3) in ion mobility measurements. **K. MORI**, T. YAMAZAKI, H. MAKI, A. NINOMIYA, H. Tanuma*
1283. Direct observation of relaxation of nitric oxide Rydberg states to a strongly coupled plasma. **H. Sadeghi Esfahani* Liquids (Experimental)**
1284. Photoreduction yields of Sm^{3+} and Yb^{3+}. **M. Kusaba***
1285. Excess enthalpies of propylamine and alcohol isomers. **H. Hayashi**, T. Kamiyama, K. Takayoshi
1286. Hydration behavior of substances bearing tertiary amino group. **N. Sagawa**, T. Shikata
1287. Rebinding dynamics of NO to microperoxidase-8 probed by femtosecond IR spectroscopy. T. Lee, S. Park, H. Kim, **M. Lim***
1288. Ultrafast terahertz Kerr effect spectroscopy of aromatic liquids. **I.A. Finneran***, M. Allodi, G. Blake
1289. Experimental and computational thermodynamic characterization of naphthoxazoles derivatives in beta- and gamma-cyclodextrins. **S. Valdebenito***, A. Zanocco, G. Zapata-Torres
1290. Study of electronic states of aqueous solutions of sodium halides by using temperature dependence attenuated total reflectance spectroscopy in the far ultraviolet region. **Y. Nishikawa**, Y. Morisawa, A. Ikehata
1291. High pressure solubility and partial molar volume of L-tyrosine in water at 298.2 K. **S. Sawamura***, E. Atsuda
1292. Raman spectroscopic and density functional calculations investigations on water molecules in tetrahydrofuran clathrate hydrate. **M. Kato***, S. Matsumoto, A. Takashima, Y. Fujii, Y. Takasu, I. Nishio
1293. Considerations on the hydrogen bond formation and proton transfer in methylpyridinimine-alcohol system by spectroscopy and theoretical method. **N. Iwasaki**, M. NIWA, S. Tanaka, T. SUZUKI

Surfaces and Clusters
1294. Photocatalytic hydrogen formation by Pt/Au/WO_3 under visible light. **A. Tanaka**, H. Kominami
1295. Comparison of self-assembled structures of the unnatural amino acid vs. naphthalene on Au(111). **S. Yang**, H. Lee
1296. Step sensitive mechanism of CO_2 hydrogenation on copper surface of Cu/ZnO/Al_2O_3 catalyst . **Y. Kim**, H. Lee
1297. Preparation of titania thin films in the adsorbed water layer formed at the solid/organic solvent interface. **T. Kenmotsu***, T. Endo, K. Torigoe, K. Sakai, M. Abe, H. Sakai

Soft Matter (Experimental)
1298. Antiparallel dimer formation of 4-cyano-4′-alkylbiphenyls in isotropic cyclohexane solution. **S. Takabatake***, T. Shikata
1299. Hierarchical self-organization dynamics of millimeter-long helical assembly composed of oleic acid. **Y. Kageyama***, T. Ikegami, S. Takeda

*** Principle Author**

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1300. Effect of industrial waste on chemical resistance and water absorption of bamboo fibre reinforced epoxy composites. **A. Gupta***

1301. Generation dependent ultrafast charge transfer dynamics in pyrene-viologen dendrons. **Z. Gong***, J. Bao*, T. Iyoda, T. Kawauchi , P. Piotrowiak*

1302. Polarity effect of exterior chains on self-assembled structure and aggregation mechanism of tetraphenylethene derivatives in THF/water mixture. **S. Cho**

Solids (Experimental)

1303. Dehydration process of crystal of metal salt hydrate. **S. Yoshida**, T. Miyaji, T. Kamiyama, K. Takayoshi

1304. Structural change of vapor deposited H_2O–CO_2 amorphous ice with warming. **R. Netsu**, T. Ikeda-Fukazawa

1305. Evaluation of the magnetic properties of cuprate molecular spin ladders. **S. Nishihara***, X. Zhang, Y. Nakano, K. Maryunina, K. Inoue*

1306. Electrochemical studies of copper (II) ion using voltammetric method and digital simulation at HMDE. **A. ALOWAIS***

Development of DFT

1307. Application of the space-pseudo-time method to Kohn-Sham and orbital-free density functional theory. D. Gebremedhin, **C. Weatherford**

1308. Novel correction on DFT noncovalent interactions based on S22, S66, and X40 benchmark databases. **L. Hu***, L. LI, H. LI

1309. Applications of machine learning on quantum chemical databases. **A.R. Cameron***, J. Pearson

1310. Probing interelectronic interactions with the localized pair model. **A.J. Proud***, D.E. Mackenzie, J. Pearson

Theoretical Calculations

1311. Correction system for efficient prediction of molecular physicochemical properties based on machine learning. **H. Li***, L. Hu, T. Gao, H. LI, C. Fang, J. Huang

1312. Potential energy curves for excited states of selected alkali metal diatomics with multireference coupled cluster method. **M.A. Musial***

1313. Search for variation of fundamental constants: Strong enhancements in $X^2\Pi$ cations selected diatomics. **L.F. Pasteka***, A. Borschevsky, P. Schwerdtfeger, V.V. Flambaum

1314. Application of relativistic prolapse-free basis sets in obtaining of fundamental properties of the homonuclear barium and radium dimers. **T.Q. Teodoro**, R.L. Haiduke, U. Dammalapati, S. Knoop, L. Visscher

1315. Applications of time-dependent and time-independent density functional theory to Rydberg transitions. **I. Seidu**, M. Krykunov, T. Ziegler*

1316. Novel method for determining the mean-field directly from the single particle matter density: Application to the measured charge density difference between the isotones ^{206}Pb- ^{205}Tl. **S. Shlomo***

1317. Theoretical study for methane activation on zinc modified ZSM-5 zeolite system. **Y. Park***, Y. Kim

1318. Theoretical study of acetylation of ethylamine catalyzed by Mn^{2+} ions. **S. Caglieri***, G. Servetti

1319. New method for designing effective fields that mimic catalytic fieldsbased on linear response function of bond order. **S. Yamanaka***, Y. Mitsuta, T. Kawakami, M. Okumura, . Nakamura

Chemical Reactions (Theory)

1320. Mechanistic study of methanol oxidation by Ru^{IV}–oxo complexes. **Y. Shiota***, T. Kojima, K. Yoshizawa

1321. Automated mapping and computation of the complete rearrangement networks of substituted bullvalene. **L.F. Pasteka***, T. Fallon, P. Schwerdtfeger

1322. Theoretical studies of hydroformylation of butadiene. **C.H. Mendis***, W.H. Thompson, J.A. Tunge, T. Maji

1323. Using the global reaction route mapping strategy to explore methylation effects on carbocation precursors to terpenes. **B. Hudson***, R. Ramozzi, C. Sameera, K. Morokuma, D.J. Tantillo

1324. Efficient algorithm of finding chemical reaction pathways: Stochastic and deterministic. **Y. Kim***, S. Choi, J. Kim, W. Kim*

Solutions (Theory and Computational)

1325. Understanding the comparative molecular field analysis (CoMFA) within the framework of molecular quantum similarity and chemical reactivity descriptors using density function theory. **A. Morales-Bayuelo**

1326. Diffusion-influenced reactions facilitated by dimension reduction. **H. Kim**

1327. Application limitations of analytical solution to determine intraparticle diffusivity from concentration decay curve. **Y. Nakayama***, N. Sonetaka, Y. Seida, E. Furuya

1328. Sensitivity of the linear responses function of the bond orders for the conformation. **Y. Mitsuta***, S. Yamanaka, T. Kawakami, T. Saito, M. Okumura

1329. First-principles calculation of NMR shielding in paramagnetic molecules including magnetic couplings. **S. Rouf***, J. Mareš, J. Vaara

1330. Prediction of biodegradability and toxicity of aromatics in water using QSAR modeling. J. Dermadi, D. Juretic, M. Novak Stankov, H. Kusic, S. Ukic, T. Bolanca, **A. Loncaric Bozic***

1331. Density functional theory benchmark for the structure and reactivity of frustrated Lewis pairs. **Q. Almas***, J. Pearson

1332. Method optimization for UV/visible spectrum calculations of indigoïd dyes and complexes. **S.W. MacLean***, R. Hicks

1333. Solvent effects on azobenzene derivative photodynamics with spin-flip time-dependent density functional theory and effective fragment potential methods. **K. Keipert**, Y. Harabuchi, M. Gordon

1334. New concept for high power target and new concept energy system. **L. Yang***

Solids and Interfaces (Theory)

1335. Adsorption and diffusion of proton on amorphous ice. **M. Aoki***, T. Ikeda-Fukazawa

1336. Surface structure of amorphous ice. **Y. Kumagai**, T. Ikeda-Fukazawa

1337. Studying the phase transition of multiferroics thin film by Landau theory. **A.M. Alrub**

1338. Na doped Sr_2CrOsO_6, a novel half metal predicted by first principles. **Z. Wu***

1339. Magnetic and electronic structure of Mn_2CuSi and Mn_2ZnSi half-metallic inverse Heusler alloy. I.H. Bhat*, **D.C. Gupta**

1340. Studies on optimized operational conditions for experimental determination of mass transfer properties with the circulating-type fixed-bed adsorber method. **K. Teshima***, E. Furuya, J. Fujiki, T. Kawakita, K. Watanabe

1341. Time-dependent electron wave packet dynamics of transient current in 1D array of quantum dots. **T. Sako***

1342. Thermodynamic scaling of dynamic properties in liquid crystalline phase. **K. Satoh***

1343. Theoretical approach to the carbon deposition avoidance on the surfaces of $BaTiO_3$(001). **D.S. Rivera Rocabado***, T. Ishimoto, M. Koyama

1344. Molecular study on adhesion phenomena. **T. Semoto***, K. Yoshizawa

1345. Influence of solution-phase and mesoporous environments on excited state lifetime in 9-mesityl-10-methylacridinium. **N. Garcia**, T. Kowalczyk*

1346. Study of the interfacial array behavior of surfactant at very low concentration by second harmonic generation and molecular simulaion. **D. Li***, H. Pan, Y. Li

1347. CO oxidation reactivity on the CO-covered Pt nanoparticle. **D. Kim***, J. Lee, J. Park, S. Lee, M. Jeong, Y. Jo

1348. Alloy catalyst configuration and adsorbate distribution revealed via first principles based Monte Carlo simulations. **T. Tan***, L. Wang, D. Johnson, J. Zhang

1349. Density functional theory study of transition metal and metal alloy catalysts in energy production. X. Wu, Y. Lu, S. Tsang, **X. Gong**

Polymers (Theory)

1350. Molecular simulations of single-walled carbon nanotubes grafted with polymers. **H. Lee***

1351. Density functional theoretical study on dialkoxyphenylene-benzothiadiazole-containing photovoltaic polymers. **S. Hwang**, H. Woo

1352. Density functional theoretical and time-dependent density functional theoretical study on thiophene-benzothiadiazole-based polymers. **Y. Cho**, S. Hwang, H. Woo

1353. Density functional theoretical study on benzodithiophene-thiophene-based photovoltaic polymers. **Y. Lee**, S. Hwang, H. Woo

Biophysical (Theory)

1354. Rational design and synthesis of selective blockers of the K_2P channel TASK-3.. **B.a. Arevalo***, L. Zúñiga, M. Gutierrez, W. Gonzalez

1355. Third-generation density functional calculation program: ProteinDF. **T. Hirano**, F. Sato

1356. Study of protein aggregation as a process of cataract formation. **V. Prytkova**, M. Heyden, D. Tobias

1357. Evaluation of physical properties using thermodynamic quantities of hydration. **M. Fujisawa***, h. Ikeda, M. Okanami, K. Takayoshi

1358. Evaluation of structual differences between estrogen receptor α and β using the ligand binding site search program HBOP/HBSITE. **K. Fujii***, S. Fukuyoshi, N. Yamaotsu, S. Hirono, A. Oda

1359. Source of the drug resistance toward the mutation of influenza neuraminidases: MD and 3D-RISM studies. J. Phanich, **T. Rungrotmongkol***, S. Hannongbua

1360. Development of bioinspired catalysts for efficient peptide hydrolysis . **R. Prabhakar***

1361. Revealing monoamine oxidase B catalysis mechanisms using quantum chemical cluster approach. **G. Zapata-Torres***, A. Fierro, C. Celis-Barros

1362. In silico identification of small molecules that modulate the aminoglycoside-sensing riboswitch. **S. Park***, G. Lee, H. Park*

1363. Structural prediction of wild-type and mutant CYP1A2 complexed with 7-ethoxyresorufin using docking and molecular dynamics simulations. **Y. Watanabe***, S. Fukuyoshi, M. Hiratsuka, N. Yamaotsu, S. Hirono, A. Oda

1364. Stability and dynamics of beta-sheet aggregates of polyalanine peptides. **J. Kim***

1365. Theoretical study on $[Ru(bpy)_2dppz]^{2+}$ at well-matched and mismatched sites for binding structures and interactions with the neighboring DNA. **M. Otsuka**, K. Takano

Friday Afternoon

Hawaii Convention Center
301B

Synergistic Relationships between Computational Chemistry and Experiment (#9)

Organized by: S. Wetmore, H. III, L. Radom, P. Schwerdtfeger, R. Wah, H. Nakai, K. Kim
Presiding: N.M. Cann, Y. Wu

13:00 Break

13:10 – 1366. Conical intersections with density-functional theory?. **A. Becke***

13:30 – 1367. Dispersion-corrected DFT for molecular crystals and polymorphism. **E.R. Johnson***, S.R. Whittleton, A. Otero-de-la-Roza

13:50 – 1368. Density functional model for nondynamic and strong correlation. **J. Kong***, E. Proynov

14:10 – 1369. Steady-state density functional theory and its applications. **C. Zhang**

14:30 – 1370. New and improved energy decomposition analysis: Well-defined physical contributions to intermolecular interactions from density functional theory calculations?. **M. Head-Gordon**

14:50 – 1371. Density functional theory for accurate potential energy surfaces. **W. Kim***

15:10 Break

15:20 – 1372. Some new ways to do excited states for large molecules. **R.J. Bartlett***, J. Byrd, D. Bokan, V. Rishi

15:40 – 1373. Electronic communication across noncovalent interactions on vinyl silyl bridged biferrocenyl compounds. **O. Mo***, M. Montero-Campillo, S. Bruña, I. Cuadrado

16:00 – 1374. Fresh perspective on the spectroelectrochemistry of ferrocene derivatives. **J.R. Lane***

16:20 – 1375. Electronic spectroscopy and photochemistry: Solvent effects and dynamics. **M.S. Gordon***

16:40 – 1376. Single-determinant models of excited states. G. Barca, A. Gilbert, **P. Gill***

Hawaii Convention Center
306A

Coarse Grained Modeling and its Integration with Experiments (#30)

Organized by: R. Faller, D. Huang, M. Karttunen
Presiding: D.M. Huang

13:00 – 1377. Systematic and simulation-free coarse graining of polymer melts. **Q. WANG***

13:50 – 1378. Systematic multiscale modeling for photovoltaic applications. T.F. Harrelson, A. Moule, **R. Faller***

14:20 – 1379. Polymers in inorganic scale control: Molecular dynamics study of edge-active polymers. **E.J. Smith***, C. Fellows

14:50 – 1380. In-depth exploration of the self-assembling mechanisms of a designed lytic peptide by molecular dynamic simulation. **S. Luo***, F. Sun

15:20 – 1381. Common physical framework explains phase behavior and dynamics of atomic, molecular, and polymeric network-formers. **S. Whitelam**

Hawaii Convention Center
308A

Modeling and Analyzing Exciton and Charge Dynamics in Molecules and Clusters (#44)

Organized by: S. Tretiak, G. Chen, Y. Tanimura
Presiding: V.Y. Chernyak

13:00 Opening Remarks

13:05 – 1382. Photoinduced dynamics in nanoparticles: Time-domain ab initio studies. **O. Prezhdo**

13:35 – 1383. Efficient semiclassical method for modeling non-adiabatic dynamics in multiatomic molecules. **D. Mozyrsky***

14:05 – 1384. Manipulation of light-matter interaction at the nanoscale. **Y. Luo**

14:35 Break

14:50 – 1385. Optical properties of graphene derivatives. **H. SU***, X. Zhu

*** Principle Author**

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15:20 – 1386. Energy-specific excited state electronic structure methods for modeling high-energy exciton and charge dynamics. **X. Li***, B. Peng, P.J. Lestrange
15:50 – 1387. Role of surface defects and ligands in energy transfer and nonradiative relaxation in quantum dots. **S. Kilina***
16:20 – 1388. Molecular-level details of morphology-dependent exciton migration in poly(3-hexylthiophene) nanostructures. **P.C. Tapping***, S.N. Clafton, K.N. Schwarz, T.W. Kee, D.M. Huang

Hawaii Convention Center
313B

Chemistry of Atmospheric Aerosols (#56)

Organized by: A. Laskin, S. Nizkorodov, A. Bertram, X. Yang, C. Ro, E. Bieske
Presiding: A. Bertram, X. YANG

13:00 – 1389. On the heterogeneous uptake of $ClNO_2$ on organic aerosol. **H.D. Osthoff***, J. Liggio, S.G. Moussa
13:30 – 1390. Laboratory and field studies of heterogeneous uptake of HO_2 radicals to aerosols and clouds. **D. Heard***, L. Whalley, D. Moon, C. Kidd, P. Lakey, G. Cousins, P. Seakins, I. George, M. Baeza-Romero, D. Stone, D. van Pinxteren, A. Tilgner, H. Herrmann, M. Evans, T. Berkemeier, M. Shiraiwa, S. Mertes, M. Ammann, J. Dommen
13:50 – 1391. Impacts of mixed aerosols on heterogeneous reactions of atmospheric particles. **S. Tong**, F. Tan, M. Ge
14:10 – 1392. Effects of temperature, pH, and ionic strength on the Henry's law constant of atmospheric amines. **Y. Liu**
14:30 – 1393. Heterogeneous reactions of atmospheric oxidizing gases with soot. **H. He***
15:00 Break
15:10 – 1394. Microspectroscopic examination of atmospheric ice nucleating particles. **D.A. Knopf***, P.A. Alpert, D. Bothe, J.C. Charnawskas, W. Kilthau, B. Wang, R. O'Brien, R. Moffet, M.K. Gilles, A. Laskin, J.Y. Aller
15:40 – 1395. Dynamic ice nucleation studies on laboratory-generated and field-collected atmospheric particles using a microscopic imaging platform. **B. Wang***, D.A. Knopf, M.K. Gilles, A. Laskin
15:55 – 1396. Climatology of ice nucleating particles at the high altitude station Jungfraujoch. **Z.A. Kanji***, Y. Boose, L. Lacher, U. Lohmann
16:10 – 1397. On the relationship between acidic aerosols and types of ice clouds over the North Slope of Alaska. **E. Girard***
16:25 – 1398. Observations of aerosol particles and low cloud in the summertime Arctic. **R. Leaitch***, J. Burkart, M. Willis, F. Koellner, J. Schneider, H. Bozem, P. Hoor, A. Herber, J.P. Abbatt

Hawaii Convention Center
308B

Advances in Quantum Monte Carlo (#80)

Organized by: S. Tanaka, L. Mitas, P. Roy
Presiding: L. Mitas

13:00 – 1399. Recent progress in FCIQMC. **A. Alavi**
13:35 – 1400. Optimization of many-body wavefunctions by minimizing the fixed-node projector Monte Carlo energy. **C.J. Umrigar**, J. Toulouse, M. Otten, R. Assaraf
14:10 – 1401. Using perturbatively selected CI expansions in fixed-node diffusion Monte Carlo. **M. Caffarel***, E. GINER, T. APPLENCOURT, A. Scemama
14:45 Break
14:55 – 1402. Tensor network quantum Monte Carlo. **G.K. Chan**, B. Verstichel
15:30 – 1403. Model space quantum Monte Carlo method for degenerate and quasi-degenerate electronic states. **S. Ten-no**
16:05 – 1404. Dissection of a covalent bond through quantum entanglement. **N. Tubman**

Hawaii Convention Center
305B

Recent Advances in Dynamics of Confined Liquids (#123)

Organized by: A. Luzar, G. Patey, M. Kinoshita
Presiding: C. Neto

13:00 Opening Remarks - Luzar
13:05 – 1405. Correlated nonequiliubrium response in nanoconfined systems. **D.T. Limmer***
13:35 – 1406. Molecular theory of hydrodynamic boundary conditions in nanofluidics. **A.E. Kobryn**, A. Kovalenko
14:05 – 1407. Viscosity of aqueous electrolyte solutions: The dynamic point of view for hydrophobicity and hydrophilicity. **J. Dufreche***, J. Molina, B. Siboulet, M. Duvail, P. Turq, B. Bagchi
14:35 – 1408. Effect of electric field on water molecules confined in carbon nanotubes. **.. Winarto***, D. Takaiwa, E. Yamamoto, K. Yasuoka
15:05 break
15:20 – 1409. Static and dynamic boundary conditions for confined ionic liquids. **J. Ralston***, M. Krasowska
15:50 – 1410. Ordered nonwetting water, water-surface composition structure, evaporation, and heat transfer on the surfaces studied using molecular dynamics simulations. **H. Fang***, C. Wang, P. Guo, y. Tu, R. Wan, J. Chen
16:20 – 1411. Microfluidics in micropillar arrays. G. Holzner, F.H. Kriel, **C. Priest***

Hawaii Convention Center
304A

Self-organization in Chemistry (#165)

Organized by: S. Nakata, J. Pojman, O. Steinbock, Q. Gao, J. Wang, T. Yamaguchi, R. Yoshida, S. Nakabayashi
Presiding: T. Amemiya, A.F. Taylor, T. Yamaguchi

13:00 – 1412. Spontaneous rotation of colloidal fluids in electroconvective flows under gravity. **M. Sano***
13:15 – 1413. Hierarchical self-organization: From nanorods to biomorphs and macroscopic tubes. **O. Steinbock***, E. Nakouzi, B. Batista
13:45 – 1414. Wave-particle duality in dissipative systems. **Y. Nishiura***
14:15 – 1415. Dynamics of chemical self-replication in artificial peptide networks. **E. Peacock-Lopez**
14:35 – 1416. Self-organized ordering in skin tissue. **S.K. Schnyder***, R. Yamamoto
14:50 coffee break
15:05 – 1417. Non equilibrium structured nanomolecular assemblies. **L. Cronin***
15:30 – 1418. Motion of a Belousov-Zhabotinsky reaction droplet coupled with pattern formation. **H. Kitahata**
15:50 – 1419. Mechanism of the generation of stochastic nature of the Soai system. **K. Asakura***, S. Imamura, H. Mashimo, T. Banno, K. Takao
16:10 – 1420. Synchronization in populations of chemical oscillators: Phase clusters and chimeras. **K. Showalter***, M. Tinsley, S. Nkomo, A. Taylor, F. Wang
16:40 Discussion
16:55 Closing Remarks

Hawaii Convention Center
313C

Challenges in Plasmonic Photochemistry (#176)

Organized by: H. Misawa, P. Kamat, H. Sun, S. Gwo
Presiding: S. Gwo, T. Teranishi

13:00 Opening Remarks
13:05 – 1421. Surface-plasmon enhanced terahertz spectroscopy using gold nanostructured terahertz antennae. **K. Ueno**, S. Nozawa, H. Misawa
13:25 – 1422. Plasmon-based hot carrier photocatalysis. **N. Halas***
13:55 – 1423. Plasmon-enhanced chemistry: Theoretical studies. **G.C. Schatz**
14:35 – 1424. Large-scale hot spot engineering for quantitative single-molecule detection using SERS. H. Chen, M. Lin, C. Wang, Y. Chang, **S. Gwo***
15:05 – 1425. Single nanoparticle SERS studies of plasmonic photochemistry. **R.P. Van Duyne***
15:35 – 1426. Visible-to-NIR plasmonics in inorganic nanodisks. **T. Teranishi***
16:05 – 1427. Local optical activity and chirality of metal nanostructures. **H. Okamoto***, S. Hashiyada, T. Narushima, Y. Nishiyama
16:25 – 1428. Super-resolution and defocused microscopy on single molecules coupled with gold nanorod optical antennas. **J. Hofkens***, L. Su, H. Yuan, H. Ujii

Hawaii Convention Center
310 Theatre

Challenges and Opportunities for Exascale Computational Chemistry (#184)

Organized by: J. Rice, W. Swope, A. Rendell, Y. Okamoto
Presiding: W. Swope

13:00 Opening Remarks
13:05 – 1429. Algorithmic and software techniques for scaling quantum chemistry on massively parallel computers. **J.R. Hammond***
13:30 – 1430. Center for accelerated application readiness: Early experiences in preparing applications for the summit architecture. **T. Straatsma***
13:55 – 1431. Quantum chemistry on low-powered processors. **A.P. Rendell**, G. Mitra, K. Keipert, S.S. Leang, M.S. Gordon
14:20 – 1432. Hardware trends and the challenges for computational chemistry. **B. Austin***
14:45 Break
15:00 – 1433. Emerging computer architectures and their implications for computational chemistry. **R. Dror**
15:25 – 1434. Parallel computing with NTChem software for petascale supercomputing and toward exascale supercomputing. **M. Katouda***, T. Nakajima
15:45 – 1435. QuantumChemistry500 ranking: A benchmark suite for quantum chemical program packages and supercomputers. **M. Nakata***, K. Ishimura, T. Hirano, J.R. Hammond
16:05 – 1436. Enabling energy-efficient exascale computing on heteregenous architectures with ARM. **K. Keipert**, S.S. Leang, M. Gordon, G. Mitra, A.P. Rendell

Hawaii Convention Center
306B

Metal Ions and Protein Functions: Theoretical Models and Applications (#202)

Organized by: Q. Cui, M. Meuwly, T. Allen, Y. Gao
Presiding: T.W. Allen

13:00 – 1437. Conduction and block of sodium channels by metal and organic cations: Computational and experimental viewpoints. **R.J. French***, R.K. Finol-Urdaneta, Y. Wang, S. Huang, K. Jia, S. Noskov
13:40 – 1438. Understanding sodium selective conduction using the bacterial Na_vAb channel. C. Boiteux, E. Flood, I. Vorobyov, **T.W. Allen**
14:20 – 1439. Hydration mimicry: A strategy for ion permeation through channel proteins?. M. Chaudhari, J. Vanegas, **S. Rempe**
15:00 Break
15:00 – 1440. Role of electronic polarization effects in mechanisms of cation recognition by metalloproteins. V. Ngo, M. Chagas Da Silva, H. Li, M. Kubillus, D. Salahub, Q. Cui, B. Roux, **S. Noskov**
15:40 – 1441. Computational studies of ions solvation with ring polymer molecular dynamics. **I. dang***
16:20 – 1442. Structure and dynamics in ion solvation—from clusters to solutions. **Y. Gao**

Hawaii Convention Center
304B

Molecular Perspectives on Interfacial Electrochemistry and Electrocatalysis (#218)

Organized by: M. Eikerling, G. Jerkiewicz, S. Mitsushima, A. Gewirth
Presiding: B.D. Gates, A. Gewirth

13:00 Introductory remarks
13:10 – 1443. Sunlight-driven hydrogen formation by membrane-supported photo-electrochemical water splitting. **N.S. Lewis***
13:40 – 1444. Surface plasmon assisted photo-electrochemistry on microelectrodes. W. Wang, Y.F. Huang, H. Guo, D. Zhan, D. Wu, B. Ren, **Z. Tian**
14:10 – 1445. Catalytic activity and durability of $Li_xNi_{2-x}O_2$/Ni anode for alkaline water electrolysis. **S. Mitsushima***, S. Fujita, Y. Kohno, I. Nagashima, Y. Sunada, Y. Nishiki, A. Manabe, K. Matsuzawa
14:30 – 1446. Redox catalysis and charge storage for indirect water electrolysis. **H.H. Girault***
15:00 Break
15:20 – 1447. Structure and reactivity in efficient electrocatalysis and photoelectrocatalysis. **P.J. Kulesza***
15:50 – 1448. Electrochemical and photoelectrochemical biomass valorization. **K. Choi**
16:10 – 1449. Study of surface reactivity of Li-ion positive electrode materials in organic carbonate electrolytes. **R. Kostecki***, A. Jarry
16:40 – 1450. On the mechanism of photocatalytic Ag(I) ion reduction under magnetic field. **H. OKUMURA***, S. Endo, E. YAMASUE, K.N. Ishihara

Hawaii Convention Center
312

Quantum Coherence in Energy Transfer: Coherence in Light-harvesting Energy Transfer (#297)

Organized by: J. Cao, P. Brumer, J. Wu

13:00 – 1451. Fano coherences in the molecular dynamics induced by incoherent light. **P. Brumer***, T. Tscherbul
13:35 – 1452. Quantum coherence in light-harvesting energy transfer. **J. Cao***
14:10 – 1453. Coherent transport enhancements in incoherent light harvesting. **I. Kassal**
14:45 – 1454. Water-soluble chlorophyll-binding protein (WSCP): An interesting system for the development of theory and modeling. **T. Renger**, T. Dinh, D. Lindorfer, F. Müh, H. Lokstein, J. Adolphs, M. Berrer, M. Schmidt am Busch
15:20 – 1455. Chlorosome of green sulfur bacteria: Energy transfer dynamics and coherence. **A. Aspuru-Guzik**

*** Principle Author**

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15:55 – 1456. Classical multichromophoric resonance energy transfer. S. Duque, P. Brumer, **L. Pachon***
16:30 – 1457. Excitation energy transfer in photosynthetic and artificial light-harvesting systems: A coherent modified Redfield approach. **Y. Cheng**

Hawaii Convention Center
301A

Dynamical Intermolecular Interactions for Biological Functions (#307)

Organized by: D. Zhong, M. Terazima, Q. Lu

13:00 Introduction
13:05 – 1458. Light-sensitive molecules for time-resolved crystallography and optogenetics. **K. Moffat***
13:35 – 1459. Novel photodynamics in phytochrome and cyanobacteriochrome photosensory proteins. **D.S. Larsen***
14:05 – 1460. Probing protein structural dynamics with pump-probe X-ray liquidography and crystallography. **H. Ihee***
14:35 – 1461. Analysis of gallstone component with Fourier transform infrared spectroscopy. **H. Mizumoto***, L. Li
14:55 Break
15:10 – 1462. Time-resolved detection of inter-protein interaction during protein reaction. **M. Terazima***
15:40 – 1463. Secondary structure and intermolecular interaction of biomolecules at the interface investigated by sum frequency generation vibrational spectroscopy. S. Ye, K. Lin, **Y. Luo***
16:10 – 1464. Mechanism of amyloid formation of human calcitonin. **M. Kataoka***, H. Kamikubo
16:40 – 1465. Genetically encoded electron transfer probes in proteins. **J. Wang**

Hawaii Convention Center
305A

Interfacial Phenomena for Bubbles, Droplets, Films and Soft Matter (#403)

Organized by: A. Amirfazli, Y. Zuo, J. Li
Presiding: J.S. Allen, N. Gu, R. Veldhuizen, Y. Zuo

13:00 – 1466. Functional nanoparticles encapsulated lipid nanobubbles. J. Tian, Y. Zhou, D. Sun, X. Lin, X. Ruan, F. Yang, **N. Gu***
13:30 – 1467. Dynamics of high frequency ultrasound contrast agents. **J.S. Allen**
13:55 – 1468. Specific binding of functionalized droplets to integrin receptor $\alpha_V\beta_3$. **N.A. Smith**, M.L. Fabiilli, R. Seda, D. Li, J. Pitre, J.L. Bull
14:15 – 1469. Phase transitions of biopolymer blends in cell-sized droplets coated with a lipid layer. **M. Yanagisawa***
14:35 Coffee Break
14:45 – 1470. Pulmonary surfactant: Drops, bubbles, and the lung. **R. Veldhuizen**, J. Lewis, L. McCaig, F. Possmayer
15:10 – 1471. Constrained drop surfactometer as a miniaturized film balance for studying spread and adsorbed films. **Y. Zuo***
15:35 – 1472. Interactions between inhaled particles and lung surfactant. **J.B. Sorli**, E. Da Silva, S. Larsen
16:00 – 1473. Surface free energy of bacterial cells: Determination and applications. **X. Zhang***, X. Zhang*, Y. Zuo*
16:25 – 1474. Impact of nanoparticles on the spreading of "living droplets". **G. Beaune**, F. Brochard-Wyart, F. Winnik*

Hawaii Convention Center
313A

Reactive Intermediates in Combustion and Atmospheric Chemistry (#419)

Organized by: D. Osborn, S. Kable, K. Liu, J. Lane, Y. Kajii, X. You
Presiding: X. You

13:00 – 1475. Key phenomena enabling direct simulation of real fuel combustion chemistry. **H. Wang**
13:30 – 1476. Predictive a priori kinetics for reactive intermediates. **S. Klippenstein***, N. Labbe, M. Verdicchio, K. Pelzer, M.P. Burke, C.F. Goldsmith, L.B. Harding, A. Jasper, A.M. Mebel, J.A. Miller, R. Sivaramakrishnan
14:00 – 1477. Inelastic collisions between NO and NO_2. **E.A. Wade***, C. Sugie, D.W. Chandler, A. Jasper
14:20 – 1478. Reaction paths and intermediates in electrophilic aromatic substitution: New insights from experiment and theory. **S.A. Reid**
14:50 – 1479. Chemical activation in combustion and atmospheric chemistry. **P. Seakins***
15:20 – 1480. Non-adiabatic molecular dynamics simulations of isoprene photochemistry. **D.R. Glowacki***, B. Curchod, T.J. martinez
15:50 – 1481. Single-conformation vibronic and infrared spectra of alkylbenzyl radicals. **T.S. Zwier**, J.R. Korn, K.M. Jawad
16:20 – 1482. Predictive kinetic modeling of the pyrolysis and oxidation of cyclic molecules. **C.W. Gao***, W.H. Green
16:40 – 1483. Muonium addition kinetics to alkenes and alkynes: the high-pressure limit at any total pressure?. **D.G. Fleming***, D.J. Arseneau, D. Garner, I.D. Reid

Hawaii Convention Center
307AB

Recent Experimental and Theoretical Advances in Studies of Liquid Interfaces (#437)

Organized by: T. Tahara, A. Morita, R. Walker, L. Dang, H. Kang, S. Yamaguchi, J. Gibbs-Davis
Presiding: A. Morita, R. Walker

13:00 Opening Remarks
13:10 – 1484. Optical studies of competitive and cooperative adsorption to liquid interfaces. **R. Walker***, E. Gobrogge, L. Woods
13:40 – 1485. Water flow along a solid surface affects interfacial water organization. **M. Bonn**
14:10 – 1486. Surface-bulk correlation spectroscopy of adsorbed biomass. **D. Hore***
14:40 – 1487. Structure and dynamics of water confined to nanoscale environments . **G.W. Leach***, A.K. Schiffer, A. Elliott, T. Johansson
14:55 Break
15:15 – 1488. Single-channel heterodyne-detected sum frequency generation spectroscopy for liquid interfaces. **S. Yamaguchi**
15:45 – 1489. Spectroscopy and molecular orientation at aqueous interfaces. **A.V. Benderskii**
16:15 – 1490. Unveiling microscopic structures of charged water interfaces by surface-specific vibrational spectroscopy. **C. Tian**
16:45 – 1491. Probing the buried interface between a tunable functionalized surface and aqueous solutions with heterodyned sum-frequency generation spectroscopy. A.R. Barrett, M. McDermott, **P.B. Petersen**

Friday Evening

Hawaii Convention Center
301B

Synergistic Relationships between Computational Chemistry and Experiment (#9)

Organized by: S. Wetmore, H. III, L. Radom, P. Schwerdtfeger, R. Wah, H. Nakai, K. Kim
Presiding: K.S. Kim

19:00 – 1492. Alternative coupled cluster models. **G. Scuseria**
19:20 – 1493. Efficient computational methods for the accurate calculation of thermochemical properties. **B. Chan**, L. Radom
19:40 – 1494. Getting down to the fundamentals of hydrogen bonding: Anharmonic vibrational frequencies for hydrogen bonding prototypes from ab initio electronic structure computations. **G.S. Tschumper***
20:00 – 1495. Benchmarks for intermolecular interaction energies between larger systems. T. Janowski, **P. Pulay***
20:20 – 1496. Localized pair model of the chemical bond and non-covalent interactions. A.J. Proud, B.H. Sheppard, **J. Pearson**
20:40 – 1497. From chemical graph theory to the electronic structure fingerprinting of localization-delocalization matrices (LDMs) and of electron density-weighted adjacency matrices (EDWAMs). **C.F. Matta***, I. Sumar, R. Cook, P. Ayers

Hawaii Convention Center
313B

Chemistry of Atmospheric Aerosols (#56)

Organized by: A. Laskin, S. Nizkorodov, A. Bertram, X. Yang, C. Ro, E. Bieske
Presiding: A. Bertram, A. Laskin

19:00 – 1498. Hygroscopicity and mixing state of organics in atmospheric aerosols over Japan. **M. Mochida***
19:30 – 1499. Size distribution and mixing state of black carbon particles during a heavy polluted episode in Shanghai. **X. YANG**
19:50 – 1500. Chemical compoition of marine clouds and fogs in the Pacific and the Yellow Sea. **J.L. Collett***, T. Lee, A. Boris, D. Straub, K.B. Benedict
20:10 – 1501. Photochemistry of individual particles: Evidence of sulfate formation through oxidation of organic sulfur compounds on particle surface. S. Seng, Y. Tobon, R. Ciuraru, L.A. Picone, C. GEORGE, R.M. ROMANO, **S. SOBANSKA**
20:25 – 1502. Understanding the effect of mixing state and water on CCN activation. **D. Vu***, S. Gao, M. Kacarab, A. Asa-Awuku
20:40 – 1503. Water adsorption on aerosols from nuclear magnetic resonance. **E. Vonhof***, F. Stratmann, M.S. Conradi, J. Haase

Hawaii Convention Center
Halls I, II, III

Advances in Quantum Monte Carlo (#80)

Organized by: S. Tanaka, L. Mitas, P. Roy
Presiding: S. Tanaka

Poster Session
19:00 – 21:00

1504. Targeting excited states with quantum Monte Carlo. **L. Zhao**, E. Neuscamman

Hawaii Convention Center
Halls I, II, III

Recent Advances in Dynamics of Confined Liquids (#123)

Organized by: A. Luzar, G. Patey, M. Kinoshita
Presiding: M. Kinoshita

Poster Session
19:00 – 21:00

1505. Penetration of platinum complex anions into nanoporous silicon originating from surface-induced phase transition: Effect of counter cationic species. **A. Koyama**, R. Koda, K. Fukami*, N. Nishi, T. Sakka, T. Abe, A. Kitada, K. Murase, M. Kinoshita
1506. Highly-efficient zinc electrodeposition within nanoporous electrodes: An effect of the ionic charge controlled by complexation. **Y. SUZUKI**, A. Koyama, K. Fukami, A. Kitada, T. Abe, K. Murase*
1507. Solid-liquid and solid-solid phase transition of Lennard-Jones fluid in the confined 2D system. **H. Doi***, T. Kaneko, K. Yasuoka
1508. Dynamics of supercooled water in partially crystallized gelatin-water mixture studied by broadband dielectric spectroscopy. **K. Sasaki***, R. Kita, N. Shinyashiki, S. Yagihara
1509. Effect of charge density of ammonium cations on their penetration into nanoporous silicon electrodes. **Y. Imaoka**, A. Koyama, K. Fukami*, A. Kitada, T. Abe, K. Murase
1510. Interplay between thermomolecular orientation and imposed density gradients in models of confined fluids. **C.D. Daub***, J. Tafjord, S. Kjelstrup, P. Åstrand, F. Bresme
1511. Destructive extraction of phospholipids from cell membranes by graphene nanosheets. **y. Tu**
1512. Characterization of ionic liquids between sliding surfaces using resonance shear measurement. **T. Kamijo**, H. Arafune, T. Morinaga, T. Sato*, M. Hino, M. Mizukami, K. Kurihara
1513. Exfoliation of electrolyte-intercalated graphene: Molecular dynamics simulations. **O. Lee***
1514. Bioinspired artificial single ion pump. **Y. Tian**, L. Jiang

Hawaii Convention Center
Halls I, II, III

Challenges in Plasmonic Photochemistry (#176)

Organized by: H. Misawa, P. Kamat, H. Sun, S. Gwo

Poster Session
19:00 – 21:00

1515. Effects of agglomeration of silver nanoplates on refractive-index detection sensitivity. **Y. Takahashi***, Y. Yamaguchi, N. Ide, H. Tahara, T. Ishida, S. Yamada*
1516. Location, location, location: Distance dependant plasmon-enhanced singlet oxygen generation . **N. Macia**, O. Planas, S. Nonell, B. Heyne*
1517. Edge-gold coated silver nanoprisms for efficient dielectric sensing and plasmon-enhanced organic photovoltaics. **C. Xue***, M. Shahjamali
1518. Selective nitrogen fixation to ammonia via plasmon-induced charge separation. **T. Oshikiri**, K. Ueno, H. Misawa*
1519. Plasmon-mediated formation and growth of gold nanoparticles on ITO substrates. **S. Kajimoto***, T. Okamoto, T. Takahashi, H. Fukumura
1520. Microfabrication of polystyrene quadrupole combined with top-down and bottom-up approach. **T. Takahashi**, A. Matsutani, D. Shoji, K. Nishioka, T. Isobe, A. Nakajima, S. Matsushita*
1521. Ultrasensitive detection of chirality of viruses using chiral electromagnetic fields created by achiral metal nanostructures. **S. Hashiyada***, A. Karimullah, H. Okamoto, M. Kadodwala
1522. Preparation and spectroscopic properties of gold noparticles modified with porphyrin monolayers. **T. Ishida***, Y. Takahashi, S. Yamada*

*** Principle Author**

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1523. Localized surface plasmon resonance induced visible light-responsive photocatalyst by loading (Au@Ag)@Au double shell NPs. **S. Yamashita**, S. Kamimura, T. Ohno*
1524. Plasmon excitation of size-controlled PbS quantum dots on Au/TiO_2 electrode for effective photocurrent generation at visible wavelength region. **X. LI***, K. Suzuki, T. Toda, S. Yasuda, K. Murakoshi
1525. Development of far-ultraviolet (FUV) surface plasmon resonance sensor using aluminum thin films. **T. Ryoki**, Y. Tanaka, I. Tanabe, T. Goto, . Kikawada, W. Inami, Y. Kawata, Y. Ozaki
1526. Exploring plasmonic hot spots and their dynamics by photoemission electron microscopy. **Q. Sun***, H. Yu, K. Ueno, A. Kubo, Y. Matsuo, H. Misawa
1527. In situ observation of enhancement of multiphoton emission from a single colloidal quantum dot (QD) using a silver-coated AFM tip. **H. Takata***, S. Masuo
1528. Development of metal-enhanced fluorescence platforms based on copper nanostructures. **K. Sugawa***, T. Tamura, H. Tahara, T. Akiyama, J. Otsuki
1529. Unique photochatalytic activity of Cu_2O/Cu plasmonic nanostructures under visible and near-infrared light. **N. Tsunenari***, S. Fujiwara, K. Sugawa, J. Otsuki
1530. Observation of charge separation between gold nanoparticles and titanium dioxide using surface plasmon spectroscopy. **X. Shi**, T. Oshikiri, K. Ueno, H. Misawa*
1531. Metal enhanced up-conversion fluorescence by triplet-triplet annihilation near silver nanoparticles. **S. Jin***, N. Takeshima, K. Sugawa, J. Otsuki
1532. Plasmon-enhanced surface catalytic coupling reactions of aromatic amine compounds. **M. Zhang**, L. Zhao, D. Wu*, B. Ren, Z. Tian
1533. Precise control of carrier density and thickness of thin film plasmonic solar cell. **K. Nakamura***, T. Katase, T. Oshikiri, K. Ueno, H. Ohta, H. Misawa
1534. Plasmon-induced photoelectric conversion system using gallium nitride substrate. **R. Masunaga**, T. Oshikiri, K. Ueno, H. Misawa
1535. Site-selective deposition of polypyrrole via plasmon excitation. T. Toda, X. LI, H. Minamimoto, **K. Murakoshi***
1536. Spectral properties of plasmon-molecule hybrid states under strong coupling and its dynamics . **J. Li***, H. Uehara, T. Oshikiri, K. Ueno, H. Misawa
1537. Microscopic photoluminescence mapping of plasmonic enhanced emission from InGaN/GaN quantum well. K. Tateishi, **K. Okamoto***, M. Funato, Y. Kawakami, P. Wang, S. Ryuzaki, K. TAMADA
1538. Biosensor fabricated by biomolecule-modified Au nanoislands decorated TiO_2 photoelectrode. **J. Guo**, K. Ueno, T. Oshikiri, H. Misawa
1539. Fluorescence imaging of a single nanoparticle on the plasmonic chip. **K. Tawa***, C. Sasakawa, C. Hosokawa
1540. Spectral properties and dynamics of exciton-plasmon coupling states between J-aggregate and metal hybrid nanostructure. **H. Uehara***, J. Li, T. Oshikiri, Q. Chen, K. Ueno, H. Sun, H. Misawa
1541. Fano resonances on gold nano dolmen structures probed by photoemission electron microscopy. **H. Yu***, Q. Sun, K. Ueno, Y. Matsuo, A. Kubo, H. Misawa

Hawaii Convention Center
Halls I, II, III

Recent Progress in Matrix Isolated Species (#199)

Organized by: T. Momose, Y. Lee, D. Anderson

Poster Session
19:00 – 21:00

1542. UV photochemistry of cyclohexadiene in solid parahydrogen. **J. Miyazaki***, S.Y. Toh, P. Djuricanin, T. Momose
1543. Rotational and translational dynamics of hydrogen fluoride in solid parahydrogen. **S. Kuma***, Y. Miyamoto, H. Ooe, N. Sasao, K. Kawaguchi
1544. Matrix effects in NMR-matrix-isolation spectroscopy. **F.T. Zischka**, A.J. Kornath
1545. Exploring the potential energy landscape of alcohol-water complexes: The observation of large-amplitude hydrogen bond motion by far-infrared matrix isolation spectroscopy. J. Andersen, J. Heimdal, **R. Wugt Larsen***
1546. Conformational properties and photochemistry of 2-(1,2,4-triazol-5(3)-yl)phenol in low temperature matrices. **M. Pagacz-Kostrzewa***, M. Saldyka
1547. Photochemical reaction of sulfur hexafluoride with oxygen in low-temperature krypton matrices. **K. Iijima***, D. Takeda, Y. Yamada
1548. Isomerization and photodecomposition of *N*-hydroxyurea in argon matrices: FTIR and theoretical studies. **M. Saldyka***, M. Pagacz-Kostrzewa

Hawaii Convention Center
Halls I, II, III

Metal Ions and Protein Functions: Theoretical Models and Applications (#202)

Organized by: Q. Cui, M. Meuwly, T. Allen, Y. Gao

Poster Session
19:00 – 21:00

1549. Catalase activity of Mn^{III} complexes. A. Romero-Rivera, **M. Swart***
1550. Computational study of effect of different metal ions on dioxygenase activity. **T. Saito**, T. Numata, T. Kawakami, S. Yamanaka, M. Okumura
1551. Effects of salt ions on the dynamics and thermodynamics of protein unfolding and aggregation. H. Du, R. Jennings, Z. Liu, **X. Qian***
1552. Modeling of ligand binding to metalloproteins. **A. Cho***
1553. New force field parameters for copper-zinc SOD1 enzyme and effects of SOD1 demetalation: Implications for understanding of the molecular origin of amyotrophic lateral sclerosis (ALS) and designing therapeutic targets for ALS treatment. **V.K. Hinge**, N. Blinov, N. Cashman, A. Kovalenko
1554. Structural elucidation of Ca^{2+}-triggered folding in a de novo-designed intrinsically disordered peptide. **A.T. Church***, Z.E. Hughes, T.R. Walsh

Hawaii Convention Center
304B

Molecular Perspectives on Interfacial Electrochemistry and Electrocatalysis (#218)

Organized by: M. Eikerling, G. Jerkiewicz, S. Mitsushima, A. Gewirth
Presiding: H.H. Girault

19:00 – 1555. Ionic liquids in nanonoconfinement and the physics of charging of nanoporous electrodes. **A.A. Kornyshev***
19:40 – 1556. Ultrathin carbon electrodes for molecular electronics. **R.L. McCreery***, A. Bergren, B. Szeto, A. Morteza-Najaran, O. Ivanshenko, J. Fereiro, A. Bayat, D. James
20:10 – 1557. Studies of the electrodeposition of Ge and the possible formation of Germanene. **J.L. Stickney***
20:40 – 1558. Non-Faradic energy storage by room temperature ionic liquids in nanoporous electrodes. **D. Bedrov**, J. Vatamanu

Hawaii Convention Center
Halls I, II, III

Dynamical Intermolecular Interactions for Biological Functions (#307)

Organized by: D. Zhong, M. Terazima, Q. Lu

Poster Session
19:00 – 21:00

1559. Conformational dynamics of the cyanobacterial phytochrome1 (Cph1) studied by the transient grating method. **K. Takeda***, M. Terazima
1560. Photodynamic diagnosis of peritoneal metastatic cancer using photosensitizer Talaporfin in vivo. **H. Ryoma***, I. Ii
1561. Theoretical study of high-pressure effect on the structure of helical peptides. **Y. Mori**, H. OKUMURA
1562. Insight into the blinding domains of P-glycoprotein through homology modeling and molecular dynamics simulation. **R. Arenas***, Y. Ba

Hawaii Convention Center
305B

Photocatalysis and Charge Transfer at Interfaces and Nanomaterials (#344)

Organized by: D. Kilin, S. Kilina, I. Burghardt, G. Scholes, U. Diebold, A. Selloni, X. Gong, Q. Sun, R. Asahi, K. Donmen

19:00 Properties of Doped Titania Nanostructures
19:00 – 1563. Structural, electronic, and optical properties of minority surfaces, bilayers, and nanocomposites of anatase TiO_2: A combined DFT+MBPT analysis. **G. Giorgi**, K. Yamashita
19:15 – 1564. Visible light-induced photocatalysis by rhodium-doped titania particles. **B. Ohtani***, T. Arima, M. Takase, J. Kuncewicz
19:30 – 1565. Visible light induced hydrogen evolution of alternate stacked structure of titanate nanosheets and tungstate nanosheets position-selectively modified with Pt complex and Ru complex. **F. Kishimoto***, D. Mochizuki, M. Maitani, E. Suzuki, Y. Wada
19:45 Plasmonic Nanoparticles for Photocatalysis
19:45 – 1566. Direct observation of plasmon-driven photocatalytic hydrogen generation over Au/Pt-TiO_2 composite nanofibers through dual-beam irradiation. **C. Xue**, Z. Zhang
20:00 – 1567. Visible light photocatalytic performance of Au-Pd alloy nanoparticles for various reactions. **H. Zhu***, S. Sarina, Q. Xiao
20:15 – 1568. Novel photocatalyzed aqueous hydrogenation system for unsaturated aromatics using formic acid. **y. huang***, H. Zhu, C. Guo
20:30 concluding remarks

Hawaii Convention Center
Halls I, II, III

Interfacial Phenomena for Bubbles, Droplets, Films and Soft Matter (#403)

Organized by: A. Amirfazli, Y. Zuo, J. Li

Poster Session
19:00 – 21:00

1569. Separation of chalcopyrite and pyrite through bioflotation. B. Bleeze*, **S. Harmer**
1570. Preparation and hydrophobicity of solid/liquid bulk composite using porous glass and low-surface-energy oil. **K. Yokoyama**, M. SAKAI, T. Isobe, S. Matsushita, A. Nakajima*
1571. Phase-separated structures of mixed LB films of long-chain alcohol and hybrid carboxylic acid. **T. Sensui***, S. Watanabe, M. Matsumoto*, K. Murai
1572. Structure of Langmuir-Blodgett-Gibbs films of D19A and C12E8. **K. Suzuki***, S. Watanabe, K. Murai, M. Matsumoto
1573. Photoinduced manipulation of aqueous solutions using a photoresponsive surfactant. **Y. Ayako**, Y. Takahashi, Y. Kondo*
1574. Prevention of biofilm formation due to enzymatic inactivation of quorum sensing signal. **R. Kawakami**, Y. Takayama, Y. Sato, K. Iimura, E. Nasuno, N. Kato*
1575. Suppressive effects of cyclodextrins in biofilm formation of *Pseudomonas aeruginosa*. **Y. Sato**, R. Kawakami, K. Iimura, E. Nasuno, N. Kato*
1576. Aqueous phase behavior and polymerization of molecular assemblies in polymerizable gemini and monomeric surfactant mixtures. **N. Kobayashi**, Y. Takamatsu, Y. Okabe, T. Endo, K. Torigoe, K. Sakai, H. Sakai, M. Abe
1577. Preparation of polymer nanoparticle using highly stable oil in oil type emulsions. **A. Morioki**, T. Endo, K. Sakai, Y. Watanabe, K. Ando, S. Uozumi, S. Okuda, M. Abe, H. Sakai
1578. Emulsification by coacervate-type active interfacial modifier. **M. Tanaka**, T. Endo, K. Sakai, K. Sakamoto, M. Abe, H. Sakai
1579. Light-induced huge assembly formation, dense liquid droplets formation, and crystallization of protein at air/solution interface. **I. Yoshimatsu***, A. Miura, N. Kitamura
1580. Emulsification by poly(acrylic acid)-alkylamine complex as active interfacial modifier. **M. Shijo***, T. Endo, K. Sakai, K. Sakamoto, M. Abe, H. Sakai
1581. Selective formation of mannosyl-larabitol lipid by *Pseudozyma tsukubaensis* JCM16987. **A. Kosaka***, T. Morita, T. Imura, T. Fukuoka, K. Sakai, H. Sakai, M. Abe, D. Kitamoto
1582. Synthesis and interfacial properties of optical-active surfactants analogous to AOT. **S. Murooka**, Y. Takahashi, Y. Kondo*
1583. Detection of hydrogen nanobubbles at Pt(111) atomic flat surface. **K. Kashiwagi**, R. Shinozaki, S. Nakabayashi
1584. Fabrication of femtoliter polymer containers using droplets consisting of hydrocarbon oil/fluorocarbon oil. **M. Kano**, Y. Takahashi, Y. Kondo*
1585. Adsorption characteristics of vitamin A from its emulsion to lipid Langmuir monolayers. **M. Kawahara**, K. Iimura, M. Miyake
1586. Accurate measurement of surface viscosity for dilute surfactant monolayer with electromagnetically spinning system. **T. Hirano***, K. Sakai
1587. Measurement system for surface tension of flying droplet with high time resolution. **S. Mitani***, K. Sakai
1588. Study on existence inspection of the fine bubble. **T. Hata***, M. KARIYA, J. NAGAHARA, K. TADA, Y. NISHIUCHI, Y. YOSHIDA, S. WATANABE, M. OHMORI
1589. Colloidal stability of surfactant-free oil-in-water emulsions in multicomponent system. **A. YAMAMOTO***, T. Sakai
1590. Study on decomposition of organic matter by using the fine bubble and ultrasonic waves. **T. MORITA**, A. HIGUCHI, T. Hata*, J. NAGAHARA, K. TADA, Y. NISHIUCHI

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1591. Study on washing by using fine bubbles. **Y. MATSUDA**, T. ISHIZAKI, T. Hata*, J. NAGAHARA, K. TADA, Y. NISHIUCHI
1592. Study on oil/water (O/W) emulsion manufacture technology using liquid -liquid two phase flow. **K. TADA***, H. SURYADINATA, T. Hata, J. NAGAHARA, Y. NISHIUCHI

Hawaii Convention Center
313A

Reactive Intermediates in Combustion and Atmospheric Chemistry (#419)

Organized by: D. Osborn, S. Kable, K. Liu, J. Lane, Y. Kajii, X. You
Presiding: J.R. Lane

19:00 – 1593. Reactions of atmospheric free radicals studied by cavity ringdown and time-resolved frequency comb laser spectroscopies. **M. Okumura***
19:30 – 1594. Imaging studies of atmospheric radical photochemistry: From energetics to roaming dynamics. **S.W. North**
20:00 – 1595. Imaging the effect of reactant rotations on the dynamics of the Cl + $CHD_3(v_1 = 1, |J, K\rangle)$ reaction. **K. Liu***
20:30 – 1596. Zero-point energy corrected potential energy surface for roaming reactions. **M.J. Jordan***, K. Lee, S. Kable

Saturday Morning

Hawaii Convention Center
301B

Synergistic Relationships between Computational Chemistry and Experiment (#9)

Organized by: S. Wetmore, H. III, L. Radom, P. Schwerdtfeger, R. Wah, H. Nakai, K. Kim
Presiding: H. Nakai, J. Pearson

8:00 – 1597. Fullerenes encaging metal atoms: Interplay of calculations and experiment. **S. Nagase**
8:20 – 1598. Playing with pentagons and hexagons: Fullerenes and their golden duals. **P. Schwerdtfeger***, L. Wirz
8:40 – 1599. DFT approaches designing new ferromagnetic organic magnetic diradicals. **J. Lee***, D. Cho, Y. Nam
9:00 – 1600. GPU-based molecular dynamics simulations of complex fluids and interfaces. **N.M. Cann**, S. Kazachenko, C. Si
9:20 – 1601. Anisotropic noncovalent interactions in molecular assembly and collective properties in condensed phase. **K.S. Kim***
9:40 Break
9:50 – 1602. Dative bonding in main-group compounds. **G. Frenking***
10:10 – 1603. Molecular design of simple D-π-A architecture as potential sensitizers for highly efficient dye-sensitized solar cells. **S. Jungsuttiwong**
10:30 – 1604. CompChem & NMR studies of quadrupolar nuclei in solution. **F. Mocci***, A. Laaksonen, M. Porcu, K. Aidas
10:50 – 1605. Theoretical studies of high pressure reactions. **N. Weinberg***, J.A. Spooner*, H. Wiebe*
11:10 – 1606. Molecular dynamics of bimolecular organic reactions. **K.N. Houk***
11:30 Break

Hawaii Convention Center
306A

Coarse Grained Modeling and its Integration with Experiments (#30)

Organized by: R. Faller, D. Huang, M. Karttunen
Presiding: M. Karttunen

8:00 – 1607. Molecular view on cellular membranes. **S. Marrink***
8:50 – 1608. Insights into the packing switching of the EphA2 transmembrane domain by molecular dynamic simulations. **F. Sun***, S. Luo*
9:20 – 1609. Computer simulations of membrane proteins in a plasma membrane model. **V. Corradi***, G. Singh, S. Marrink, D. Tieleman
9:50 – 1610. Multiscale approach to protein-mediated interactions between cellular membranes: Using simulations of cadherin self-assembly to explain the experimentally observed sensitivity of the adhesion process. **A. Smith**
10:20 – 1611. Multiscale modeling with the integral equation coarse-graining approach. **M. Guenza**

Hawaii Convention Center
313B

Chemistry of Atmospheric Aerosols (#56)

Organized by: A. Laskin, S. Nizkorodov, A. Bertram, X. Yang, C. Ro, E. Bieske
Presiding: E. Bieske, S. Nizkorodov

8:00 – 1612. Complex refractive index of secondary organic aerosols generated from isoprene. **T. Nakayama***
8:30 – 1613. Atmospheric processing of model mineral dust particles and the impact on aerosol optical properties. **M.A. Young**, J.M. Alexander, P.D. Kleiber, V. Grassian
8:50 – 1614. Changes in the optical properties of secondary organic aerosols by chemical processes. **Y. Rudich***
9:20 – 1615. Estimation of light absorption by biomass burning aerosols using detailed chemical composition data. V. Samburova, M. Gyawali, R.L. Yatavelli, R. Chakrabarty, A. Watts, J. Knue, A. Cunningham, J. Connolly, H. Moosmuller, B. Zielinska, **A. Khlystov***
9:40 – 1616. Formation of light absorbing soluble secondary organics and polymeric particles from the dark mixing of catechol and guaiacol with Fe(III). **H.A. Al-Abadleh***, S. Slikboer, L. Grandy, S. Blair, S. Nizkorodov, R. Smith
10:00 Break
10:10 – 1617. Cloud chamber studies of brown carbon formation and aerosol production by aqueous-phase aldehyde-amine reactions during cloud cycling. **D.O. De Haan***, M.D. Zauscher, L.N. Hawkins, A. Pajunoja, M. Cazauneau, E. Pangui, P. Formenti, J. Doussin
10:30 – 1618. Brown carbon formation via atmospheric prevalent carbonyls reacting with methylpyrroles. **P. Lin***, P.K. Aiona, S. Nizkorodov, J. Laskin, A. Laskin*
10:45 – 1619. Computational screening of possible brown carbon compounds in the atmospheric aerosol. **M. Caricato***
11:05 – 1620. Molecular level characterization of aerosol nucleation processes - combined photoelectron spectrosopy and ab-initio modeling approach. **M. Valiev**, X. Wang
11:25 – 1621. Molecular probe for SOA precursors: The photochemical mechanism of sunlight irradiated aqueous pyruvic acid. **A.J. Eugene**, **M.I. Guzman***
11:40 – 1622. Composition and photochemistry of biodiesel and diesel fuel SOA. **S. Blair**, A. MacMillan, G. Drozd, A. Goldstein, P. Lin, J. Laskin, A. Laskin, S. Nizkorodov*

Hawaii Convention Center
308B

Advances in Quantum Monte Carlo (#80)

Organized by: S. Tanaka, L. Mitas, P. Roy
Presiding: C.J. Umrigar

8:00 – 1623. Going beyond single determinant trial functions for diffusion Monte Carlo calculations. **K. Jordan***
8:35 – 1624. QMC using very large configuration interaction-type expansions. **A. Scemama***, E. Giner, T. Applencourt, M. Caffarel
9:10 – 1625. Targeting excited states directly in quantum Monte Carlo. **E. Neuscamman***
9:45 Break
9:55 – 1626. Brueckner-Goldstone quantum Monte Carlo. **S. Hirata***
10:30 – 1627. Water clusters, ice, and bulk liquid: Improving ab-initio structure and energetics. **D. Alfe' ***
11:05 – 1628. Ab-initio molecular dynamics by quantum Monte Carlo. **S. Sorella***
11:40 – 1629. Path integral Monte Carlo method for Rényi entanglement entropies. **C.M. Herdman***, S. Inglis, P. Roy, R.G. Melko, A. Del Maestro

Hawaii Convention Center
308A

Conformational Dynamics of Biomolecules and the Biomolecule-Solvent Interface (#98)

Organized by: M. Nagaoka, D. Leitner, J. Straub, Y. Gao
Presiding: R. Elber, C. Hyeon

8:00 – 1630. Conformation changes and water-protein interaction change for function of proteins. **M. Terazima***
8:30 – 1631. Simple, yet powerful conformational sampling methodologies for proteins. **R. Harada**, Y. Takano, Y. Shigeta
8:50 – 1632. Protein-solvent dynamical coupling in solution and in membranes. **D. Tobias***
9:20 – 1633. Vibrational coupling of site-specific probe pairs for 2D IR studies of protein conformational dynamics. **M.J. Tucker***
9:40 Break
9:50 – 1634. Modeling nanotoxicity: Molecular simulation of protein-nanoparticle interactions and their implications in nanomedicine. **R. Zhou**
10:20 – 1635. Accelerated quasidynamics of biomolecules steered with 3D-RISM-KH mean solvation forces. **A. Kovalenko***, I. Omelyan
10:40 – 1636. Exact milestoning. **R. Elber***
11:10 – 1637. Inhibition of amyloid formation by immunoglobulin light chain variable domain based on the analysis of structural fluctuations. **D. Hamada***, H. Tsutsumi, M. Nawata, C. Ota
11:30 – 1638. Site-specific interrogation of protein conformational dynamics. **F. Gai**

Hawaii Convention Center
305B

Recent Advances in Dynamics of Confined Liquids (#123)

Organized by: A. Luzar, G. Patey, M. Kinoshita
Presiding: D.T. Limmer

8:00 – 1639. From microscopic ion adsorption to macroscopic wettability alteration at solid-liquid interfaces. **F. Mugele***
8:30 – 1640. Toward ab initio molecular dynamics simulations of electrochemical reactions at battery electrode interfaces. **K. Leung***
9:00 – 1641. Harvesting atmospheric water with dewetted polymer surfaces. **C. Neto***, O. Al-Khayat, S. Thickett, D. Beck
9:30 break
9:45 – 1642. THz time domain studies of water entrapped in micelles. **M. Havenith***
10:15 – 1643. Dynamic responses in electric field-induced nanowetting. **D. Bratko***, D. Vanzo, A. Luzar
10:35 – 1644. Molecular dynamics simulation of water between metal walls under electric field: Dielectric response and dynamics after field reversal. **A. Onuki**
11:05 – 1645. Surface effects in nanofluidic energy harvesting. D.J. Rankin, **D.M. Huang***

Hawaii Convention Center
313C

Challenges in Plasmonic Photochemistry (#176)

Organized by: H. Misawa, P. Kamat, H. Sun, S. Gwo
Presiding: S. Link, H. Misawa

8:00 – 1646. Simultaneous evaluation of fluctuation in surface-enhanced resonance Raman scattering and surface-enhanced fluorescence using single silver nanoparticle dimers. **T. Itoh***, Y.S. Yamamoto, H. Tamaru, V. Biju, S. Wakida, Y. Ozaki
8:20 – 1647. Plasmonic metal-semiconductor composites for solar energy harvesting. **N. Wu***
8:50 – 1648. Plasmonic gold nanoparticles in the cancer cell: Following cell cycle, photothermal cell death, drug delivery dynamics, and efficacy. **M.A. El-Sayed***
9:20 – 1649. Nanovortex fields formed by designed plasmonic structures. **K. Sasaki***, R. Takei, K. Sakai
9:40 – 1650. Plasmon-induced artificial photosynthesis using gold nanostructured oxide semiconductor photoelectrodes. **H. Misawa***, Y. Zhong, T. Oshikiri, Y. Mori, K. Ueno
10:10 – 1651. Hot-electron induced photocatalysis. **P. Nordlander***
10:40 – 1652. Plasmonic vertical split-ring resonators for sensing and light manipulation. **D. Tsai***, P. Wu, W. Hsu, . Chen, Y. Huang, W. Tsai, C. Liao
11:10 – 1653. Photochemistry in ultranarrow plasmonic gaps. C. Tserkezis, R. Esteban, D. Sigle, J. Mertens, L.O. Herrmann, J.J. Baumberg, **J. Aizpurua**
11:30 – 1654. Single-particle absorption spectroscopy by photothermal contrast. **S. Link**

Hawaii Convention Center
310 Theatre

Challenges and Opportunities for Exascale Computational Chemistry (#184)

Organized by: J. Rice, W. Swope, A. Rendell, Y. Okamoto
Presiding: W. Swope

8:00 – 1655. *A priori* prediction of chemical reaction mechanisms in complex systems based on quantum chemical molecular dynamics. **S. Irle***
8:30 – 1656. Challenge of simulating crystallisation from aqueous solution: Prospects for exascale computation. **J.D. Gale**, P. Raiteri, R. Demichelis, M. De La Pierre, T. Ling, A.L. Rohl
9:00 – 1657. Challenges to overcome in polymeric simulations. **M. Stevens**
9:30 – 1658. Quantum simulations of heterogeneous materials. **G. Galli***
10:00 Break
10:15 – 1659. Improving the performance of ab initio molecular dynamics simulations for actinide and geochemical systems with new algorithms and new machines. **E.J. Bylaska***, W.A. de Jong, M. Jacquelin, D. Song, J. Weare

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10:45 – 1660. Development of massive parallel code for quantum mechanical molecular dynamics simulations: DC-DFTB-K program. **Y. Nishimura**, H. Nishizawa, M. Kobayashi, S. Irle, H. Nakai*
11:05 – 1661. Real-time electron dynamics for excited-state simulations on exaflop supercomputers. **X. Andrade***, A. Correa

Hawaii Convention Center
304A

Quantum Fluid Clusters (#203)

Organized by: T. Momose, A. Vilesov, M. Choi
Presiding: F. Stienkemeier, A. Vilesov

8:00 – 1662. Superfluidity in helium droplets. **J.M. Eloranta***
8:35 – 1663. Superfluidity in finite-size helium systems: Critical Landau velocity and vortices. **M. Drabbels**
9:10 – 1664. Superfluidity of quantum clusters in confinement. **M. Boninsegni***
9:45 Break
9:55 – 1665. Interaction anisotropy and chaos in collisions of ultra-cold highly-magnetic atoms. **S. Kotochigova***
10:30 – 1666. Dynamics of helium droplets in a cryogenic electrostatic ion storage ring. **S. Kuma***, Y. Nakano, Y. Enomoto, T. Azuma
10:50 – 1667. Theoretical calculations of rovibrational spectra of small molecules inside helium clusters. **M. Lewerenz**
11:25 – 1668. Dynamics of trapped molecules. **P. Roy***, T. Zeng

Hawaii Convention Center
304B

Molecular Perspectives on Interfacial Electrochemistry and Electrocatalysis (#218)

Organized by: M. Eikerling, G. Jerkiewicz, S. Mitsushima, A. Gewirth
Presiding: M. Eikerling, K. Malek

8:00 – 1669. Simulating electric double layers using density functional theory based molecular dynamics. **J. Cheng**
8:20 – 1670. First-principles prediction of solvation energies and redox potentials in aqueous environments. **I. Dabo***
8:50 – 1671. Structure of electrode/electrolyte interfaces studied from first principles. **A. Gross***
9:20 – 1672. Electrocatalysis on model electrodes and modern DFT concepts: Experiment meets theory. **S. Brimaud***, R. Behm
9:40 Break
10:00 – 1673. Modeling heterogeneous photoelectrocatalysis from first principles. **E.A. Carter***
10:40 – 1674. Electrocatalysis from first principles: Mechanistic insights into the oxygen and CO_2 reduction reactions. **M. Neurock***
11:10 – 1675. Reversible potentials, bond strengths, and insertion reactions on electrocatalysts. **A. Anderson**
11:40 – 1676. Computational modeling for understanding electrochemical processes at the bio-nano interface. **I. Matanovic-Gonzales***, S. Babanova, P. Atanassov

Hawaii Convention Center
312

Quantum Coherence in Energy Transfer: General Open System Theory and Methods (#297)

Organized by: J. Cao, P. Brumer, J. Wu

8:00 – 1677. Quantum spectroscopy of photosynthetic complexes with entangled photons. **S. Mukamel***, F. Schlawin, K. Dorfman
8:35 – 1678. Influence of initial electronic coherent superposition on energy transfer and charge separation dynamics in PSII reaction center. **D.F. Coker**, P. Huo, M. Lee
9:10 – 1679. Vibrational coherence dynamics in multidimensional spectra with the optimized mean-trajectory approximation. M. Alemi, **R.F. Loring***
9:45 – 1680. Quantum mechanics of open systems with three classes of bath. **Y. Yan**
10:20 – 1681. First-principles simulation of open systems. **G. Chen***
10:55 – 1682. Open quantum walk approach to a transport problems in biological systems. **F. Petruccione**
11:30 – 1683. Quantum-induced vs. thermally-induced structural transitions in small and very large Lennard-Jones clusters. **V. Mandelshtam***, I. Georgescu*, J. Deckman*, P. Frantsuzov*

Hawaii Convention Center
301A

Dynamical Intermolecular Interactions for Biological Functions (#307)

Organized by: D. Zhong, M. Terazima, Q. Lu

8:00 Introduction
8:05 – 1684. Electrostatics, hydrogen bonding, and dynamics in proteins. **S.G. Boxer***
8:35 – 1685. Significance of dynamic interaction between the BLUF photoreceptor PixD and its downstream factor PixE for controlling phototaxis in cyanobacteria. **S. Masuda***
9:05 – 1686. Structural dynamics of proteins using novel visible fluorescence probes. H. Pan, **J. Xu***
9:35 – 1687. Controlling reactivity by remote protonation of a basic side group. **E. Pines***
9:55 Break
10:10 – 1688. Structural and functional dynamics of the influenza M2 proton channel . **F. Gai**
10:40 – 1689. Molecular mechanism of H/ACA RNP-guided pseudouridylation. **X. zhao***
11:10 – 1690. On the low photo-inactivation rate of bacteria in plasma. **J. Chen**, P. Rentzepis, T.C. Cesario
11:40 – 1691. Prehydrated electron, reductive DNA damage, and cancer initiation. **Q. Lu***, Y. Mei, Q. Zhang

Hawaii Convention Center
306B

Dissociation of Biomolecules in the Gas Phase for Structural Characterization (#352)

Organized by: S. Shin, R. Julian, K. Honma, K. Siu, S. Blanksby
Presiding: R. Julian, S. Shin

8:00 Opening Remakrs
8:05 – 1692. Proposed nomenclature system for peptide ion fragmentation. **K. Siu**
8:25 – 1693. Ground and excited state chemistry of peptide cation-radicals in the gas phase. **F. Turecek***
8:50 – 1694. Collisional isomerization and dissociation of odd-electron peptide ions. **I. Chu**
9:10 – 1695. Gas-phase ion-electron and ion-photon reactions for biomolecular structural determination. **K. Hakansson***
9:30 – 1696. Efforts to make radical-driven peptide fragmentation mass spectrometry as a more practical laboratory tool. **H. Oh**
9:50 – 1697. Evaluation of a bifunctional TEMPO-active ester reagent for peptide structure analysis by tandem mass spectrometry. **M. Schaefer***, C. Ihling, F. Falvo, A. Sinz
10:05 Break
10:15 – 1698. Peptide fragmentation: Energetics, structures, and mechanisms. **P.B. Armentrout**, A. Mookherjee
10:40 – 1699. Reactions of small sulfur-containing molecules with hydrated radical anions in the gas phase. **C.A. Siu***
11:00 – 1700. Evaluation of gas-phase ion activation strategies for 'targeted' and 'global' Identification, characterization, and quantitation of microcystin peptides. **G.E. Reid***, T.J. Attard
11:20 – 1701. Probing the residue configuration in peptides based on the MS-fragment of Pd (II)-peptide complexes. **Y. Pan**
11:40 – 1702. Peptide UV-photodissociation - a statistical interpretation. **J. Moon***, M. Kim, S. Yoon

Hawaii Convention Center
305A

Advances in Quantum Dynamics from Spectroscopy to Reactions (#384)

Organized by: H. Guo, D. Xie, A. Brown

8:00 – 1703. Photochemical dynamics. **D.G. Truhlar**
8:30 – 1704. State-to-state photodissociation studies by VUV-VUV laser time-sliced velocity-map imaging method. **C. Ng**
8:50 – 1705. Geometric phase effects in non-adiabatic dynamics near conical intersections. **A. Izmaylov***
9:10 – 1706. Role of triplets in photochemical processes of molecules in solutions. **Y. Luo**
9:30 – 1707. Novel path-integral based dynamics for photochemistry. **N. Ananth***
9:50 Coffee Break
10:10 – 1708. CPUF: Probing multichannel reaction dynamics with chirped pulse microwave spectroscopy in uniform supersonic flows. **A. Suits***, C. Abeysekera, L. Zack, N. Ariyasingha, B. Joalland, B. Park, R. Field, I. Sims
10:40 – 1709. Isotopic effects in the $O + O_2$ exchange reactions by reactive quantum wavepacket method. **Z. Sun**
11:00 – 1710. Long-lived complexes in the $F + H_2O$ and $F + CH_3OH$ hydrogen abstraction reactions. **R. Continetti***
11:20 – 1711. Quantum interference effect observed in various properties of photofragments of simple molecules . T. Matsuoka, **S. Yabushita**
11:40 – 1712. $H + H_2$ quantum dynamics using potential energy surfaces based on the XYG3 type of doubly hybrid density functionals. **X. Xu**, N. Su*, J. Chen, Z. Sun, D. Zhang

Hawaii Convention Center
326B

Interfacial Phenomena for Bubbles, Droplets, Films and Soft Matter (#403)

Organized by: A. Amirfazli, Y. Zuo, J. Li
Presiding: J. Hao, T. Lee, O.D. Velev, Y. Zuo

8:00 – 1713. Viscoelastic surfactant gels. **J. Hao***
8:30 – 1714. Partially fluorinated self-assembled monolayers having an inverted surface dipole. O. Zenasni, M.D. Marquez, **T. Lee***
8:55 – 1715. Mechanism of action of additives for flocculation and dewatering of mature fine tailings revealed by molecular theory of solvation. **S. Hlushak**, S. Stoyanov, A. Kovalenko*
9:15 – 1716. Using densely packed, hyperbranched, hydrocarbon surfactants to generate low aqueous surface tensions comparable to those attained with fluorinated surfactants. **M. Sagisaka***, R. Soma, T. Narumi, A. Ohata, C. James, A. Yoshizawa, F. Guittard, J. Eastoe
9:35 – 1717. Dispersing carbon nanotubes and graphene nanoplatelets with surface free energy. **X. Zhang***, X. Zhang*, Y. Zuo*
9:55 Coffee Break
10:05 – 1718. Nanocapillary bridging as a new tool for binding of ultraflexible reconfigurable nanoparticle filaments and gel networks. **O.D. Velev***, B. Bharti, M. Rubinstein, A. Fameau
10:30 – 1719. Charge effects on surfactant bilayer dynamics. **R.D. Bradbury**, M. Nagao
10:50 – 1720. Photoinduced coalescence of oil droplets in emulsions prepared using photoresponsive surfactants. **Y. Takahashi***, N. Koizumi, Y. Kondo*
11:10 – 1721. Basic flows in thermocapillary-driven convection in free liquid film. **I. Ueno***, L. Fei, T. Tamura, T. Kaneko, D. Pettit

Hawaii Convention Center
313A

Reactive Intermediates in Combustion and Atmospheric Chemistry (#419)

Organized by: D. Osborn, S. Kable, K. Liu, J. Lane, Y. Kajii, X. You
Presiding: K. Liu

8:00 – 1722. Spectroscopy and dynamics of free radicals studied by slow electron velocity-map imaging of cryogenically cooled anions (cryo-SEVI). **D. Neumark**
8:30 – 1723. Signature of roaming dynamics in the thermal decomposition of ethyl nitrite: Chirped-pulse millimeter-wave spectroscopy and kinetic modeling. **K. Prozument***, Y.V. Suleimanov, B. Buesser, J.M. Oldham, W.H. Green, A.G. Suits, R. Field
9:00 – 1724. Automatic pathway exploration for combusiton and atmospheric reactions. **J. Zádor**
9:30 – 1725. Product detection and kinetic studies of substituted-phenyl oxidation reactions. **A. Trevitt***, S. Blanksby, M. Prendergast, G. da Silva
10:00 – 1726. Simulation of the photodetachment spectrum of the methoxy radical. **J.F. Stanton***
10:30 – 1727. Laser excitation spectra of resonance-stabilized radicals for atmospheres, combustion, and astrophysics. **T. Schmidt**
11:00 – 1728. Yearning for the complete photoionization experiment: Are coincidence techniques all-rounders?. **A. Bodi***
11:30 – 1729. Recent advances in synchrotron-based VUV photoionization mass spectrometry for combustion and energy studies. **F. Qi***, Y. Li, B. Yang

Hawaii Convention Center
307AB

Recent Experimental and Theoretical Advances in Studies of Liquid Interfaces (#437)

Organized by: T. Tahara, A. Morita, R. Walker, L. Dang, H. Kang, S. Yamaguchi, J. Gibbs-Davis
Presiding: H. Kang, S. Yamaguchi

8:00 – 1730. Protein structures and folding at interfaces probed by chiral sum frequency generation vibrational spectroscopy. z. Wang, L. Fu, **E. Yan***
8:30 – 1731. Heterodyne-detected chiral VSFG of bulk liquids and liquid interfaces. **T. Ishibashi***, M. Okuno

*** Principle Author**

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9:00 – 1732. In situ sum-frequency vibrational spectroscopy of electrochemical interfaces. **W. Liu***
9:15 Break
9:35 – 1733. Water orientation and dynamics at surfactant and lipid interfaces. **J. Skinner***
10:05 – 1734. Computational SFG analysis of organic liquid surfaces. **A. Morita***, L. Wang, T. Ishiyama
10:35 – 1735. Hydrogen bonding structure and dynamics at the liquid/solid interface. J. Karnes, **I. Benjamin***
11:05 – 1736. Understanding the rates and molecular mechanism of water-exchange around aqueous Ions using molecular simulations. **I. dang***
11:35 – 1737. Molecular theory of liquid interfaces. **A. Kovalenko***

Saturday Afternoon

Hawaii Convention Center
301B

Synergistic Relationships between Computational Chemistry and Experiment (#9)

Organized by: S. Wetmore, H. III, L. Radom, P. Schwerdtfeger, R. Wah, H. Nakai, K. Kim
Presiding: N. Mora-Diez, P. Schwerdtfeger

13:00 Break
13:10 – 1738. Automatic search of reaction pathways for complex reaction systems using the Global Reaction Route Mapping (GRRM) strategy. **K. Morokuma**
13:30 – 1739. Protodeauration step in gold(I)-catalysed organic reactions. **B.F. Yates***, A. Ariafard, S. Hashmi, R. BabaAhmadi, P. Ghanbari, N.A. Rajabi
13:50 – 1740. Computational investigation into the oxo-transfer mechanisms of diselenolene-Mo and W complexes. **E. Bushnell***
14:10 – 1741. Refining our understanding of the complex solution chemistry of copper coordination with cuprizone. **J.M. Pushie***, K.L. Summers, K.H. Nienaber, S. Caine, I.J. Pickering, G.N. George
14:30 – 1742. Mechanistic understandings of catalytic meta-C-H bond activations. **Y. Wu***
14:50 – 1743. Application of halogen bonding to organocatalysis. **M. Wong***
15:10 Break
15:20 – 1744. Computational investigations of 1,2-HX elimination reactions in competition with 1,1-HX elimination reactions from halocarbons - using experimental evidence to validate computationally-generated transition state geometries. **G. Heard**
15:40 – 1745. Can noncovalent interactions trigger spontaneous heterolytic and homolytic bond cleavages?. **M. Yanez***, O. Mo, I. Alkorta, J. Elguero
16:00 – 1746. Inversion reactions on graphene nanoflakes. **A. Karton***
16:20 – 1747. Modelling aqueous proton-transfer steps: The reaction of CO_2 with aqueous amines. **A. East**
16:40 – 1748. HERON reaction of anomeric amides. **S.A. Glover**

Hawaii Convention Center
306A

Coarse Grained Modeling and its Integration with Experiments (#30)

Organized by: R. Faller, D. Huang, M. Karttunen
Presiding: R. Faller

13:00 – 1749. Wear process simulation of polymer brushes using coarse-grained molecular dynamics. **R. Takakuwa***, Y. Higuchi, N. Ozawa, Y. Tsujii, K. Kurihara, M. Kubo
13:30 – 1750. Coarse-grained molecular dynamics simulation for fracture process of double-network gel. **K. Saito***, Y. Higuchi, N. Ozawa, M. Kubo
14:00 – 1751. Self-rolled nanotubes with controlled hollow interiors by surface grafts. **E. Sim***, M. Han
14:30 – 1752. Coarse-graining electrostatic interactions in molecular simulations of ionic systems. **D. Bedrov***, J. Vatamanu
15:00 – 1753. Minimal, soft, coarse-grained models for polymer blends and copolymers: Successes and challenges. **M. Mueller**

Hawaii Convention Center
313B

Chemistry of Atmospheric Aerosols (#56)

Organized by: A. Laskin, S. Nizkorodov, A. Bertram, X. Yang, C. Ro, E. Bieske
Presiding: A. Laskin, X. YANG

13:00 – 1754. Model simulations of stress induced biogenic VOC emissions. **A.B. Guenther***, D. Gu, H. Yu
13:30 – 1755. Ozonolysis of unsaturated biogenic VOCs: Formation of H_2SO_4 through the reaction of Criegee intermediates with SO_2. **W. Mellouki**, A. Kukui, H. Chen, Y. Ren, V. Daele
13:50 – 1756. Analysis of bonding patterns in Criegee intermediates. **S.S. Xantheas***, E. Miliordos
14:10 – 1757. New photosensitized aerosol source at the ocean microlayer . **C. GEORGE**, P.A. Alpert, R. Ciuraru, S. Rossignol, L. Tinel, M. Passananti, S. Perrier
14:30 break
14:40 – 1758. Understanding chemistry of organic aerosols using high-resolution mass spectrometry. **J. Laskin***, A. Laskin, S. Nizkorodov
15:00 – 1759. Atmospheric dimethyl sulfoxide oxidized to methanesulfonate on aqueous aerosol surfaces . **A.J. Colussi***, S. Enami*, Y. Sakamoto, K. Hara, M. Hoffmann
15:20 – 1760. Size-dependent molecular-level characterization of secondary organic aerosol from O_3 vs. NO_3 oxidation of monoterpenes . **J. Fry***, H. Kang, D. Draper, A. Laskin, J. Laskin
15:40 – 1761. Effects of temperature and relative humidity on photochemistry inside secondary organic aerosol materials. **M.L. Hinks***, M. Brady, H. Lignell, M. Song, J. Grayson, A. Bertram, P. Lin, A. Laskin, J. Laskin, S. Nizkorodov
15:55 – 1762. Uptake of organic nitrates into secondary organic aerosols during the ozonolisys of α-pinene. **V. Perraud***, A.C. Vander Wall, B.J. Finlayson-Pitts
16:10 – 1763. Direct observation of chiral-selective surface reaction of limonene and α-pinene on solid surfaces. **L. Fu**, H. Wang

Hawaii Convention Center
308B

Advances in Quantum Monte Carlo (#80)

Organized by: S. Tanaka, L. Mitas, P. Roy
Presiding: J.B. Anderson

13:00 – 1764. Quantum Monte Carlo methods in curved spaces: Applications to molecular clusters. **E. Curotto***, M. Mella, S.E. Wolf
13:35 – 1765. Diffusion quantum Monte Carlo approaches for studying rovibrational excited states. **A.B. McCoy***, J. Ford, Z. Lin, M. Marlett, A. Petit
14:10 – 1766. Quantum Monte Carlo simulations of confined rotors. **P. Roy***
14:35 – 1767. Variable spins in electronic structure quantum Monte Carlo calculations. **L. Mitas***, C. Melton
15:00 Break
15:10 – 1768. Magnetism and spin transport in transition metal organometallic clusters. **I. Stich***
15:45 – 1769. Application of quantum Monte Carlo methods in acidity studies. **N. Thellamurege***, M. Per
16:05 – 1770. Variational quantum Monte Carlo with inclusion of pairwise molecular orbital correlations. **S. Tanaka***
16:25 – 1771. Advances in quantum Monte Carlo - past, present, and reflections on its future. **S. Rothstein***

Hawaii Convention Center
308A

Conformational Dynamics of Biomolecules and the Biomolecule-Solvent Interface (#98)

Organized by: M. Nagaoka, D. Leitner, J. Straub, Y. Gao
Presiding: d. matyushov, T. Yamato

13:00 – 1772. Visualizing protein structural dynamics by time-resolved X-ray diffraction. **S. Adachi***
13:30 – 1773. Volume profiles for conformational changes in macromolecules and their mechanistic applications. **H. Wiebe***, N. Weinberg*
13:50 – 1774. Application of 2D fluorescence lifetime correlation spectroscopy to elucidating conformational dynamics of biomolecules. **K. Ishii***, T. Tahara
14:20 – 1775. Theoretical study of the dynamic heterogeneity in protein conformational dynamics. **T. Mori***, S. Saito
14:40 Break
14:50 – 1776. Mapping allosteric signaling pathways of GPCRs. **C. Hyeon***
15:20 – 1777. Revealing structural dynamics of GPCR signaling through atomic-level simulation. **R. Dror**
15:40 – 1778. "It is water what matters:" THz absorption spectroscopy as a powerful tool to study biomolecular hydration. **M. Havenith***
16:10 – 1779. Dynamics of biomolecule hydration, crowding, and preferential solvation probed with ultrafast 2D-IR spectroscopy. **K. Kubarych**
16:40 – 1780. Hidden roles of Na^+ in enzymatic activation of thrombin. **I. Kurisaki***, M. Takayanagi, C.E. Barberot, M. Nagaoka
17:00 – 1781. Single molecule and super-resolution study of nuclear structure and dynamics. **y. sun**

Hawaii Convention Center
305B

Recent Advances in Dynamics of Confined Liquids (#123)

Organized by: A. Luzar, G. Patey, M. Kinoshita
Presiding: j. Dufreche

13:00 – 1782. Responsive fluid-based gating mechanism with tunable multiphase discrimination and antifouling behavior. **J. Aizenberg***, A. Grinthal, X. Hou
13:30 – 1783. Water permeation, desalination, gating, and dipole signal transduction with nanopores. **R. Zhou***
14:00 – 1784. Penetration of platinum complex anions into porous silicon: Anomalous behavior caused by surface-induced phase transition. **K. Fukami***
14:30 Break
14:45 – 1785. Bioinspred smart nanochannels. **L. Jiang***, W. Guo, L. Wen, Y. Tian
15:15 – 1786. Diffusion in quasi-1D: Crossing over from single file to normal diffusion. **R.K. Bowles***, S. Ahamdi
15:45 – 1787. Evaluation and control of droplet motion on various hydrophobic silane coatings. **A. Nakajima**

Hawaii Convention Center
313C

Challenges in Plasmonic Photochemistry (#176)

Organized by: H. Misawa, P. Kamat, H. Sun, S. Gwo
Presiding: P.V. Kamat, C.F. Landes

13:00 – 1788. Applications of plasmon-induced charge separation. **T. Tatsuma***, H. Nishi, K. Saito, K. Akiyoshi
13:20 – 1789. Study of molecules released from bacteria using SERS based on arrays of Ag-nanoparticle plasmonic hot-junctions. **Y. Wang***
13:50 – 1790. Gold nanoparticles: Utilizing plasmonic heating and optical forces for photonic applications. **J. Feldmann***
14:20 – 1791. Visible photoactivity of gold clusters and their interaction with plasmonic nanoparticles. **P.V. Kamat**, K. Stamplecoskie
14:50 – 1792. Nonlinear continuum generation in nanoparticle hot spots. **J.M. Lupton**
15:10 – 1793. Active control of surface chemistry on plasmonic nanomaterials. **C.F. Landes**
15:40 – 1794. Coupling of elementary excitations: A case study with plasmons and excitons. **G. Thomas***
16:10 – 1795. Plasmonic liquid marbles as sensors and microreactors. **X. Ling***
16:30 – 1796. Plasmonic sensitization of TiO_2 photoelectrodes with Au nanoparticles prepared by ionic liquid/metal sputter deposition. **T. Kameyama**, Y. Satou, S. Kuwabata, T. Torimoto*

Hawaii Convention Center
310 Theatre

Challenges and Opportunities for Exascale Computational Chemistry (#184)

Organized by: J. Rice, W. Swope, A. Rendell, Y. Okamoto
Presiding: Y. Okamoto

13:00 – 1797. Turning on micromachines: Activation of cytokine receptors and transport proteins. **A.E. Mark***
13:30 – 1798. Molecular dynamics calculation study of entire poliovirus empty capsids using K-computer. **S. Okazaki***
14:00 – 1799. Multiscale modeling and design of biological systems in ground and excited states . **U. Rothlisberger***
14:30 – 1800. Role of exascale computing in the modeling of polymeric nanoparticles for drug delivery. **W. Swope***
15:00 Break
15:15 – 1801. How do we map molecular dynamics simulations to exascale computing resources? Rethinking the problem. **R. Walker**
15:45 – 1802. Multi-petaflops DFT calculations of electronic structure and electron transport. **J. Bernholc**
16:05 – 1803. Molecular dynamics simulation: At a crossroad between molecular biophysics and exascale computing. **X. Cheng**
16:25 – 1804. Molecular simulation toward in silico screening of materials: Prediction of n-octanol/water partition coefficients using molecular simulation combined with the theory of solutions in the energy representation. **M. Kitabata***, T. Kawakami, I. Shigemoto, Y. Mitsuta, N. Matubayasi

Hawaii Convention Center
304A

Quantum Fluid Clusters (#203)

Organized by: T. Momose, A. Vilesov, M. Choi
Presiding: J.M. Eloranta, W.E. Ernst

13:00 – 1805. Microsolvation at 0.37 K: IR spectroscopic studies of aggregates in superfluid helium nanodroplets. **M. Havenith***

*** Principle Author**

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13:30 – 1806. Spectroscopy and photochemistry in superfluid helium nanodroplets. **A. Slenczka***
14:00 – 1807. Path integral simulation studies on quantum clusters. **S. Miura**
14:30 – 1808. Infrared laser spectroscopy and ab initio computations of OH-$(D_2O)_N$ complexes in helium nanodroplets. J.T. Brice, C.M. Leavitt, C.P. Moradi, **G.E. Douberly***, F.J. Hernandez, G.A. Pino
14:50 Break
15:00 – 1809. Quantum molecular dynamics of doped helium clusters. W. UNN TOC, **N. Halberstadt***
15:30 – 1810. Excitation and ionization dynamics in helium nanodroplets. **F. Stienkemeier***, M. Mudrich, J. von Vangerow, A. LaForge, A. Ciavardini, P. O'Keeffe, Y. Ovcharenko, T. Möller, M. Drabbels, P. Piseri, O. Plekan, P. Finetti, M. Coreno, C. Grazioli, R. Richter, K.C. Prince, C. Callegari, M. Ziemkiewicz
16:00 – 1811. Dynamics in helium nanodroplets studied by ultrafast XUV and X-ray techniques. **O. Gessner**
16:30 – 1812. Controlling strong field ionization of clusters in nanodroplets. **J. Tiggesbaeumker***

Hawaii Convention Center
304B

Molecular Perspectives on Interfacial Electrochemistry and Electrocatalysis (#218)

Organized by: M. Eikerling, G. Jerkiewicz, S. Mitsushima, A. Gewirth
Presiding: G. Jerkiewicz, M. UMEDA

13:00 – 1813. Role of well-defined surfaces in electrocatalyst design. **V. Stamenkovic***
13:30 – 1814. Electrocatalysis on well defined (100) Pt-Ni, Pt-Ir and Pt-Ru model systems. **D. Guay***
14:00 – 1815. Oxygen reduction reaction activity and durability of well-defined Pt–M(111) single crystal surfaces. R. Kawamura, M. Asano, Y. Bando, H. Watanabe, S. Takahashi, N. Todoroki, **T. Wadayama***
14:20 – 1816. Surface structures enhancing the activity for the oxygen reduction reaction on well-defined single crystal electrodes. **N. Hoshi***, M. Nakamura
14:40 Break
15:00 – 1817. Shape-controlled and shape-degraded metal alloy ORR nanocatalysts: Atomic-scale growth, structure, degradation, and reactivity. **P. Strasser***
15:30 – 1818. Electrochemical preparation of Pt and Pt-based catalysts for fuel cell applications. **H. Kim**, S. Bong, S. Woo
16:00 – 1819. Mechanism of CO electro-oxidation on polycrystalline Pt in alkaline media studied by surface-enhanced infrared absorption spectroscopy. J. Joo, M.T. Koper, **M. Osawa***
16:20 – 1820. Electrooxidation of CO in solution on Pt electrodes investigated by scanning tunneling microscopy and DTF calculations. **J. Inukai***, D.A. Tryk
16:40 – 1821. Irrelevance of CO poisoning of Pt in methanol and formic acid oxidation on PtRu surfaces. D. Chen, **Y. Tong***

Hawaii Convention Center
312

Quantum Coherence in Energy Transfer: Nanoscale and Excitons (#297)

Organized by: J. Cao, P. Brumer, J. Wu

13:00 – 1822. Direct vs indirect exciton dissociation and recombination dynamics: Role of interfacial disorder and coherence. **E.R. Bittner***
13:35 – 1823. Charge transport mechanism in organic semiconductors. **Z. Shuai***
14:10 – 1824. Coherent exciton decay and transfer in nanostructure arrays. **X. Li**, D. Lingerfelt, A. Petrone
14:45 – 1825. Time-dependent wavepacket diffusive method and its applications to carrier quantum dynamics in materials. **Y. Zhao***
15:15 – 1826. Vibronic quantum coherence in nonequilibrium exciton dynamics. **M. Thorwart***
15:50 – 1827. Impacts of environmentally induced fluctuations on quantum mechanical mixtures in energy/charge transfers and 2D electronic spectra . **A. Ishizaki**
16:25 – 1828. Spectroscopy and topological phases for organic excitons. **J. Yuen**

Hawaii Convention Center
301A

Dynamical Intermolecular Interactions for Biological Functions (#307)

Organized by: D. Zhong, M. Terazima, Q. Lu

13:00 introduction
13:05 – 1829. Protein dynamics and protein design for enzymatic catalysis. **S.D. Schwartz***
13:35 – 1830. Redox-driven proton pumps: Insights from computer simulations. **A.A. Stuchebrukhov**
14:05 – 1831. Contributions of protein dynamics on coupled transfer of electron and protein processes. **J. Gao**
14:35 – 1832. Probing electrostatics and conformational motions along the catalytic cycle of an enzyme. **S. Hammes-Schiffer**
14:55 Break
15:10 – 1833. Protein structure and dynamics-force field and polarization. **J. Zhang**
15:40 – 1834. Molecular recognition conjugated with structural fluctuation of protein, studied by the 3D-RISM/RISM theory. **F. Hirata**
16:10 – 1835. Effects of sequence and chemical modification on DNA structure and protein/DNA interactions. **Y. Gao**
16:40 – 1836. Transient dimerization and conformational dynamics of full-length phototropin from *Chlamydomonas reinhardtii*. **Y. Nakasone***, K. Okajima, S. Tokutomi, M. Terazima

Hawaii Convention Center
306B

Dissociation of Biomolecules in the Gas Phase for Structural Characterization (#352)

Organized by: S. Shin, R. Julian, K. Honma, K. Siu, S. Blanksby
Presiding: S. Blanksby, K. Honma

13:00 – 1837. Probing gas phase biomolecular structure via excitation energy transfer. **R. Julian***
13:20 – 1838. Expanding the capabilities of multidimensional tandem mass spectrometry for top-down proteomics and structural biology. S. Chen, **D.H. Russell***
13:45 – 1839. Collision induced unfolding of protein complexes: Current mechanisms and applications. **B. Ruotolo***
14:05 – 1840. Comprehensive analysis of protein glycosylation on proteins and implications in disease biomarkers and therapeutic production. **C. Lebrilla***
14:30 – 1841. Supercharging and activation of proteins in mass spectrometry. **E. Williams**, C. Going, A. Susa, Z.B. Xia
14:55 Break
15:05 – 1842. Experimental and theoretical studies of the porphyrin binding site on G-quadruplex thrombin-binding aptamer. **S. Shin**
15:25 – 1843. Influence of protonation vs. noncovalent interactions with alkali metal cations on the structures and glycosidic bond stability of DNA and RNA nucleosides. **M.T. Rodgers**, R. Wu, Y. Zhu, C. He, L. Hamlow
15:50 – 1844. Top-down electron capture dissociation mass spectrometry for deep sequencing of phosphoproteins. **Y. Ge***
16:10 – 1845. Laser desorption of nucleic acid components and their structural characterization by IR spectroscopy. **H. Saigusa**
16:30 – 1846. Molecular dynamics simulation of the strand break processes in model DNAs: Analysis of electron and energy transfer. **H. Kono***, N. Hishinuma, M. Kanno, Y. Kino, K. Akiyama
16:45 – 1847. Theoretical study of the binding of tetracationic porphyrin to thrombin-binding aptamer. **H. Kim**, D. Kim, Y. Rhee, S. Shin*

Hawaii Convention Center
305A

Advances in Quantum Dynamics from Spectroscopy to Reactions (#384)

Organized by: H. Guo, D. Xie, A. Brown

13:00 – 1848. Probing resonances in chemical reactions. **X. Yang***
13:30 – 1849. Hybrid approach for ultracold chemical reactions. **B. Naduvalath***
13:50 – 1850. Untangling the energetics and dynamics of reactions of ground state silylidyne radicals with hydrocarbon molecules. **R. Kaiser***, T. Yang, B. Dangi, M. Head-Gordon
14:10 – 1851. Surface temperature effects in methane dissociation on Ni and Ir surfaces. **A. Utz**
14:30 – 1852. Mixed quantum/classical theory (MQCT) for rotationally and vibrationally inelastic scattering. **D. Babikov***
14:50 Coffee Break
15:10 – 1853. Direct dynamics simulations. From microsolvation to semiclassical theory. **W.L. Hase***
15:30 – 1854. Muon science: Providing unique tests of quantum mass effects in the chemical sciences. **D.G. Fleming***, S.L. Mielke, B.C. Garrett, D.G. Truhlar, H. Guo, J. Manz, T. Takayanagi
15:50 – 1855. Mode-specific vibrational enhancement in reactions of polyatomic molecules. **A. Mullin***
16:10 – 1856. Quantum manifestation of transition state control of state-to-state dynamics. **H. Guo***
16:30 – 1857. Quantum dynamics on "on-the-fly" diabatic states: Theory and applications to small hydrogen bonded clusters. **S.S. Iyengar***

Hawaii Convention Center
313A

Reactive Intermediates in Combustion and Atmospheric Chemistry (#419)

Organized by: D. Osborn, S. Kable, K. Liu, J. Lane, Y. Kajii, X. You
Presiding: Y.J. Kajii

13:00 – 1858. Characterization of reactive intermediates in the ozonolysis reactions of alkenes. **J. Zhang***
13:30 – 1859. Photoelectron spectroscopy and photochemistry of ozonide cluster anions, $O_3^-(H_2O)_n$, $O_3^-(Ar)_n$, $O_3^-(C_2H_4)$, and nitrous acid anion, $HONO^-$. J. Lehman, A.M. deOlivera, A.B. McCoy, **W.C. Lineberger***
13:50 – 1860. Photolysis of organic compounds in atmospheric aerosols. **S. Nizkorodov***, M.L. Hinks, M. Brady, H. Lignell, S. Blair, S. Epstein, S. Kim, C. Engelmann, D. Romonosky, N. Ali, M. Saiduddin, M. Wu, J. Lee, P.K. Aiona, A. MacMillan, K. Malecha, M. Song, A. Bertram, J. Grayson, P. Lin, A. Laskin, J. Laskin, R. Gerber, D. Shemesh
14:10 – 1861. Infrared detection of *syn*-ICH_2OO and the Criegee intermediates CH_2OO. **Y. Lee**
14:40 – 1862. Kinetics of simple Criegee intermediates at atmospheric conditions. **J. Lin***
15:10 – 1863. Free radical multiphase chemistry of organic aerosols. **K.R. Wilson**
15:40 – 1864. In-situ mass spectrometric detection of radical intermediates at the air-water interface. **S. Enami***
16:10 – 1865. Quantum mechanics/molecular mechanics (QM/MM) perspective of reactive intermediates and non-covalent interactions. R. Crespo-Otero, K. Bravo-Rodriguez, **E. Sanchez-Garcia***
16:30 – 1866. Secondary organic aerosol formation via the oligomerization reaction of Criegee intermediate in the ozonolysis of unsaturated volatile organic compounds. **Y. Sakamoto**, R. Yajima, S. Inomata, J. Hirokawa

Hawaii Convention Center
307AB

Recent Experimental and Theoretical Advances in Studies of Liquid Interfaces (#437)

Organized by: T. Tahara, A. Morita, R. Walker, L. Dang, H. Kang, S. Yamaguchi, J. Gibbs-Davis
Presiding: I. dang, J. Skinner

13:00 – 1867. Protons and hydroxides in amorphous solid water: Interfacial distribution and transport mechanism. **H. Kang**, D. Lee, C. Choi, T. Choi, B. Sung
13:30 – 1868. Interfacial interactions between water, ions, and polymers that aid in water purification. M. Chaudhari, **S. Rempe**
14:00 – 1869. "First Principles" vibrational spectroscopy of water from many-body molecular dynamics. **F. Paesani***
14:30 – 1870. 2D sum frequency generation spectra at vapor/water interface: Molecular dynamics simulation study. **T. Ishiyama***, A. Morita, T. Tahara
14:45 Break
15:05 – 1871. 2D heterodyne-detected vibrational sum-frequency generation study of water interfaces. **T. Tahara**
15:35 – 1872. Ultrafast vibrational dynamics at mineral/water interfaces. **E. Borguet***
16:05 – 1873. Ultrafast excited-state dynamics at liquid-liquid interfaces. G. Licari, C. Hsieh, **E. Vauthey***
16:35 – 1874. 2D SFG provides molecular insights into aggregation of amyloid peptides on self-assembled monolayers. **A. Ghosh***, J. Ho, **M.T. Zanni***

Saturday Evening

Hawaii Convention Center
301B

Synergistic Relationships between Computational Chemistry and Experiment (#9)

Organized by: S. Wetmore, H. III, L. Radom, P. Schwerdtfeger, R. Wah, H. Nakai, K. Kim
Presiding: M. Wong

19:00 – 1875. Computational simulation of molecules interacting with intense laser fields. **H.B. Schlegel***
19:20 – 1876. Dyson orbitals within equation-of-motion coupled-cluster formalism for wave function analysis and cross section calculations. **A. Krylov**
19:40 – 1877. The SMART cyberinfrastructure: Space-time multiscale approaches for research and technology. **V. Barone***
20:00 – 1878. Something for almost nothing? A computationally tractable approach to variational anharmonic frequencies for molecules, clusters, and materials. **D.L. Crittenden***, M. Sibaev

*** Principle Author**

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20:20 – 1879. Recent advances in F12 molecular electronic structure theory. **S. Ten-no**
20:40 – 1880. Electron-pair distribution functions for electron correlation studies. **J.M. Ugalde***

Hawaii Convention Center
313B

Chemistry of Atmospheric Aerosols (#56)

Organized by: A. Laskin, S. Nizkorodov, A. Bertram, X. Yang, C. Ro, E. Bieske
Presiding: E. Bieske, C. Ro

19:00 – 1881. Direct measurements of the time-evolving optical cross-sections of individual aerosol particles. **J.P. Reid***, M.I. Cotterell, R. Willoughby, A.J. Orr-Ewing
19:30 – 1882. Incandescence of trapped carbon nanoparticles. **E. Bieske***
19:45 – 1883. Polycyclic aromatic hydrocarbons transported from China to Japanese island in the East China Sea. **K. Miura**, X. Yang, X. Chen, F. Meng, K. Sato, A. Takami, S. Hatakeyama*
20:00 – 1884. Microdroplet and mass spectrometry tools for the study of liquid-phase photochemistry. **A. Trevitt***, P. Tracey, C. Hansen, B. Vaughn
20:30 – 1885. Whispering gallery modes in optically trapped aerosol particles. **T.C. Preston***
20:45 – 1886. Chemical reactions induced by collision of aerosol droplets. **J. Kohno***

Hawaii Convention Center
Halls I, II, III

Conformational Dynamics of Biomolecules and the Biomolecule-Solvent Interface (#98)

Organized by: M. Nagaoka, D. Leitner, J. Straub, Y. Gao

Poster Session
19:00 – 21:00

1887. Phase-resolved high-resolution broadband sum frequency generation vibrational spectroscopy of peptides and proteins at surfaces and in membranes. **L. Fu**, H. Wang
1888. Application of the 3D-RISM-KH molecular theory of solvation to study biomolecular interfaces. **N. Blinov***, A. Kovalenko
1889. Reaction mechanism of glycinamide ribonucleotide synthetase in the purine nucleotide biosynthetic pathway: QM/MM simulations combined with a minimum energy path search algorithm and a free-energy perturbation method. **N. Yamamoto**, G. Sampei, G. Kawai
1890. Application of fragment molecular orbital method for structure-based drug design. **K. Fukuzawa***, . Watanabe, Y. Okiyama, H. Watanabe, T. Honma, Y. Mochizuki, S. Anzaki, S. Tanaka
1891. Benchmark for new fragmentation breaking peptide bonds. **M. Sakaguchi***, K. Fukuzawa, Y. Mochizuki
1892. Smaller 145th residue makes fluorescent protein nonfluorescent: Fluorescence lifetimes of enhanced yellow fluorescent protein (eYFP) Y145 mutants and H148 mutants. **H. Hosoi***, S. Hazama
1893. Protein interactions in and at the membrane: Computational predictions and their validation for the plexin family of single transmembrane receptors. **M. Buck***
1894. Gating mechanism of the calcium release-activated calcium channel: Insights from the pore flexibility. **H. Dong***
1895. P-loop conformation governed crizotinib resistance in G2032R-mutated ROS1 tyrosine kinase: Clues from free energy landscape. **T. Hou**, Y. Li
1896. Conformational sampling by a novel replica exchange method: *tq*-REM. **M. Lee**, J. Yoon, S. Jang, S. Shin*
1897. Advanced simulations of peptide adsorption at the aqueous titania interface. **A.M. Sultan***, L. Wright, Z.E. Hughes, T.R. Walsh
1898. Molecular dynamics analysis of reactant complex structure of lactone ring-opening reaction catalyzed by cyclodextrin. **S. Ito***, M. Takayanagi, M. Nagaoka
1899. Calculation of β-cyclodextrin and guest binding enthalpy and entropy: From thermodynamics to kinetics. **Z. Tang***, **C. Chang**
1900. Role of water molecule on the reaction mechanism of CAL-B catalyzed ring-opening polymerization of β-lactam: A QM/MM study. **C.E. Barberot***, I. Kurisaki, Y. Suzuki, M. Nagaoka
1901. Theoretical analysis of the effects caused by incorporation of Trifluridine to DNA. **J. Koseki***, K. Tsunekuni, M. Konno, N. Nishida, K. Kawamoto, Y. Doki, M. Mori, H. Ishii
1902. Affinity of HIV-1 antibody 2G12 with monosaccharides: A theoretical study based on explicit and implicit water models. **K. Noto***, K. Takano
1903. Molecular docking of alkyl benzoquinones and alkil phenols with the XIAP's BIR3 domain. **M.A. Hernandez**, I. Ortiz Verano, D.R. Muñoz Cendáles
1904. Diffusion of nanoparticles in semidilute polymer solutions: A modecoupling theory study. **N. Zhao***

Hawaii Convention Center
305B

Recent Advances in Dynamics of Confined Liquids (#123)

Organized by: A. Luzar, G. Patey, M. Kinoshita
Presiding: M. Heyden

19:00 – 1905. Thermoelectrokinetic energy conversion in liquid water microjets. **R. Saykally**
19:30 – 1906. Electrokinetic flow of aqueous NaCl solutions in amorphous silica nanotubes. **C.D. Daub***, N.M. Cann, D. Bratko, A. Luzar
20:00 – 1907. Simulations of water and ion transport through model nanopores: The influences of water parameters and pore geometry. L. Liu, **G. Patey***
20:20 – 1908. Field-induced electro-osmod-iffusion of uncharged particles in water. **A. Smith***
20:40 Q & A

Hawaii Convention Center
304A

Quantum Fluid Clusters (#203)

Organized by: T. Momose, A. Vilesov, M. Choi
Presiding: W. Jaeger

19:00 – 1909. Reactions driven by metastable helium anions in doped helium nanodroplets. **P. Scheier***
19:30 – 1910. On the role of helium anions in helium droplet. **A. Mauracher***, S.E. Huber, A.M. Ellis, P. Scheier
19:50 – 1911. Rotation of quantum impurities in the presence of a many-body environment. **M. Lemeshko**, R. Schmidt
20:20 – 1912. Hydrogen clusters in helium droplets probed by methane infrared spectroscopy. **T. Momose**
20:50 Break

Hawaii Convention Center
304B

Molecular Perspectives on Interfacial Electrochemistry and Electrocatalysis (#218)

Organized by: M. Eikerling, G. Jerkiewicz, S. Mitsushima, A. Gewirth
Presiding: D. Guay

19:00 – 1913. Novel materials for an efficient electrocatalyst for oxygen reduction reaction: Insulating boron nitride nanosheet on an inert gold substrate. **K. Uosaki***, G. Elumalai, H. Noguchi, A. Lyalin, T. Taketsugu
19:30 – 1914. Unraveling the mysteries of active sites in non PGM catalysts. **S. Mukerjee***
20:00 – 1915. Group 4 and 5 metal oxide-based compounds as new non-platinum oxygen reduction electrocatalysts. **A. Ishihara***, K. Matsuzawa, S. Mitsushima, K. Ota
20:20 – 1916. Oxygen reduction electrocatalysis: Mechanism and the design of new catalysts. **A. Gewirth**, C.J. Barile, E. Tse
20:40 – 1917. Study of the nickel oxy-hydroxide formation and ethanol electro-oxidation reactions at low temperature in alkaline media. **J. van Drunen**, A.F. Barbosa, G. Tremiliosi-Filho*

Hawaii Convention Center
301A

Dynamical Intermolecular Interactions for Biological Functions (#307)

Organized by: D. Zhong, M. Terazima, Q. Lu

19:00 – 1918. 2D IR spectroscopy reveals the dynamics a β-sheet intermediate in type-II diabetes. **A.L. Serrano**, L. Tu, D. Raleigh, **M.T. Zanni**
19:30 – 1919. Elucidating excited state reaction pathways in photosensitive systems using femtosecond stimulated Raman spectroscopy. Y. Wang, B.G. Oscar, W. Liu, L. Tang, L. Zhu, **C. Fang***
20:00 – 1920. On "allosteric" regulation through dynamical intermolecular interactions between proteins and small molecules/cations: A molecular dynamics simulation study. **M. Nagaoka***
20:30 – 1921. Molecular dynamics simulations for oligomerization and disruption of amyloid-β fibril. **H. OKUMURA***

Hawaii Convention Center
Halls I, II, III

Advances in Quantum Dynamics from Spectroscopy to Reactions (#384)

Organized by: H. Guo, D. Xie, A. Brown

Poster Session
19:00 – 21:00

1922. Resonant two-photon ionization of terpenyl derivatives in the presence of cyclodextrins. **Y. Kasaba**, T. Takeshita, M. Hara
1923. Theoretical infrared spectra of deuteronated PAHs: Astrophysical implications. **A. Pathak***, M. Buragohain, P.J. Sarre
1924. Theoretical investigation of isotope exchange reaction between several small organic molecules and tritium. **L. Dong**, L. Du, Z. Tan
1925. Theoretical study of photoisomerization between 1,3-cyclohexadiene and 1,3,5-cis-hexatriene. **A. Ota***, O. Kobayashi, S.O. Danielache, S. Nanbu
1926. First-principles in-situ XAS simulation of chemical reaction at cathode-electrolyte interface in Li-ion batteries. **T. Tamura***
1927. Nonadiabatic ab initio molecular dynamics of uracil and 6-azauracil. **S. Takashima***, T. Murakami, S. Nanbu
1928. Measuring and modeling the electronic structure of explosives at the explosive/air interface. **D. Farrow***, I.T. Kohl, H. Fan, R. Knepper, M. Marquez, S.P. Kearney, J.J. Kay

Hawaii Convention Center
Halls I, II, III

Reactive Intermediates in Combustion and Atmospheric Chemistry (#419)

Organized by: D. Osborn, S. Kable, K. Liu, J. Lane, Y. Kajii, X. You

Poster Session
19:00 – 21:00

1929. Acetone photodynamics: What the fragments tell us. **K. Lee***, K. Nauta, S. Kable
1930. Atmospheric chemistry of cis-3,3,3-trifluoro-1-chloro-propene (HCFO1233zd(Z)). **O.J. Nielsen***, M. Sulbaek Andersen, L. Andersen, T.J. Wallington
1931. Atmospheric chemsitry of trans-3,3,3,-trifluoro-1-chloro-propene (HCFO-1233zd(E)). **M. Sulbaek Andersen***, O.J. Nielsen, L. Andersen, T.J. Wallington
1932. MRCI study of ground state and low-lying states of Si_2. A. Shah, D. Corey, A. Seitz, **J. Song***
1933. Reaction models of the pyrolysis of hydrocarbons. **A. Jamal***, K. Morokuma
1934. Non-intrusive isomer specific detection of combustion intermediates via photoionization through Rydberg states. **F. Rudakov***, P. Weber
1935. Bimolecular cyclization reactions under single collision conditions: Formations of the benzyl radical and toluene. **B.B. Dangi**, D.S. Parker, T. Yang, R. Kaiser, A. Jamal, A.M. Mebel
1936. Spectroscopic evidence of jet-cooled *p*-methyl-alpha-methylbenzyl radical. **S.K. Lee**
1937. Computational challenges in investigations of elusive intermediates in combustion and atmospheric chemistry. **E. Papajak**, J. Zádor
1938. Alternative fate of formyl: Formic acid as a comubstion intermediate. **M. Döntgen**, W.A. Kopp, K. Leonhard
1939. Direct kinetic measurement of the reaction of the simplest Criegee intermediate with water vapor. **W. Chao**, J. Hsieh, C. Chang, J. Lin*
1940. Investigating the role of pyrene on the oxidative capacity of the atmosphere. **A.L. Gomez**, K. Foster*
1941. Method to estimate the contribution of unidentified VOCs to OH reactivity: Ambient air, car exhaust, and plant emission. **S. Kato***, Y. Nakashima, Y.J. Kajii
1942. Development of an instrument for the measurements of gaseous glyoxal by broad band cavity enhanced absorption spectroscopy (BBCEAS). **Y. Nakashima**, H. Tsurumaru, Y.J. Kajii
1943. Unimolecular reaction dynamics of atmospherically relevant α-keto carboxylic acids: Capturing hydroxycarbene intermediates. **S. Sutradhar**, A.K. Samanta, H. Reisler*
1944. Atmospheric chemistry of $(CF_3)_2CHOCH_3$, $(CF_3)_2CHOCHO$, and $CF_3C(O)OCH_3$. **F.F. Østerstrøm***, T.J. Wallington, M.P. Sulbaek Andersen, O.J. Nielsen

Hawaii Convention Center
Halls I, II, III

Recent Experimental and Theoretical Advances in Studies of Liquid Interfaces (#437)

Organized by: T. Tahara, A. Morita, R. Walker, L. Dang, H. Kang, S. Yamaguchi, J. Gibbs-Davis

Poster Session
19:00 – 21:00

1945. Molecular dynamics study of the structures at the free surface and the electrode interface of a quaternary ammonium based ionic liquid. **S. Katakura***, N. Nishi, K. Kobayashi, K. Amano, T. Sakka

*** Principle Author**

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1946. Toward ab initio molecular dynamics modeling for sum-frequency generation spectra: An efficient algorithm based on surface-specific velocity-velocity correlation function. **T. Ohto***, K. Usui, Y. Nagata
1947. Vibrational spectroscopic study of lipid/water interface by molecular dynamics simulation. **D. Terada**, T. Ishiyama*, A. Morita*
1948. Heterodyne-detected vibrational sum frequency generation spectroscopy studies of hemocompatibility at the polymer/water interface. **A. Myalitsin**, S. Nihonyanagi, S. Yamaguchi, J. Yanagisawa, T. Aoki, T. Tahara*
1949. Nanoparticle-biomolecule interactions at aqueous interface Investigated by surface-selective nonlinear spectroscopy. **Z. Lu***
1950. Reaction of SO_2 and NO_2 on ice surfaces at low temperature (90-170 K). **J. Bang***, Y. Kim, S. Kim, D. Lee, H. Kang
1951. Origin of the instability of octadecylamine Langmuir monolayer at low pH. **W. Sung**, Z. Avazbaeva, J. Lee, M. Phan, K. Shin, D. Vaknin, D. Kim*
1952. Developing ab initio-based potentials for studying ion hydration: The i-TTM model. **D.J. Arismendi Arrieta**, R. Prosmiti, F. Paesani
1953. Non-uniform distributions of completely miscible liquids at gel/solid interface as probed by confocal Raman microscopy. **K. Honma**, K. Matsuka, M. Sano*
1954. Protein salting-out observed at a liquid interface. **Y.F. Yano***, E. Arakawa, W. Voegeli, T. Matsushita, T. Uruga
1955. Role of water fingering in ion transport through oil-water interface. **N. Kikkawa**, L. Wang, A. Morita*
1956. Heterodyne-detected vibrational sum frequency generation spectroscopic study on the structure of water at the air/water interface. **S. Nihonyanagi**, R. Kusaka, K. Inoue, A. Kundu, A. Adhikari, S. Yamaguchi, T. Tahara
1957. Eutectic mixture of indomethacin and lidocaine can lower the entropy of fusion. **Y. Shimada***, H. Kataoka, R. Tateuchi, H. Terada, K. Makino, S. Gotou
1958. Transport properties of hydronium and hydroxide ions in amorphous solid water: Surface segregation and transport mechanism. **D. Lee**, J. Bang, Y. Kim, Y. Park, H. Kang*
1959. Characterizing the influence of interfacial environments on the early growth of *E.coli* biofilms. **T. Jarisz**, D. Hore*
1960. Enhanced understanding of amphipathic peptide adsorbed structure by modeling of the nonlinear vibrational response. **S. Roy**, D. Hore*
1961. Thermodynamics and intrinsic structure of the Al−Pb liquid−liquid interface. **B.B. Laird**, Y. Yang
1962. Thermodynamics and kinetics for the particular phase transformation of *S*-ibuprofen/lidocaine mixture. **H. Kataoka**, r. tateuchi, Y. Shimada, S. Gotou
1963. Structure and oversaturation of the inclusion complex formed between 1,4-dihydropyridine calcium channel blockers and (2-hydroxypropyl)-β-cyclodextrin. **Y. Li**, Y. Shimada, Y. Yokoyama, . Terada, K. Makino, S. Gotou*
1964. Congo red aggregation and emulsion at the oil/water interface: A simplified model for histological amyloid aggregation. **T. Wada**, T. Iijima, S. Osozawa, Y. Shimada, S. Gotou

Sunday Morning

Hawaii Convention Center
301B

Synergistic Relationships between Computational Chemistry and Experiment (#9)

Organized by: S. Wetmore, H. III, L. Radom, P. Schwerdtfeger, R. Wah, H. Nakai, K. Kim
Presiding: J.M. Pushie, L. Radom

8:00 – 1965. "Negative" catalysis and cool quantum effects revealed through mutagenesis and quantum chemical studies of ornithine 4,5-aminomutase. **G. DiLabio***, K.R. Wolthers, C. Makins
8:20 – 1966. Catalysing alternate reactions to achieve high-fidelity: A multiscale computational study on aminoacyl-tRNA synthetases. **J.W. Gauld***
8:40 – 1967. Computing highly accurate spectroscopic line lists for characterization of exoplanet atmospheres and assign astronomical observations: A collaboration between theory and experiment. **T.J. Lee**, X. Huang, D.W. Schwenke
9:00 – 1968. Direct phosphorylation mechanism of GHMP kinases disclosed by hybrid QM/MM calculations. **M. Huang***
9:20 – 1969. Elongation factor 2 diphthamide unit: Unique, essential, and vulnerable. **L.A. Eriksson***
9:40 – 1970. Computational insights into the development of novel therapeutic strategies for Alzheimer's disease. **R. Prabhakar***
10:00 Break
10:10 – 1971. Applications of computer aided drug design to Alzheimer's disease. **D.F. Weaver***, C. Barden, M. Reed, M. Taylor, F. Wu, E. Lu, A. Yadav, S. Yang, Y. Wang, L. Pan, M. Carter
10:30 – 1972. Comparing the binding strength of different pseudo-peptides to a model of amyloid beta peptide. **B. Mehrazma**, A. Rauk
10:50 – 1973. Competitive copper inhibiting ligands and protonation studies on Aβ (13-23) /ligand design. **S.K. Opare***, A. Rauk
11:10 – 1974. Retired for 15 years and fretting over Alzheimer's. **A. Rauk***
11:30 – 1975. Reflections of a computational quantum chemist on the road taken. **R.J. Boyd**
11:50 Break

Hawaii Convention Center
313B

Chemistry of Atmospheric Aerosols (#56)

Organized by: A. Laskin, S. Nizkorodov, A. Bertram, X. Yang, C. Ro, E. Bieske
Presiding: A. Laskin, S. Nizkorodov

8:00 – 1976. Latest developments in predicting aromatic-derived SOA in a regional air quality model. M. Dawson, R. Griffin, **D. Dabdub***
8:30 – 1977. Stochastic particle-resolved models for atmospheric aerosol simulation. **N. Riemer***, M. West
9:00 – 1978. New, experimentally based secondary organic aerosol paradigm. **A. Zelenyuk-Imre***, D. Imre, M. Shrivastava, J. Wilson, E. Abramson, J. Beranek, L. Kleinman, J. Fast, S. Springston
9:20 – 1979. Examination of sulfate aerosol formation over the southern ocean. **Q. Chen***, B. Alexander, Z. Xie, J. Dachs, J. Cole-Dai, L. Geng, M. Camp
9:35 – 1980. Simulating secondary organic aerosol and its climatic impacts from global to regional scales: Model improvements, multi-year applications, and interactions with climate. **Y. Zhang***, K. Yahya, T. Glotfelty, K. Wang
9:50 Break
10:00 – 1981. Mass spectrometric characterization and quantification of organosulfates in Chinese aerosols. **J. Yu***, B. Kuang, Y. Zhao, Y. Wang
10:30 – 1982. Effect of anthropogenic pollutants on biogenic organic aerosol formation. J. Ye*, C. Adam, B. Urch, **A. Chan**
10:50 – 1983. Airborne submicron particulate. **J. Chen***
11:10 – 1984. Simultaneous measurements of aerosol metallic compositions at three Chinese and Japanese island sites. **S. Hatakeyama***, Y. Araki, K. Shimada, A. Yoshino, A. Takami, X. Yang, X. Chen, F. Meng
11:25 – 1985. Chemical composition of PM2.5 collected in São Paulo city, Brazil (2014). **P.C. Vasconcellos***, G.M. Pereira, S.E. Caumo, R. Hillamo, K. Saarnio, K. Teinila, W. Maenhaut, M. Claeys
11:40 – 1986. Seasonal characteristics of $PM_{2.5}$ components in urban environment, Busan, Korea. **G. Park***

Hawaii Convention Center
308B

Advances in Quantum Monte Carlo (#80)

Organized by: S. Tanaka, L. Mitas, P. Roy
Presiding: S. Tanaka

8:00 – 1987. Quantum Monte Carlo (QMC) simulation making progress for reactions at metal surfaces. **P.E. Hoggan***
8:35 – 1988. Topological analysis of $|\Psi|^2$: Insight into chemical bonding with quantum Monte Carlo. **A. Luechow**
9:10 – 1989. Noncovalent interactions in molecules by quantum Monte Carlo. **M. Dubecky***
9:45 – 1990. QMC high performance computing of molecular interactions. **K. Hongo***, R. Maezono
10:05 Break
10:15 – 1991. Quantum Monte Carlo calculation of positron-attached polyatomic molecules. **M. Tachikawa**
10:50 – 1992. Quantum Monte Carlo calculations on helium clusters with open shell and ionic dopants. **M. Lewerenz**
11:25 – 1993. Atomistic quantum simulations of doped helium nanodroplets: Approaching the kilo-atom size regime. **R. Hinde**

Hawaii Convention Center
308A

Conformational Dynamics of Biomolecules and the Biomolecule-Solvent Interface (#98)

Organized by: M. Nagaoka, D. Leitner, J. Straub, Y. Gao
Presiding: M. Havenith, K. Kubarych

8:00 – 1994. Investigation conformational changes of biological macromolecules using kinetic network models. **X. Huang**
8:30 – 1995. Dynamic stabilization mechanism of human leukocyte antigen B*35: 01. **S. Yanaka***, T. Ueno, K. Tsumoto, K. Sugase
8:50 – 1996. Role of protein flexibility in immunogenic recognition. C. Ayres, B. Baker, **S. Corcelli***
9:10 – 1997. Mechanism of quality control of biogenesis of OMPs in periplasm. **X. zhao***
9:40 – 1998. Conformational dynamics coupled to signal transduction in downstream regulatory element antagonist modulator. **J. Miksovska***
10:00 Break
10:05 – 1999. Electron transport in biology: Ergodicity breaking and protein-water interface. **d. matyushov***
10:35 – 2000. Interplay between interfacial water and signal transduction in proteins: Molecular dynamics study of virus-host protein complexes. P. Dutta, M. Botlani, **S. Varma***
10:55 – 2001. Energy exchange network model of proteins. **T. Yamato***
11:25 – 2002. Oxygen behavior inside and surface of hemoglobin for respiratory function. **M. Takayanagi***, I. Kurisaki, M. Nagaoka
11:45 – 2003. Deciphering cryptic binding sites on proteins by molecular dynamics in mixed solvent. **S.R. Kimura**, H. Hu, A. Ruvinsky, A. Favia

Hawaii Convention Center
305B

Recent Advances in Dynamics of Confined Liquids (#123)

Organized by: A. Luzar, G. Patey, M. Kinoshita
Presiding: G. Patey

8:00 start 30 min later:8:30 AM
8:30 – 2004. Nanoconfined catalytic Angstrom-size motors. **R. Kapral**, P. Colberg*
9:00 – 2005. Water in the pocket: Exploring local entropies and dynamics of water confined on biomolecular surfaces in atomistic simulations. **M. Heyden***
9:30 – 2006. Water dynamics and selective cation transport in ion channels and biological nanopores. **S. Noskov**, V. Ngo
10:00 break
10:15 – 2007. Macromolecular ion-solvent interactions in charged droplets. **S. Consta***
10:45 – 2008. Molecular dynamics simulation on the phase behavior of water confined in a peroidic array of hydrophobic pillars. Z. Zhang, H. Kim, **J. Jang**
11:00 – 2009. GPU-accelerated replica-exchange molecular dynamics simulation of freezing behavior in confined quasi-1D water. **K. Nomura***, D. Takaiwa, J. Bai, K. Yasuoka, X.C. Zeng
11:15 – 2010. Solid-liquid critical behavior of water in hydrophobic nanotubes. **K. Koga**, K. Mochizuki
11:45 Closing remarks

Hawaii Convention Center
313C

Challenges in Plasmonic Photochemistry (#176)

Organized by: H. Misawa, P. Kamat, H. Sun, S. Gwo
Presiding: K. Murakoshi, H. Sun

8:00 – 2011. Fabrication of metal nanostructures using energy difference at organic/metal/dielectric interface. **S. Matsushita***, T. Sannomiya, T. Tatsuno, T. Takahashi, T. Isobe, A. Nakajima
8:20 – 2012. Identifying plasmons in molecular quantum-chemical calculations. **C.R. Jacob**
8:40 – 2013. Self-assembled metamaterials on a viral coat protein template . **A.S. Blum**, O. Zahr
9:00 – 2014. Control of multiexciton dynamics in a single quantum dot using plasmonic nanostructures. **S. Masuo***, H. Takata
9:20 – 2015. Plasmon-enhanced chemical oxidation of adenine adsorbed on silver nanostructures. **D. Wu***, R. Huang, Y. Chen, Z. Tian
9:40 – 2016. Protein-based functional micro-nano-devices enabled by femtosecond laser fabrication. **H. Sun**
10:10 – 2017. Broadband plasmonics toward high-efficiency light-emitting device. **K. Okamoto***, K. Tateishi, P. Wang, S. Ryuzaki, K. TAMADA
10:30 – 2018. Ultrafast capture and release of hot plasmonic electrons in Ag@niobate nanopeapods. M. Liu, J.B. Wiley, **P. Piotrowiak***

*** Principle Author**

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10:50 – 2019. Plasmonic photovoltaics at smooth and nanostructured metal/dielectric interfaces. **G.W. Leach***, F. MacNab, M. Cetinbas, C. McCague, H. Qiao, T. Johansson, X. Zhang, S. Gou, G. Wong, J. Chan, K. Khosraviani, D. Star, A. Pattantyus-Abraham
11:10 – 2020. Surface plasmon resonance hydrogen sensing by electrons exchange. E. Gazzola, F. Romanato, M. Guglielmi, **A. Martucci**
11:30 – 2021. Characteristic intermediates at plasmon-induced water oxidation process. K. Suzuki, S. Yasuda, **K. Murakoshi***
11:50 Closing Remarks

Hawaii Convention Center
310 Theatre

Challenges and Opportunities for Exascale Computational Chemistry (#184)

Organized by: J. Rice, W. Swope, A. Rendell, Y. Okamoto
Presiding: A.P. Rendell

8:00 – 2022. Radical development of the fragment molecular orbital method. **D.G. Fedorov***
8:25 – 2023. Parallel implementations of multi-reference coupled-cluster methods for molecular systems. **K. Kowalski***
8:50 – 2024. Enhanced sampling methods for exascale computationlal chemistry. **Y. Okamoto***
9:15 – 2025. Ab initio predictions for structures and spectra of molecules in condensed phases. **S. Li**
9:40 – 2026. Concurrency and sparsity: Major challenges for electronic structure. **E.F. Valeev***
10:05 Break
10:20 – 2027. Accurate and robust embedding methodologies for enzymatic and catalytic systems. **J.D. Goodpaster***, T.F. Miller, A. Bell, M. Head-Gordon
10:45 – 2028. occ-RI-K: A fast, accurate new algorithm for exact exchange. **S. Manzer***, N. Mardirossian, P. Horn, M. Head-Gordon
11:05 – 2029. Parallelization of quantum chemical calculations by using divide-and-conquer method. **T. Yoshikawa**, H. Nakai
11:25 – 2030. Linear-scaling quantum many-body theory via sparse scale-adaptive tensor algebra and massively parallel virtual processing. **D.I. Lyakh (Liakh)***

Hawaii Convention Center
304A

Quantum Fluid Clusters (#203)

Organized by: T. Momose, A. Vilesov, M. Choi
Presiding: T. Momose, J. Tiggesbaeumker

8:00 – 2031. Modeling of soft, ^{4}He droplet-assisted, deposition of metal nanostructures. **M. De Lara-Castells***, N. Aguirre, R. Fernández-Perea, C. Cabrillo, H. Stoll, A. Mitrushchenkov, D. Mateo, M. Pí, L. Gómez, A. Vilesov
8:30 – 2032. Aggregation dynamics of metal dopants in helium nanodroplets. **W.E. Ernst***
9:00 – 2033. Cluster films by helium droplet mediated cluster assembly: growth and characterization. C.J. Ridge, S.B. Emery, K.B. Rider, **C.M. Lindsay***
9:30 – 2034. Helium nanodroplet spectroscopy of unstable species. C. Knapp, P. Das, **W. Jaeger**
10:00 Final remarks
10:10 – 2035. Ion-pairs in polar solvents: Infrared spectroscopy of salt-solvent complexes in helium nanodroplets. J. Tandy, A. Sadoon, G. Sarma, C. Feng, S. Yang, **A.M. Ellis***
10:40 – 2036. Effect of kinetic energy on the doping efficiency of cations into superfluid helium droplets. L. Chen, J. Zhang, W. Freund, **W. Kong***
11:10 – 2037. Symmetric arrangements of xenon clusters and quantum vortices in helium nanodroplets. **C.F. Jones***, R. Tanyag, C. Bernando, L. Gómez, A. Vilesov, C. Bacellar, J. Cryan, K. Siefermann, F. Sturm, O. Gessner, D. Anielski, L. Englert, L. Foucar, D. Rolles, A. Rudenko, J. Ullrich, R. Hartmann, K. Ferguson, S. Schorb, C. Bostedt, F. Weise, S. Carron
11:30 – 2038. X-ray coherent diffraction imaging with superfluid helium nanodroplets. **A. Vilesov**

Hawaii Convention Center
304B

Molecular Perspectives on Interfacial Electrochemistry and Electrocatalysis (#218)

Organized by: M. Eikerling, G. Jerkiewicz, S. Mitsushima, A. Gewirth
Presiding: S. Mitsushima, P. Strasser

8:00 – 2039. Impact of temperature on platinum electro-oxidation and dissolution. **G. Jerkiewicz***, M. Alsabet, M. Grden, L. Xing, M. Hossain, M. Tian, D. Beauchemin
8:20 – 2040. Electrochemical quartz crystal microbalance study of Pt electrode dissolution accelerated by H_2O_2 and Fe^{2+} in acidic solution. **S. SHIRONITA**, M. INOUE, M. UMEDA*
8:40 – 2041. Nanostructured porous electrocatalysts from modular templates. **B.D. Gates***, M.T. Paul, B.K. Pilapil, B. Yee, X. Zhang, D. Kim
9:00 – 2042. Electrolyte pore/solution partitioning under electric field. **D. Bratko***, F. Moucka, A. Luzar
9:20 – 2043. New insights into the oxygen reduction reaction on platinum and platinum alloy surfaces. **D.A. Tryk***, M. Wakisaka, H. Uchida, M. Watanabe, A. Iiyama
9:40 Break
10:00 – 2044. Proton distribution at PtO/ionomer interface in the PEMFC catalyst layer model. A. Nouri Khorasani, **K. Malek**, M. Eikerling
10:20 – 2045. Microelectrode-based modeling of three-phase interface of polymer electrolyte fuel cell electrodes. **W. ZHANG**, S. SHIRONITA, M. UMEDA
10:40 – 2046. How voltage drops are manifested by lithium ion configurations at interfaces and in thin films on battery electrodes. **K. Leung***
11:00 – 2047. First-principles modeling of electrolyte decomposition reactions on the spinel-structured $LiNi_{0.5}Mn_{1.5}O_4$ high-voltage cathode. **M. Olguin***, O. Borodin
11:20 – 2048. Coarse-grained molecular simulations of additives for secondary batteries. **H. Washizu***, K. Aikawa, T. Kinjo, H. Yoshida
11:40 – 2049. Development of noble-metal-based nanoreactors within mixed-metal oxide supports for efficient electrocatalytic oxidations of selected organic fuels. **I.A. RUTKOWSKA***, P.J. Kulesza*

Hawaii Convention Center
312

Quantum Coherence in Energy Transfer: Vibrational Dynamics and Dissipation (#297)

Organized by: J. Cao, P. Brumer, J. Wu

8:00 – 2050. New developments in the theory of dissipative systems. **E. Pollak***
8:35 – 2051. Steered quantum dynamics: Tunneling through Coulombic barriers and energy minimization. M. Soley, A. Markmann, **V. Batista***
9:10 – 2052. Quantum Brownian dynamics of open systems. **J. Shao***
9:45 – 2053. Effects of nuclear motion in an electronic energy-transfer system. **J.A. Cina***
10:20 – 2054. Gaussian process model of collision dynamics of complex polyatomic molecules. **R. Krems**, J. Cui, Z. Li
10:55 – 2055. Quantum energy flow and localization during photochemical reactions in proteins. **D.M. Leitner**
11:30 – 2056. Coherent nonlinear optical spectroscopy of interacting chromophores in optical cavities. **F. Herrera***

Hawaii Convention Center
301A

Dynamical Intermolecular Interactions for Biological Functions (#307)

Organized by: D. Zhong, M. Terazima, Q. Lu

8:00 Introduction
8:05 – 2057. Glucose binding and sensing using self-assemblies of boronic acid building blocks of perylenediimide framework. Z. Chen, X. Wu, Y. Huang, Z. Li, **Y. Jiang***
8:35 – 2058. Imaging neurodegeneration with coherent Raman contrast. **D. Cote**
9:05 – 2059. Cellular biochemical analysis and molecular imaging using laser tweezers Raman spectroscopy, reflectance confocal microscopy, and multiphoton fluorescence microscopy. S. Feng, Y. Huang, J. Zhao, E. Shen, Y. Tian, W. Wang, **H. Zeng***
9:35 – 2060. Molecular dynamics simulations on the interaction of the transmembrane NavAb channel with cholesterol and lipids in the membrane. C. Suwattanasophon, **R. Faller***
9:55 Break
9:55 – 2061. Recognition of bacterial protein biomarkers by synthetic DNA molecules. **Y. Li***
10:25 – 2062. Systematic study of protein dynamics by integrating click chemistry and mass spectrometry-based proteomics. **R. Wu***
10:55 – 2063. Urokinase receptor, a dynamic cell surface receptor capable to bind to different ligands. **M. Huang**
11:25 – 2064. Conformational influences of single-strand DNA on hybridization kinetics. **H. Hata**, A. Suyama

Hawaii Convention Center
306B

Dissociation of Biomolecules in the Gas Phase for Structural Characterization (#352)

Organized by: S. Shin, R. Julian, K. Honma, K. Siu, S. Blanksby
Presiding: P.B. Armentrout, K. Siu

8:00 – 2065. Combining ozone- with collision-dissociation for structure elucidation in complex lipids. **S. Blanksby**, T.W. Mitchell, M. Bhujel, D. Marshall, H. Pham
8:20 – 2066. Structural mass spectrometry strategies for comprehensive metabolomics – surface, electron, and collision dissociation information. **J.A. McLean**
8:45 – 2067. Unveiling lipid C=C location isomer distributions in biological samples using online photochemical reactions and MS/MS. **Y. Xia***
9:05 – 2068. Tandem mass spectrometry imaging of lipids and metabolites in tissue sections. **J. Laskin**, I. Lanekoff, M. Thomas
9:30 – 2069. Photodissociation spectroscopy of protonated histidine and its hydrogen-bonded clusters. **H. Ishikawa***, M. Kondo, Y. Kasahara
9:50 Break
10:00 – 2070. Spectroscopy of isolated ions in a RF ion-trap. **K. Honma**
10:15 – 2071. VUV photodissociation of conformer selected protein ions. **G. von Helden**
10:40 – 2072. Flexible configurations of N-H. . .O=C hydrogen bonds for pyrrole-ketone binary clusters studied by IR cavity ringdown spectroscopy. **Y. Matsumoto***, K. Honma
11:00 – 2073. Action spectroscopy of N-substituted azabenzene ions: Product pathways and (some) vibronic structure. **A. Trevitt***, S. Blanksby, C. Hansen
11:20 – 2074. Cold spectroscopic study on metal ion–benzo-crown ether complexes in the gas phase. **Y. Inokuchi***
11:40 – 2075. Highly specific peptide-bond dissociation following exciting core electron of some peptide model molecules. **C. Liu***, Y. Lin, C. Ni
11:55 Closing Remarks

Hawaii Convention Center
305A

Advances in Quantum Dynamics from Spectroscopy to Reactions (#384)

Organized by: H. Guo, D. Xie, A. Brown

8:00 – 2076. Vibrational-induced steric effects on chemical reactivity. **K. Liu***
8:30 – 2077. State-to-state photodissociation dynamics of H_2O. **D. Xie**
8:50 – 2078. Ultraviolet photodissociation dynamics of the alkyl radicals. **J. Zhang***
9:10 – 2079. Sulfur mass independent fractionation (S-MIF): How quantum dynamics will answer fundamental questions about the origins of life. **B. Poirier***, P. Kumar
9:30 – 2080. Further wrinkles on the photodissociation dynamics of acetone between 230 and 320 nm. **S. Kable***, M. Jordan, K. Lee, D. Andrews, K. Nauta
9:50 Coffee Break
10:10 – 2081. Photo-induced chemistry of Criegee intermediates. **M.I. Lester***
10:40 – 2082. Spectroscopy and dynamics study of Criegee Intermediate CH_3CHOO. **X. Wang***, J. Bowman*
11:00 – 2083. First-principles investigation of the electronic structure and dynamics of the photoexcited iodide-uracil complex. C.C. Mak, **G.H. Peslherbe**
11:20 – 2084. Single-conformation spectroscopy in the alkyl CH stretch region: Development of a first-principles model. T.S. Zwier, D.P. Tabor, **E.L. Sibert**, N.M. Kidwell, D.M. Hewett
11:40 – 2085. Theoretical study of ultraviolet induced photodissociation dynamics of sulfuric acid. T. Murakami, S.O. Danielache, **S. Nanbu***

Hawaii Convention Center
313A

Reactive Intermediates in Combustion and Atmospheric Chemistry (#419)

Organized by: D. Osborn, S. Kable, K. Liu, J. Lane, Y. Kajii, X. You
Presiding: K.R. Wilson

8:00 – 2086. Photodissocaition of phenol derivatives, comparison of multimass ion imaging, velocity map ion imaging, and Rydberg atom translational spectroscopy. **C. Ni**
8:30 – 2087. Theoretical study on effect of water clustering on reactions: Dynamical and statistical aspect. **K. Takahashi**
9:00 – 2088. Water vapor enhancement of rates of peroxy radical reactions. **J. Hansen***, S. Kumbhani, T. Cline, M. Killian, J. Clark, W. Keeton, L. Hansen, R.B. Shirts, D. Robichaud
9:20 – 2089. Simple model for the vibrational partition function to calculate the equilibrium constants for formation of peroxy radical/water complexes. **R.B. Shirts***, S. Kumbhani, E. Burrell, J. Hansen

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9:40 – 2090. Concerted elimination vs. hydrogen migration in alkylperoxy radicals: The impact of tunneling at low temperatures. A. Davis, **J. Francisco***
10:10 – 2091. Novel technique for the determination of HOx yield from OH reaction in the atmosphere. **Y.J. Kajii**
10:40 – 2092. Laser-based field measurements of OH, HO_2, RO_2 and OH reactivity in the atmosphere and comparisons with numerical models. **D. Heard***
11:10 – 2093. Gas phase reactions of alkyl amines in the atmosphere. **T. Imamura***, K. Sato, T. Seta
11:40 – 2094. Atmospheric chemistry of tetrahydrofurans and lactones: Potential new biofuels. C. Andersen*, **F.F. Østerstrøm**, M.P. Sulbaek Andersen, O.J. Nielsen

Hawaii Convention Center
307AB

Recent Experimental and Theoretical Advances in Studies of Liquid Interfaces (#437)

Organized by: T. Tahara, A. Morita, R. Walker, L. Dang, H. Kang, S. Yamaguchi, J. Gibbs-Davis
Presiding: J. Gibbs-Davis, T. Tahara

8:00 – 2095. Interactions of cations and anions at aqueous interfaces. **P. Cremer***
8:30 – 2096. Specificity and variation of length scale over which monovalent halide ions neutralize a charged interface. W. Sung, W. Wang, J. Lee, D. Vaknin, **D. Kim**
9:00 – 2097. IV-SFG studies on the structure of liquid/liquid interface with a variation of phase boundary potential. **Y. Ouchi***
9:30 – 2098. Ultrafast vibrational dynamics of water in the vicinity of positively charged interfaces studied by time-resolved heterodyne-detected vibrational sum frequency generation. **P.C. Singh***, S. Nihonyanagi, S. Yamaguchi, T. Tahara
9:45 Break
10:00 – 2099. Counterfactual-enabled molecular spectroscopy from computation and experiment. **F.M. Geiger**
10:30 – 2100. Reorientation and intermolecular coupling of water molecules at the top-most layer of the air/water interface. **H. Wang***
11:00 – 2101. Using nonlinear optical spectroscopy to monitor the relationship between water structure and the electric double layer at the silica/aqueous interface. **J. Gibbs-Davis**, A.M. Darlington, M. Azam
11:30 – 2102. Rearrangement of molecular orientation at liquid/superoleophobic interfaces and surfactant adsorbed human hair model interfaces probed by sum-frequency generation spectroscopy. **T. Miyamae***

ENVR

Area 6 – Agrochemistry, Environmental and Geochemistry

Tuesday Morning

Hilton Waikiki Beach
Territorial III

Application of Mass Spectrometry to Agrochemical Challenges (#72)

Organized by: M. Thurman, Y. Wu, P. Marriott
Presiding: I. Ferrer, M. Thurman

8:00 – 1. Studies on advanced separations and detection methods for fatty acids and pesticides analysis in foods. **P.J. Marriott**, A. Zeng, S. Chin, X. Liu
8:30 – 2. Prediction of MS signal intensities of pesticide transformation products over a range of analyte cation concentration basing on a novel ionization kinetic model of ESI with electrostatic field effects. **T. Ueda***, H. Takanashi, J. Kadokawa
8:55 – 3. Optimization of dispersive liquid–liquid microextraction coupled with gas chromatography-negative ion chemical ionization mass spectrometry for the determination of pyrethroids in agricultural products. **Y. Wang***, **Y. Shu**, J. Wang
9:20 – 4. Fast, sensitive technique for real-time, in situ quantification of commonly applied pesticides in the atmosphere using high resolution time-of-flight chemical ionization mass spectrometry. **T. Murschell***, D. Farmer
9:45 Morning Break
10:00 – 5. United States survey of mycotoxins in beer, wine, cereal, milk, infant cereal, and infant formula by LC/MS/MS. **J. Zweigenbaum**, J. Cappozzo*
10:30 – 6. Mass spectrometry imaging of endogenous metabolites in *Arabidopsis*. T. Morikawa-Ichinose, J. Nakamura, Y. Fujimura, M. Shindo, H. Wariishi, **D. Miura***
10:55 – 7. Analysis and profiling of maple syrups by LC/Q-TOF-MS. **I. Ferrer**, M. Thurman, J. Zweigenbaum

Hilton Waikiki Beach
Prince David

Nanointerfaces and their Role in Environmental Systems and Processes (#86)

Organized by: D. Dionysiou, J. Gardea-Torresdey, W. Lee, X. Zhao, B. Pan, M. Litter
Presiding: D. Dionysiou

8:00 – 8. Electroreductive debromination of polybrominated diphenyl ethers by nitrogen-doped nanodiamond rod array electrode. **X. Quan***, Y. Liu, S. Chen, H. Yu
8:30 – 9. Competing redox reactions at Fe^{2+}–Cr^{6+}–CeO_2 nanoparticle interfaces in wastewater treatment systems. J. Ray, Z. Li, C. Neil, B. Lee, **Y. Jun***
9:00 – 10. Facile electrospinning of Pd-carbon nanofiber catalysts for waterborne contaminant reduction. **D. Shuai**, T. Ye
9:30 – 11. Formation of nitrous oxide (N_2O) hydrate in soil mineral suspensions with electrolytes. **D. Kyung**, T. Park, W. Lee*
10:00 Break
10:15 – 12. Interfacially electronic structures of gold-magnetite heterostructures for effectively reduction of nitropheols. **R. Doong***, S. Chang
10:45 – 13. Single particle characterization of the chemical reactivity and environmental transformation of nanoparticles using collision electrochemistry. A. Karimi, D. Andreescu, **S. Andreescu***
11:15 – 14. Systematic development of oxyanion reduction catalysts for water purification with molecular and materials design. **J. Liu***, M. Han, X. Chen, T.J. Strathmann

Hilton Waikiki Beach
Territorial I & II

Sustainable Chemistry: Beyond the Bench (#103)

Organized by: M. Abraham, M. Gonzalez, P. Jessop, M. Hearn
Presiding: P.G. Jessop

8:00 Opening Remarks
8:05 – 15. Integrating metrics into sustainable chemistry research and development. **D.C. Constable**
8:40 – 16. Development of organic/inorganic composites formed through approaches inspired by biomineralization for functional materials. **T. Kato***
9:15 – 17. Sustainability in the design and fabrication of a 3D-printed solid oxide fuel cell. G. Manogharan*, C. Linkous, M. Kioko, **M. Abraham**
9:40 Break - 15 mins
9:55 – 18. Application of flow chemistry to develop sustainable manufacturing in emerging countries. **P. Watts***
10:20 – 19. Business logics for green chemistry. **I. Milne***, **S. Maguire**
10:55 – 20. Chemical durability of pervious fly ash concrete under acidic environments. **S.S. Hwang**

Hilton Waikiki Beach
Kauai

UV Photochemistry for Water: Implications for Safe Water Disinfection and Oxidation Treatment Applications (#204)

Organized by: G. Knight, W. Liu, K. Bell, M. Mohseni, K. Linden, G. Shin, K. Oguma
Presiding: K. Bell, G. Shin

8:00 Introduction to Symposium
8:05 – 21. Action spectra for pathogens and surrogates: Implications for polychromatic UV systems. S. Beck, **K. Linden**
8:35 – 22. Fundamentals of UV action of microorganism and the response (repair) of microorganism to UV action. **G. Shin***
9:05 – 23. Molecular approaches to studying UV-induced damage of microorganisms. **R.A. Rodriguez***
9:35 – 24. Implications of PCR techniques for measuring the fate of viruses and ARGs in UV-treated waters. K.R. Wigginton*, **Z. Qiao**
9:55 – 25. Impact of inner wall reflection on UV reactor performance as evaluated using the discrete ordinates (DO) radiation model. **W. Li**, M. Li, J. Bolton, Z. Qiang*
10:15 AM Tuesday Break
10:25 – 26. CFD models define advanced monitoring for polychromatic UV disinfection systems. **H. Wright***
10:55 – 27. Communicating the science of UV to the regulatory and engineering community. **K. Bell***
11:25 – 28. Sensing technology for validation and monitoring of disinfection at multiple wavelengths. **G. Knight***, F. Daynouri-Pancino, S. McDermid, B. Petri

Hilton Waikiki Beach
Prince Johah

Genomics and Metabolomics for Phytochemical Research (#267)

Organized by: K. Saito, E. Pichersky, V. Luca

8:00 Break (late start)
8:15 Introduction
8:20 – 29. Geranyllinalool synthases and the origin of specialized terpenes in plants. **E. Pichersky***
8:45 – 30. Genomic insight into gossypol biosynthesis in cotton. **X. Chen***, C. Yang, Y. Mao, L. Wang
9:10 – 31. Discovery of a CYP450 for stereospecific monoterpene hydroxylation in thujone biosynthesis based on transcriprome and metebolite analysis of wildtype and mutant genotypes of *Thuja plicata*. **J. Bohlmann**, A. Gesell, M. Blaukopf, L. Madilao, M. Yuen, S.G. Withers, J. Mattsson, J. Russell
9:35 Coffee Break
9:55 – 32. Intriguing aspects of phenylalanine biosynthesis, regulation, and transport. **N. Doudareva***
10:20 – 33. Melabolic profiling of isohexenylnaphthazarins in *Echium plantagineum*, an exotic invader in Australia. **D. Skoneczny***, P.A. Weston, G.M. Gurr, L.A. Weston
10:40 – 34. Dissection of pathway for prenylated polyketides: From glandular trichomes to chemical factory in yeast. **G. Wang**
11:00 – 35. Accumulation of chlorothalonil in soil after repeated applications and its effect on soil enzyme activities and bacterial community structure. **X. Wu**, J. Tang, R. Hua, H. Cao, X. Li

Hilton Waikiki Beach
Hawaii

Phytochemicals for Crop Protection: Discovery to Molecular Target (#358)

Organized by: K. Matsuda, S. Duke, L. Weston
Presiding: S. Duke, L.A. Weston

8:00 Opening remark
8:05 – 36. Botanical insecticide pyrethrum elicits olfactory response in *Drosophila* antennae. **K. Dong***, P. Xu, Y. Du
8:40 – 37. Deciphering biosynthesis of natural insecticides pyrethrins. **K. Matsuda***
9:15 – 38. Phjytochemicals as natural synergists to replace piperonyl butoxide (PBO synergist in insect control. **J.R. Coats**, E.J. Norris, A.D. Gross, L.C. Bartholomay
9:50 Break
10:05 – 39. Grass roots chemistry: The development of meta-tyrosine, a non-protein amino acid produced by Festuca spp. as a potential commercial bioherbicide for weed suppression. **L.A. Weston**
10:40 – 40. Understanding the role of secondary metabolites in orchid pollination. **R. Barrow***, B. Bohman, G. Flematti, R. Peakall, E. Pichersky
11:15 – 41. Probing the mode of action of natural phytotoxins with omics methods. **S. Duke**
11:50 Closing remark

Hilton Waikiki Beach
Prince Edward

Sources, Fates and Risks from Consumer Product Ingredients in the Environment (#391)

Organized by: P. DeLeo, K. Solomon, S. Mudge, C. Linares
Presiding: S. Mudge

8:00 Introductory Remarks
8:05 – 42. Effects of dissolved organic matter on the photochemistry of triclosan and triclocarban and the toxicities of their phototransformation products and mixture toxicities. **K. Albanese**, Y. Chin, R. Lanno, C.M. Hadad
8:35 – 43. Influences of ratios among elements from different sources on nitrosamine formation during chlor(am)ination and ozonation of nizatidine and chlorpheniramine. **W. Chen***
8:55 – 44. PBT 2.0? Perspectives on environmental assessment of consumer products and other industrial chemicals. **B.W. Brooks**
9:35 Break
9:50 – 45. Broad-scale exposure modelling and risk assessment of consumer product ingredients: Applications and opportunities using the iSTREEM® model. **K.E. Kapo***, R. Vamshi, C.M. Holmes, P. DeLeo, D. Ferrer
10:30 – 46. Evaluation of anionic surfactants in the environment using a novel approach for regional probabilistic exposure assessments. **K.M. McDonough***, T.W. Federle, K. Wehmeyer, S. Belanger, P. DeLeo
11:00 – 47. Fate of my fatty alcohol-based surfactants after changing the feedstock. **S. Mudge**

*** Principle Author**

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Hilton Waikiki Beach
Molokai

Food Processing: Chemistry, Quality, Safety, Sustainability, and Value-added By-products (#400)

Organized by: M. Tunick, L. Liu, X. Liao, H. Nabetani, S. Yoon, X. Dai
Presiding: L. Liu, M. Tunick

8:00 Opening Remarks
8:05 – 48. Formulation and characterization of lipid-based micro/nanodispersion systems for developing food processing technology. **S. Ichikawa***
8:35 – 49. Characteristics and possible function of dehydrin proteins in crop seed. **M. Momma***
9:05 – 50. Fluorescence fingerprint for the rapid assessment of aging period of Awamori - the oldest spirits in Japan. **M. Tsuta***, E. Taira, M. Tsukahara, K. Tsukahara
9:35 – 51. Polysorbate-false-positive substances in meat. **M. Ohnishi-Kameyama***, K. Takagi, I. Matsunaga, K. Kudo
10:05 Break
10:20 – 52. Biobased,environmentally friendly lubricants for processing plants. **S.Z. Erhan**, B.K. Sharma
10:50 – 53. Anti-allergic action of 'Benifuuki' green tea rich in *O*-methylated EGCG and the use of new food functional labeling system in Japan. **M. Maeda-Yamamoto**
11:20 – 54. Using ultrahigh pressure treatment to stimulate the ageing process of wine. **X. Sun***, L. Li, X. Chen, W. Huang, J. Zhan

Tuesday Afternoon

Hilton Waikiki Beach
Territorial III

Application of Mass Spectrometry to Agrochemical Challenges (#72)

Organized by: M. Thurman, Y. Wu, P. Marriott
Presiding: P.J. Marriott, J. Zweigenbaum

13:00 – 55. Simultaneous determination of acrylamide mercapturic acid adducts as short-term exposure biomarkers by isotope dilution ultra-high performance liquid chromatography coupled with tandem mass spectrometry. **Y. Zhang***, Q. Wang, J. Cheng, X. Chen
13:30 – 56. Self-caramelization of sucralose: Identification of over 100 degradation products by UHPLC and LC/QTOF-MS with ultrahigh resolution time-of-flight mass spectrometry and accurate mass. **M. Thurman***, I. Ferrer, J. Zweigenbaum
13:55 – 57. Determination of E,E-farnesol and squalene in Korean rice wine (makgeolli) using thermal desorption stir bar sorptive extraction couped with GC-MS. **J. Ha***, H. Jang, J. Lee
14:20 – 58. Mass spectrometry as the primary tool in the structure determination of agrochemical metabolites. **M.A. Jalal***, T. Nguyen, S. Bondarenko, R. Allen
14:45 Afternoon Coffee Break
15:00 – 59. Direct simultaneously determination of 4-methylimidazole and 2-acetyl-4-(1,2,3,4-tetrahydroxybutyl)imidazole in vinegar by high performance liquid chromatography-electrospray ionization tandem mass spectrometry. **W. Rong**
15:25 – 60. Characterization of American elderberry fruit juice using mass spectrometry. M. Johnson, A. Thomas, **C. Greenlief***
15:50 – 61. Mass spectrometric study of protoberberines in historical textiles dyed with *Kihada* (*Phellodendron* spp.). **Y. SASAKI**, R. FUKAE, **K. SASAKI**
16:15 – 62. Characterization of pyrrozilidine alkaloids in botanicals and dietary supplements by LC/QTOF MS. B. Avula*, **J. Zweigenbaum**, S. Sagi, Y. Wang, M. Wang, I. Khan

Hilton Waikiki Beach
Prince David

Nanointerfaces and their Role in Environmental Systems and Processes (#86)

Organized by: D. Dionysiou, J. Gardea-Torresdey, W. Lee, X. Zhao, B. Pan, M. Litter
Presiding: G. Li Puma

13:00 – 63. Redistribution of a protective alumina layer on sunscreen nanoparticles subjected to swimming pool and sea water. **S. Al-Abed***
13:30 – 64. Solar active nanocomposite photocatalysts for the removal of pharmaceuticals. M. Kovacic, S. Salaeh, D. Juretic, **H. Kusic***, U. Lavrencic Stangar, D. Dionysiou, A. Loncaric Bozic
14:00 – 65. Site-selective Pt-Pb nanoparticles deposition on TiO_2 nanorod photocatalyst for acetic acid oxidative decomposition under UV-Vis irradiation. **T. Tanabe***, W. Miyazawa, T. Gunji, S. Kaneko, M. Miyauchi, F. Matsumoto
14:30 – 66. Highly efficient, visible-light-activated photocatalysts with post-illumination "memory" effect. **Q. Li**
15:00 Break
15:15 – 67. Achieving sustainable water treatment: Graphitic carbon nitride for persistent waterborne contaminant removal under visible light irradiation. **D. Shuai***, Q. Zheng
15:45 – 68. Application of TiO_2 xerogel in coagulation. **S. Zhang**, M. Li, X. Wang

Hilton Waikiki Beach
Territorial I & II

Sustainable Chemistry: Beyond the Bench (#103)

Organized by: M. Abraham, M. Gonzalez, P. Jessop, M. Hearn
Presiding: M. Abraham

13:00 Opening Remarks
13:05 – 69. Life cycle impact assessment: What is the state of the research?. **J.C. Bare**
13:40 – 70. Solvent wars: Sustainability awakens. **V. Isoni**, L. Wong*, H. Khoo, P. Sharratt
14:15 – 71. Virtual screening as a strategy for molecular design of switchable solvents. J.R. Vanderveen, L. Patiny, **P.G. Jessop***
14:40 Break - 15mins
14:55 – 72. Compatibility of green solvents with chemiluminescent labels. **J.-. Grote**
15:20 – 73. Chemical properties and their impacts on the environment and functionality. **J.C. Bare**
15:45 – 74. Tailoring rhamnolipid and related glycolipid surfactant properties through sustainable production by green chemical synthesis. **J.E. Pemberton***, R. Palos-Pacheco, C. Coss, R. Gonzalez, L. Szabo, D. Hogan, F. Tian, R. Maier, R. Polt
16:10 – 75. Chemistry and its role in sustainability. **M.A. Gonzalez***

Hilton Waikiki Beach
Kauai

UV Photochemistry for Water: Implications for Safe Water Disinfection and Oxidation Treatment Applications (#204)

Organized by: G. Knight, W. Liu, K. Bell, M. Mohseni, K. Linden, G. Shin, K. Oguma
Presiding: K. Linden

13:00 – 76. Sunlight inactivation of viruses and bacteria: Mechanistic insights and implications for practice. **K.L. Nelson**
13:30 – 77. Photochemical (sunlight) fate of pharmaceutical compounds in natural waters and its application in the design and optimization of constructed wetlands. **W.J. Cooper**
14:00 – 78. Role of pH on photolytic and photocatalytic degradation of antibiotic oxytetracycline in aqueous solution under visible/solar light: Kinetics and mechanism studies. **C. Zhao***, H. Deng*, D. Dionysiou*
14:20 – 79. Model photosensitizers for the photochemical production of hydroxyl radical from dissolved organic matter. **G. McKay**, F. Rosario-Ortiz*
14:40 – 80. Looking at water chlorination in a new light: Mechanistic elucidation and modeling of enhanced microbial inactivation during solar photolysis of chlorine to reactive oxygen species and ozone. **P. Zhou**, G.D. Di Giovanni, J.S. Meschke, M. Dodd
15:00 Tuesday PM Break
15:15 – 81. Solar UV disinfection for water production in developing countries. **E.R. Blatchley***
15:45 – 82. Solar inactivation of fecal indicator bacteria and microbial source tracking markers in surface water. **A. Boehm***, M. Mattioli, L. Sassoubre, P. Maraccini, J. Griffith, Y. Cao
16:15 – 83. Algal toxin photodegradation mediated by reactive halogen species in the marine environment. **K.M. Parker***, A. Ghadouani, W. Mitch
16:35 – 84. Matrix effects in the attenuation of trace organics in wastewater effluent by solar irradiation. **L. Cheng***, T. Zhang, H. Vo, L.I. Márquez, D. Díaz, B. Dong, R.G. Arnold, E. Saez

Hilton Waikiki Beach
Prince Johah

Genomics and Metabolomics for Phytochemical Research (#267)

Organized by: K. Saito, E. Pichersky, V. Luca

13:00 Break (Late start)
13:10 – 85. Biochemical basis of specialized metabolic evolutionary diversity: Acylsugars in the Solanaceae. **R.L. Last***
13:35 – 86. Genetic and structural variety of glycosyltransferases bring chemical diversity of flavonoids. **K. Yonekura-Sakakibara**, K. Saito*
14:00 – 87. Expanding the toolbox for synthetic biology of tropane alkaloids. **J.C. D'Auria***
14:25 – 88. Evolution of lysine-derived alkaloid biosynthesis. **M. Yamazaki**, S. Bunsupa, K. Saito
14:50 Coffee Break
15:10 – 89. Combined genomics and metabolomics for phytochemical research in major crops. **J. Luo***, W. Chen, L. Gong, Y. Gao, X. Lian, Q. Zhang, J. Yan
15:35 – 90. Integrated metabolomics, gene expression analyses, and GWAS identify saponin biosynthetic genes in *Medicago truncatula*. **L.W. Sumner**, V. Tzin, J. Snyder, B. Watson, Z. Lei, D. Yang, Y. Tang, D. Nedveck, P. Tiffin, N. Young
16:00 – 91. Metabolomics for heteroatom-containing metabolites in the case of sulfur-containing metabolites. **R. Nakabayashi***, Z. Yang, T. Nishizawa, T. Mori, K. Saito
16:20 – 92. Integrated advanced multi-omics strategies: A new paradigm for agricultural and medicinal plant biotechnology with metabolomics/metabolite imaging in situ. **N.G. Lewis***, J.V. Marques, D.S. Dalisay, M.A. Costa, B. Herman, L.B. Davin

Hilton Waikiki Beach
Hawaii

Phytochemicals for Crop Protection: Discovery to Molecular Target (#358)

Organized by: K. Matsuda, S. Duke, L. Weston
Presiding: S. Duke, L.A. Weston

13:00 Opening remark
13:05 – 93. *Amaranthus* toxicity in production livestock. **J.C. Quinn***, E. Birckhead, D. Skoneczny, A.E. Kessell, L.A. Weston
13:35 – 94. Chemical ecology of three species of alien Orobanchaceae in Japan. **M. Morimoto***, M. Ishida, K. Matsuda
14:05 Break
14:20 – 95. Discovery of novel targets for selective chemical control of root parasitic weeds based on metabolomic and transcriptomic analysis of their germination. **A. Okazawa***, T. Wakabayashi, T. Muranaka, Y. SUGIMOTO
14:50 – 96. Discovery of plant chemical defenses and novel biosynthetic pathways. **M.c. Pedras***, Q. To, M. Alavi
15:20 Closing remark

Hilton Waikiki Beach
Prince Edward

Sources, Fates and Risks from Consumer Product Ingredients in the Environment (#391)

Organized by: P. DeLeo, K. Solomon, S. Mudge, C. Linares
Presiding: K.R. Solomon

13:00 – 97. Estimating emissions and environmental exposure for home and personal care product ingredients at the global scale using spatially explicit data. R. Vamshi*, C.M. Holmes, **K.E. Kapo**, J. Kilgallon, J. Hodges, O. Price, A. Franco, V. Sclater
13:30 – 98. High throughput modeling of exposures to semi-volatile chemicals in articles of commerce. **C.I. Nicolas***, M. Goldsmith, R. Pearce, R. Setzer, J. Wambaugh
14:00 Break
14:15 – 99. Challenges of applying PBT criteria to super-hydrophobic chemicals used in consumer products: A case study of cyclic volatile methyl siloxanes. **D. Mackay***, D.E. Powell
14:45 – 100. Assessment of the exposure and environmental health risks of siloxanes: The case of D5. **F.A. Gobas***
15:15 – 101. Quantitative weight of evidence analysis of the persistence, bioaccumulation, toxicity, and potential for long range transport of the cyclic volatile methyl siloxanes. **K.R. Solomon***, J. Bridges
15:55 Closing Remarks

Hilton Waikiki Beach
Molokai

Food Processing: Chemistry, Quality, Safety, Sustainability, and Value-added By-products (#400)

Organized by: M. Tunick, L. Liu, X. Liao, H. Nabetani, S. Yoon, X. Dai
Presiding: L. Liu, M. Tunick

13:00 Opening remarks
13:05 – 102. Quality of whey powders stored under adverse conditions. **M. Tunick***, A. Thomas-Gahring, D. Van Hekken, S.K. Iandola, R. Bazemore, C. Allison, K. Bazemore, M. Singh, P.X. Qi, D.O. Ukuku, S. Mukhopadhyay, C.I. Onwulata, P.M. Tomasula
13:30 – 103. Controlled delivery of 1-MCP from R_1, R_2-B-nethylene cyclopropane complexes: An effective approach to be used both in closed environments and open crop fields. **M.I. Sarker**, P. Tomasula, L. Liu*

*** Principle Author**

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14:00 – 104. Quality changes of mango pulp after high pressure processing and high temperature short time. **X. Liao**
14:30 – 105. Protection of anthocyanins against acrylamide-induced oxidative stress. M. Zhao, J. Song, P. Wang, D. Li, **F. Chen***
15:00 Break
15:15 – 106. Kinetic models for enzyme activity and thermo stability of polygalacturonase under ultrasound treatment. **D. Liu**
15:45 – 107. Oxidation of phytosterols in the model oil: Influence of heating and metal ions. **Y. Hu**, J. Deng, **B. Lu***
16:10 – 108. Solar drying of papaya and pineapple from Fiji: Investigating nutritional and organoleptic properties of dried finished product. **R. RAJU***
16:35 – 109. Effects of processing units on secondary metabolites and functional properties of carrot juice processing. **T. Ma***, C. Tian, J. Luo, X. Sun, J. Zhan

Wednesday Morning

Hilton Waikiki Beach
Prince Edward

Ferrites and Ferrates: Chemistry and Applications in Sustainable Energy and Environmental Remediation (#13)

Organized by: V. Sharma, R. Doong, H. Kim
Presiding: R. Doong, J. Jiang, H. Kim, V. Sharma

8:00 Introduction
8:05 – 110. Application of ferrate(VI) to water treatment: Stability, kinetics, and mechanisms. **U. von Gunten**, Y. Lee
8:40 – 111. Advances of Ferrate(VI) preoxidaiton in water and wastewater treatment. **J. Ma**, Y. Liu, Z. Huang
9:15 – 112. Degradation of the cytostatic methotrexate by electrosynthesized ferrate (VI): Identification of oxidation by-products. **S. Barisci***, Ö. Türkay, F. Ulu, A. Dimoglo
9:40 Break
9:55 – 113. Oxidation of oseltamivir (or tamiflu) by ferrate(VI). **I. Lee**, Y. Hong, H. Kim*
10:20 – 114. Study on 4-bromophenol degradation using liquid ferrate(VI) synthesized by wet oxidation method. **F.B. Laksono**, I. Kim

Hawaii Convention Center
Halls I, II, III

Application of Mass Spectrometry to Agrochemical Challenges (#72)

Organized by: M. Thurman, Y. Wu, P. Marriott

Poster Session
10:00 – 12:00

115. Determination of emamectin benzoate and lufenuron in cabbage and soil under field conditions by QuEChERS and RRLC-MS/MS. **J. Hu**

Hilton Waikiki Beach
Prince David

Nanointerfaces and their Role in Environmental Systems and Processes (#86)

Organized by: D. Dionysiou, J. Gardea-Torresdey, W. Lee, X. Zhao, B. Pan, M. Litter
Presiding: W. Lee

8:00 – 116. Nanoparticle interaction with model biological membranes: Influence of lipid composition and non-lipid components. **J.A. Pedersen***, E.S. Melby, T.R. Kuech, I. Gunsulos, M.D. Torelli, A. Vartanian, G. Orr, C. Murphy, C.L. Haynes, R.J. Hamers
8:30 – 117. Disruption of critical growth and communication signals in bacteria: Nanoparticles that rescue cell populations. **K.B. Gregory***, E. McGivney, L. Han, J. VanBriesen
9:00 – 118. Effect of the substrate-bilayer interface on nanoparticle-induced membrane disruption of supported lipid bilayers. N. Yousefi, A. Wargenau, **N. Tufenkji**
9:30 – 119. Role of membrane proteins in nanoparticle interaction with supported lipid bilayers. **E.S. Melby**, A.C. Mensch, M.D. Torelli, L. Jacob, A. Vartanian, C. Murphy, R.J. Hamers, J.A. Pedersen
10:00 Break
10:15 – 120. Influence of environmental factors on nanoparticle-biological interactions and processes for disinfection. **S.O. Obare**, S.T. Nick, A. Bolandi
10:45 – 121. Extracellular polymeric substances reduced sliver nanoparticles toxicity to wheat roots. **D. Zhou***

Hilton Waikiki Beach
Territorial I & II

Sustainable Chemistry: Beyond the Bench (#103)

Organized by: M. Abraham, M. Gonzalez, P. Jessop, M. Hearn
Presiding: M.A. Gonzalez

8:00 Opening Remarks
8:05 – 122. Removal of organic dyes and heavy metals from wastewater using new chitosan-based materials. **P. Champagne***, O. Garcia-Valdez, E. Madill, B. Tsai, M. Cunningham
8:30 – 123. Efficient multigram-scale synthesis of model lignin oligomers. **G. Sheldrake***, G. Forsythe, X. Ji
8:55 – 124. Definition and application of a sustainability indicator for the production of energy and carbon-based chemicals. **I.T. Horvath***
9:30 Break - 15 mins
9:45 – 125. From plant to plant - hydrothermal conversion of biomass. **A.K. Yuen**, T. Maschmeyer*
10:20 – 126. Vegetable proteins as potential carbon dioxide scrubbers. **G. Sun**, A. Aghanouri
10:45 – 127. Generation of anhydrosugars from carbohydrates by catalytic pyrolysis in dicationic liquids. **G. Sheldrake***

Hilton Waikiki Beach
Territorial III

Chemistry and Biology of Auxin, Strigolactone and their Interactions (#107)

Organized by: T. Asami, Y. Zhao, C. Beveridge
Presiding: H. Kasahara, Y. Zhao

8:00 Preparation
9:00 Opening Remarks
9:05 – 128. How to make strigolactones. **S. Al-Babili***
9:45 – 129. Strigolactones as germination stimulants for root parasitic weeds. **Y. SUGIMOTO***, H. TAKIKAWA
10:15 – 130. Target sites for chemical regulation of strigolactone signaling. **H. Nakamumra**, K. Fukui, O. Mashita, K. Kikuzato, T. Asami*
10:45 – 131. Regulation of strigolactone biosynthesis by gibberellin. **S. Ito**, D. Yamagami, M. Umehara, A. Hanada, S. Yoshida, S. Yajima, J. Kyozuka, M. Ueguchi-Tanaka, M. Matsuoka, K. Shirasu, S. Yamaguchi, T. Asami*
11:05 – 132. Development of novel germination stimulant for *Striga*. **M. Yoshimura**, Y. Tsuchiya*, Y. Sato, K. Kuwata, A. Sato, S. Toh, D. Holbrook-Smith, H. Zhang, P. McCourt, K. Itami, T. Kinoshita, S. Hagihara*
11:25 SL-BR Cross Talk
11:45 Lunch Time

Hilton Waikiki Beach
Kauai

UV Photochemistry for Water: Implications for Safe Water Disinfection and Oxidation Treatment Applications (#204)

Organized by: G. Knight, W. Liu, K. Bell, M. Mohseni, K. Linden, G. Shin, K. Oguma
Presiding: G. Knight

8:00 – 133. Emerging UV technologies for fluid disinfection. **G. Knight***, F. Daynouri-Pancino, D. Bogojevic
8:30 – 134. Novel deployment of UV-C LEDs in disinfection applications. **O. Lawal***
9:00 – 135. ACF cathode strengthen the E-UV-O_2 process to degrade nitrobenzene. **Y. Zhou***, Y. An, X. Zhang, X. Zhang, H. Zheng, C. Zhao
9:20 – 136. Disinfection and suspended solid reduction of municipal wastewater effluent by flow-through pulsed UV-light treatment system. **A. Demirci***, G. Uslu, J. Regan
9:40 – 137. Photobleaching of fulvic acid and oil sands blowdown water samples using chlorine oxidants and blue LED light sources. **M. Izadifard**, C.H. Langford, G. Achari
10:00 Wednesday AM Break
10:10 – 138. UV light emitting diodes for water disinfection. **K. Oguma***
10:40 – 139. Optimizing pathogen inactivation at low energy cost with a tailored, multiple-wavelength UV LED unit. S. Beck, **K. Linden**
11:00 – 140. Plasma-based water treatment: An effective method to degrade perfluorooctanoic acid and other emerging contaminants. **S. Mededovic Thagard**, F. Dai, G. Stratton, C. Bellona, T. Holsen
11:20 – 141. Impact of fluence rate on microbial inactivation: Assessment with a novel minifluidic UV photoreaction system (MUPS). **M. Li**, W. Li, J. Bolton, Z. Qiang*
11:40 – 142. Liquid-phase electrical discharge plasmas for inactivation of microorganisms in water. **S. Rogers**, P. Estifaee, S. Mededovic Thagard

Hawaii Convention Center
Halls I, II, III

Genomics and Metabolomics for Phytochemical Research (#267)

Organized by: K. Saito, E. Pichersky, V. Luca

Poster Session
10:00 – 12:00

143. Development and application of a reporter bioassay system to screen for phytochemicals mimicking the anti-aging effects of caloric restriction. **T. Chiba**, Y. Ohata, Z. Wang, S. Serizawa, I. Shimokawa
144. Preventative effect of Hyuganatsu oranges on osteoporosis. **S. NISHIZONO***, H. Hata, Y. Sakatani, M. Yamaguchi, H. Sameshima
145. Serum metabolomics research of the antihypertensive effects of tengfu jiangya tablet on spontaneously hypertensive rats. **H. Jiang***, y. li*

Hilton Waikiki Beach
Hawaii

Environment and Gene Interaction (#336)

Organized by: G. Cobb, C. Matson, M. Hecker, C. Wong
Presiding: M. Hecker

8:00 Welcome and Introductionn
8:05 – 146. Predicting consequences of xenobiotic-biomolecule interactions: Role of the adverse outcome pathway framework. **G. Ankley***
8:45 – 147. Environmental surveillance and monitoring – the next frontier for pathway-based high throughput toxicology. **D.L. Villeneuve***
9:15 – 148. Characterization of adverse outcome pathways of ethynylestradiol in *Xenopus laevis*. **M. Hecker**, A.R. Tompsett, S. Wiseman, E.B. Higley, J. Giesy
9:45 Break
10:00 – 149. Do differences in key amino acids in the aryl hydrocarbon receptor explain differences in sensitivity of fishes to dioxin-like compounds?. **J. Doering***, S. Wiseman, R. Farmahin, S. Beitel, S. Kennedy, J.P. Giesy, M. Hecker
10:30 – 150. Impact of exposure to perfluoroalkyl acids on the development of metabolic diseases. C.K. Wong*, **R. Li**, H. Wan
11:00 – 151. Interrelationships of microbial communities and secondary metabolite profiles from sponges around Okinawa Islands, Japan. **S. Aratake**, T. Fujii, M.C. Roy, T. Yamazaki, H. Jenke-Kodama

Hawaii Convention Center
Halls I, II, III

Phytochemicals for Crop Protection: Discovery to Molecular Target (#358)

Organized by: K. Matsuda, S. Duke, L. Weston
Presiding: K. Matsuda

Poster Session
10:00 – 12:00

152. Insect-antifeedant and growth-inhibitory activities of a limonoid from seeds of *Citrus reticulata* against larvae of Asian corn borer (*Ostrinia furnacalis*). **R. Abogado***, A. Abrera, M. Lit, M. Manalo
153. Phytotoxicity and insect antifeedant activity of calamenene and cadinene type sesquiterpenes from camphorweed exudate. **R. Morita**, M. Morimoto, K. Matsuda

Hilton Waikiki Beach
Prince Johah

Fukushima and Radiological Contaminated Environments World-wide: The Important Role of Environmental Chemistry and Radiochemistry in Remediation and Restoration (#374)

Organized by: T. Sasaki, H. Nitsche, C. Liu, Z. Yoshida, S. Kalmykov, L. Rao
Presiding: S.B. Clark, S.N. Kalmykov, T. Sasaki, Z. Yoshida

8:00 Opening remarks
8:05 – 154. Challenges for Fukushima environmental restoration - JAEA's perspective. **K. Iijima**, K. Miyahara*
8:45 – 155. ^{134}Cs and ^{137}Cs in the North Pacific Ocean derived from the TEPCO Fukushima Dai-ichi Nuclear Power Plant accident, Japan in March 2011. **M. Aoyama***
9:10 – 156. Sorption, diffusion, and migration of Cs-134/137, Sr-85/90 in loess: Laboratory and field experiments. **C. LIU***
9:35 Break
9:45 – 157. Experimental data and thermodynamic modeling of plutonium speciation in mineral colloidal suspensions. **A.Y. Romanchuk**, I. Vlasova, A. Egorov, Y. Zubavichus, S.N. Kalmykov

*** Principle Author**

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10:10 – 158. Accumulation of radioactive cesium in edible mushroom. **T. Ohnuki**, F. Sakamoto, N. Kozai, T. Saito, Q. Yu, S. Yamasaki
10:35 – 159. Application of bench-scale sample preparation techniques and 3D fluorescence for the speciation of Cs, Co and Cu in contaminated groundwater. **F. Caron***, S. Hume, S. Siemann
11:00 Break
11:10 – 160. Scientific aspects in development of the certified reference materials of fish meat and bone for determining radioactivity from FDNPP: Cs-134, Cs-137, and Sr-90. **Y. Minai***, T. Miura, C. Yonezawa, H. Iwamoto, M. Shibukawa, Y. Takagai, Y. Okada, M. Furukawa, F. Arakawa, K. Kakita, I. Kojima, Y. Uematsu, A. Okada, T. Sanada, T. Maeyama, T. Yamada, H. Ohta, S. Hirai
11:35 – 161. Radiocesium fate in the Japanese agricultural systems and the effect of soil remediation acts. **K. Tagami***, S. Uchida

Hawaii Convention Center
Halls I, II, III

Sources, Fates and Risks from Consumer Product Ingredients in the Environment (#391)

Organized by: P. DeLeo, K. Solomon, S. Mudge, C. Linares
Presiding: P. DeLeo

Poster Session
10:00 – 12:00

162. Investigation of interactions between tribenuron methyl and montmorillonite: Insights on factors affecting its fate in soil. **S. Ahmadi***, F. Fathi, A. Ghasempour, M. Taghavi
163. An analytical method for simultaneous determination of alternative flame retardants of hexabromocyclododecane in indoors. **Y. Miyake***, H. Nakayama, T. Amagai, S. Ogo, K. Kume, T. Kobayashi, S. Takasu, K. Ogawa

Hilton Waikiki Beach
Molokai

Food Processing: Chemistry, Quality, Safety, Sustainability, and Value-added By-products (#400)

Organized by: M. Tunick, L. Liu, X. Liao, H. Nabetani, S. Yoon, X. Dai
Presiding: L. Liu, M. Tunick

8:00 Opening Remarks
8:05 – 164. Separation of benzoic acid from cranberry by use of nanofiltration. **H. Nabetani***, D. Quoc Lai, S. Hagiwara, N. Tagashira, T. Kimura, M. Nakajima
8:35 – 165. Review of current studies on radioactive cesium ($^{134}Cs+^{137}Cs$) behavior in the processing and cooking of agricultural, livestock, and fishery products in Japan. **S. Kawamoto***, M. Hachinohe, S. Hamamatsu
9:05 – 166. Inactivation of spores in fruit juice and the quality change by high electric field alternating current. **K. Uemura***
9:35 – 167. Detection of novel trichothecene mycotoxin glucosides (masked mycotoxins) by high-resolution liquid chromatography-Orbitrap mass spectrometry. **H. Nagashima***, Y. Matsuo, H. Nakagawa
10:05 Break
10:25 – 168. Mitigation of acrylamide in potato chips in Japan. **M. Yoshida***
10:55 – 169. Formation and analysis of "food-borne toxicants". **M. Granvogl**
11:20 – 170. Simultaneous determination of 113 pesticide residues in sorghum, rice husk, distilled spirit samples, and their dietary intake assessment. **y. han**, l. song, y. li, n. zou, y. qin, k. gu, j. zhang, C. Pan*

Hawaii Convention Center
Halls I, II, III

Agrochemistry, Environmental, and Geochemistry General Posters
10:00 – 12:00

171. Comparison of *Cosmos bipinnatus* Cav. essential oil constituents in wild and cultivated population from Bangladesh and antimicrobial activity. **M.N. Bhuiyan***
172. Occurrence and source apportionment of pesticidal persistent organic pollutants in the surface riverine water from the eastern and northeastern part of India: Implications for ecotoxicological risk. **P. Chakraborty***, S. Khuman, S. Sakthivel, B. Kumar, L. Bommanna
173. Study on reduction of heavy metals in the foods using recycling resource. **J. Kim***, s. kweon, D. Heo, J. Kim
174. Classification of freshness using non-targeted analysis of volatile components, in frozen fishery products, during decay. **H. Park***, S. Lee, K. Um, A. Baek, J. Kim
175. Browning reduction of juice concentrate from a new cultivar of Asian pear (*Pyrus pyrifolia* cv. Hwasan) treated with different ascorbic acid concentrations. **J. Eun***, G. Jiang, S. Yim
176. Effects of oxic and anoxic conditions on metals release from mine tailings. **S. Al-Abed**
177. Analysis of toxic metals leached into soils, water, and plants. **J. Chou***, J. Merono, T. Robinson
178. Standard heats of oxidation for soils in the remediation of chemically-contaminated soils and waters. **N. Moulton**, S. Mezyk, M. Becker
179. Thermodynamic analysis of Pb(II) and Ni(II) adsorption onto manganese oxide nanoparticles in the presence of humic acids. S. Ko, B. Bae, A. Jang, **S. Kang***
180. Modified dispersion property of carbon nanotubes in hybrid photocatalyst containing both carbon nanotubes and titanium. **J.J. Bang***, S. Muslim, K. Kendall, c. Johnson, M. Nguyen
181. Effect of herbicide glyphosate on the cyanobacterium *Cylindrospermopsis raciborskii* growth and saxitoxin production. **F. Dorr***, E. Pinto
182. Monitoring and risk assessment of chemicals residues in commercial agricultural products in Korea. **A. Song***, J. Yim, S. Choi, J. Kim
183. Chlorophenol photodegradation in water from rural areas using carbon nanotubes and TiO_2 nanocomposites as photocatalysts. **S. Ponce***, J. Rodriguez, C. Belver, J. Bedia, A. Alvarez
184. Removal of diclofenac from water matrix by zeolite-assisted photo-AOPs. **D. Juretic***, H. Kusic, U. Lavrencic Stangar, D. Dionysiou, A. Loncaric Bozic
185. Sterilization with low temperature for long time in baby food added with persimmon (*Diospyros kaki.* cv. Daebong) puree and citric acid. **J. Eun***, C. Lee, Y. Kim
186. Enhanced catalytic activity of doped graphene for wastewater treatment. **B. PARK***
187. Polycyclic aromatic hydrocarbons in the Japan Sea. **K. Hayakawa**
188. Utilization of raw and activated maize tassel for the removal of nutrient and heavy metal contaminants in water. **A.M. Shofolahan***
189. Sorption radioactive methyl iodide on silver doped zeolite for filtered venting system. **T. ISHII**, N. Sato, A. Kirishima, D. Akiyama, T. NARABAYASHI
190. Classification of almonds (*Prunus dulcis*) with concealed damage using near-infrared spectroscopy and partial-least square regression. **C. Rogel-Castillo***, R.B. Boulton, A.E. Mitchell
191. Plasmonic enhanced optical disk reactor for wastewater treatment. **M. Chen***, I. Chiang, W. Hsieh, Y. Chen, Y. Huang, C. Chu, D. Tsai
192. Leaching in soil column of Methiozolin. **J. Kim**, J. Kim, S. Kim, S. Choi, B. Lee, S. Koo, K. Hwang, J. Seo*
193. Debris plastics as sources of chemical contaminations of coast and open sea area. **K. Saido***, Y. Kodera, H. Sato, S. Togawa, N. Maximenko, K. Kogure, N. Togawa, D.M. Karl
194. Contamination by the styrene oligomer generated from debris polystyrene from coastal regions of Japan. B. Kwon, T. Kusui, A. Okabe, S. Chung, D.M. Karl, K. Takatama, M. Nishimura, **K. Saido**
195. Reactivity of horseradish peroxidase for detergent formulations. **M. Morita***, F. Masuko, K. Mase
196. Coastal phytoplankton growth in seawater media containing biodegradable chelating ligands and humic substances. **H. Hasegawa***, M.A. Rahman, M. Okada, T. Maki, Y. Tate, T. Ichijo
197. Removing diethylphthalate (DEP) from water systems by use of zeolites and mesoporous materials. A. Masuda, **H. Honda***
198. Antimutagenic activity of organic solvent extracts from pulp of *Pyrus communis* (pear). **H. Tomosaka***, **S. Ota**, S. Kumehara, M. Kudo, H. Toi, M. Ota
199. Effect of 1-MCP treatment on quality and flavor of fresh-cut sage. **X. Zhao**, Y. Li, Y. Ma, C. Zhang
200. Removal of arsenic from aqueous solution using semi-burnt dolomite. **H. Sango***, M. Hirano
201. Chemometric analysis of real-time mobile membrane introduction mass spectrometry data for the source apportionment of atmospheric samples. **L. Richards***, D. Yeung, N. Davey, C.G. Gill, E.T. Krogh
202. Investigation of diarrhetic shellfish toxins using SPATT in Lingshan Bay, Yellow Sea, China. **z. li***
203. USP ● ● and you: What is the sum of toxic elements you might ingest every day?. **E.M. Pruszkowski**
204. Fruit polyphenols may play a role in fruit ripening and senescence. **W. Jiang***
205. Study on digestion of desiccated coconut and changes of pHs in simulated gastric acids. H. Wu, **J. Xiong**, **J. Ye***
206. Determination of the botanical origin of single-source honey samples and detection of adulteration with HFCS using SNIF (^{2}D) NMR techniques. **A.D. Marchetti**, N.S. Green
207. Low temperature pyrolysis investigation on the behavior of hazardous materials in waste PCBs. **A. Shokri***
208. Isolation and characterization of plant growth promoting bacteria from earthworm. **N. Washio***, T. Ohike, M. Okanami, T. Ano
209. Improvement of a HONO sampling system and its application to atmospheric HONO monitoring in Vietnam and Japan. **H.T. Trinh***, N. Takenaka
210. Investigation of the catalyst for highly concentrated of ammonia and hydrogen peroxide removed in industrial wastewater by subcritical hydrothermal reaction. **M. Maeda**, D. Tokunaga, M. Negoro, A. Miyakoshi, K. Fukunaga, H. Yamasaki*
211. Removal of arsenic and lead from contaminated soils by washing with biodegradable chelating agents. **N. Jii**, H. Sawai, I.M. Rahman, T. Maki, H. Ishiwata, H. Hasegawa
212. Antialgae activity of calcined colemanite. **H. Shoji***, A. Sato, H. Onami, A. Tsuneshige, S. Okouchi
213. Environmental geochemistry of tailing and stream water in Yonghwa Mine, Korea. **J. Kim**, Y. Kim, **H. Byun**, H. Jeon, J. Kim
214. Flue gas stream elemental mercury capture using activated carbon: A review. **S.R. Shewchuk***
215. Study of reductive reaction of selenate with hydrazine over metal oxide-supported Pt catalyst in aqueous solution. **J. Zhao**, H. Matsune, S. Takenaka, M. Kishida*
216. Optimization of dispersive liquid-liquid microextraction coupled with gas chromatography-negative ion chemical ionization mass spectrometry for the determination of nitrated polycyclic aromatic hydrocarbons in environmental aqueous samples. **Y. Shu***
217. Wound inducible antimicrobial compoundsin *Citrus hassaku* leaves. **T. Matsukawa***, T. Asai, S. Kajiyama
218. Characterization of the *ACR12* gene in *Arabidopsis thaliana*. **M. Yoshizawa**, Y. Tanaka, M. Yamada, K. Sugiyama*
219. Study of cleaning effects in cleaning of microbubble with ultrasonic vibration considering environmental problem. **H. Ikeda***, K. Kurita, S. AOKI, S. HIRAI
220. Emission and behavior of Mercury, from the fumarolic activity of Minamijigoku-dani, Mt. Myoko, Japan. **H. Kodamatani***, S. Katsuma, A. Shigetomi, T. Hokazono, R. Imura, R. Kanzaki, T. Tomiyasu
221. Indium separation from lead-smelting dust by chelant-assisted extraction at high pressure and temperature. **H. Sawai***, I.M. Rahman, N. Jii, T. Wakabayashi, Z.A. Begum, T. Maki, S. Mizutani, H. Hasegawa
222. Novel adsorbent for removal of inorganic arsenic contained in polluted groundwater. **K. Inaba***, M. Haga, K. Ueda, H. Yoshikawa, T. Takemoto
223. Control of aqueous CO_2 concentration by temperature-sensitive materials for changing osmotic pressure. **J. Park**, Y. Lee*
224. Nondestructive prediction of degreening rate of broccoli buds by photosensing. **G. Amino**, Y. Makino*, S. Oshita
225. Microwave extraction of essential oil from Hyuganatsu juice solid wastes. **K. Sugamoto**, N. Hirozawa, Y. Matsushita
226. Oxidation of trichloroethylene by persulfate activated with ZVMs. **Y. Kim***, J. Kim, J. Kim, J. Geum
227. Removal of toxic mercury in contaminated water using Tubang Bakod (Jatropha curcas L.) latex. **V.C. Badong**
228. Role of pyrrolizidine alkaloids in invasion success of *Echium plantagineum* - metabolic profiling in *Echium* spp. **D. Skoneczny**, P.A. Weston, R. Callaway , L.A. Weston
229. Adsorption and desorption of methiozolin on five soils. **J. Kim**, J. Kim, J. An, S. Kim, S. Koo, K. Hwang, J. Seo*
230. Degradation of oxalic acid using Fenton oxidation processes. **Y. Kim***, H. Kwon, S. Choi, W. Oh
231. Heavy metal uptake of acacia from tailing soil in abandoned Janggun Mine, Korea. **J. Kim***, C. Lee, Y. Kim, **M. Lee***, **G. Jeong**
232. Remove of phenol and fluorescence dye by two-step process of titanium dioxide catalyzed photodecomposition and adsorption. **M. Cheng***, **L. Au**, **Z. Hasan**
233. Construction and improvement of microbial fuel cells using alkaliphiles. **S. Ebe***, T. Ohike, M. Okanami, T. Ano
234. Studies on metals and speciation of metals in rice. **J. Sneddon***
235. Production of a β-1,3-glucan hollow fiber due to an environmental stress response in plant protoplasts. **S. Tagawa**, Y. Yamagishi, U. Watanabe, R. Funada, T. Kondo*
236. Evaluation of lignin content in Japanese softwood species by pyrolysis-gas chromatography/mass spectrometry. **H. Yoshida**
237. Transport of stratospheric ozone to the free troposphere over central Chile. **R.J. Seguel***, N. Olivares, P. Sakamoto

*** Principle Author**

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238. Effect of rubber media on the treatment of ammonia wastewater in a biological aerated filter. **P. YU**
239. Preparation of butyl levulinate of cellulose using a single reaction process. **Y. Hishikawa**, M. Yamaguchi, S. Kubo, T. Yamada*
240. Development of TiO_2 nanotube layer anodized in EG electrolyte for environmental decontamination. **S. Oh**, J. Jang*
241. Indirect radiocarbon dating using microscope observation and bibliographical consideration of calligraphy. **H. Oda***, H. Yasu, S. Sakamoto, K. Ikeda

Wednesday Afternoon

Hilton Waikiki Beach
Prince Edward

Ferrites and Ferrates: Chemistry and Applications in Sustainable Energy and Environmental Remediation (#13)

Organized by: V. Sharma, R. Doong, H. Kim

13:00 Introduction
13:05 – 242. Participation of multi-oxidants in the pH dependence of the reactivity of ferrate(VI). **K. Yoshizawa***
13:40 – 243. DFT study on the oxidation of sulfite and arsenite by ferrate. C. Chuang*, G. Liu*, **M. Sung***
14:15 – 244. Encapsulation of ferrate for air purification application. R. Wu, E. Kanchanatip, **W. Den**
14:40 Break
14:55 – 245. Removal of tetrabromobisphenol A by ferrate(VI)-ozone oxidation technology: degradation, bromate inhibition, and toxicity evaluation. **W. Dong***, Q. Han*, H. Wang*, F. Sun*, Y. Tian*
15:20 – 246. Effect of ferrate(VI) and UV radiation on THMs formation. **C. Li***, j. zhao
15:45 – 247. Comparison of the effect of ferrate and ozone pre-oxidation on disinfection byproduct formation. **Y. Jiang***, J. Goodwill, D. Reckhow, J. Tobiason
16:10 – 248. Preliminary study of oxidation of selected aliphatic amino acids and dipeptides by Ferrate (VI). **L. Chen**, V. Sharma
16:35 – 249. Use of chemical and biological characterization to evaluate the toxicity of drinking water disinfection by-products following chloramination, chlorination, or a novel ferrate disinfection process. **L. Cizmas***, C. Gray, V. Sharma, L. Chen

Hilton Waikiki Beach
Prince David

Nanointerfaces and their Role in Environmental Systems and Processes (#86)

Organized by: D. Dionysiou, J. Gardea-Torresdey, W. Lee, X. Zhao, B. Pan, M. Litter
Presiding: B. Pan

13:00 – 250. Removal of arsenic and metals from water using nano-adsorbents. **H.J. Shipley**, D. Wagle, K. Engates, J. Hu, V. Grover
13:30 – 251. Chemical hardness in the adsorption of oxoanionic species onto metal oxide nanoparticles. **Y. Suh***, F. Belay, K. Cho*
14:00 – 252. Unique phosphate uptake behavior of lanthanum hydroxides nanoclusters confined in polymeric network. **Y. Zhang**, B. Pan*, X. Gao
14:30 Break
14:45 – 253. Effect of aging method on adsorption and elution of phosphate and crystallite size in Mg/Fe layered double hydroxide. **M. Kurashina***, Y. Ogawa, E. Kanezaki
15:15 – 254. Characterization of co-sorption of tungstate and cobalt on boehmite (γ-AlOOH): Uptake mechanisms of the sorption. H. Hur, R.J. Reeder , S. Lee, **Y. Lee***
15:45 – 255. Adsorption of chlorophenols from aqueous solutions by single-walled carbon nanotubes. H. Ding, X. Li, J. Wang, **C. Chen***, X. Zhang

Hilton Waikiki Beach
Territorial III

Chemistry and Biology of Auxin, Strigolactone and their Interactions (#107)

Organized by: T. Asami, Y. Zhao, C. Beveridge
Presiding: S. Al-Babili, T. Asami

13:00 Lunch Time
13:30 – 256. Current view of the auxin biosynthesis and inactivation pathways in plants. **H. Kasahara***
14:00 – 257. Molecular mechanisms of auxin biosynthesis. **Y. Zhao***
14:30 – 258. Local auxin metabolism in hypocotyl plays crucial roles in modulating environment-triggered rapid hypocotyl elongation. J. chory, **z. zheng***
15:00 – 259. Roles of auxin and strigoalctones in the control of rice tillering. D. Sang, L. Jiang, D. Chen, X. Liu, N. Zhang, Q. Qian, J. Li, **Y. Wang***
15:30 Coffee Break
15:50 – 260. Novel chemical tools for auxin biology ~auxin-biosynthesis inhibitors. **Y. Shimada**, Y. Kakei, A. Nakamura, R. Kikuchi, K. Soeno
16:20 – 261. New auxin analogs that selectively modulate auxin transport via PIN localization. **K. Hayashi***, A. Ochi, H. Motose, K. Takahashi, T. Kinoshita, H. Nozaki

Hilton Waikiki Beach
Kauai

UV Photochemistry for Water: Implications for Safe Water Disinfection and Oxidation Treatment Applications (#204)

Organized by: G. Knight, W. Liu, K. Bell, M. Mohseni, K. Linden, G. Shin, K. Oguma
Presiding: W. Liu, M. Mohseni

13:00 – 262. DBPs formed from chlorine following the LP-UV and MP-UV irradiation of the ammonia containing raw water. **W. Liu***, X. Gao, X. Nie, Z. Ye
13:30 – 263. Understanding the UV disinfection of wastewater: The role of influent quality and process parameters. **R. Farnood***
14:00 Wednesday PM Break
14:10 – 264. Chlorine/UV for selective degradation of micropollutant. **E.R. Blatchley***
14:40 – 265. Vacuum UV (VUV) based advanced oxidation: Scale up considerations and field evaluation. **M. Mohseni**
15:10 – 266. Prediction of organic micropollutant elimination during treatment of municipal wastewater effluent with UV/H_2O_2. **Y. Lee***, U. von Gunten
15:40 – 267. Comparison of UV and ozone based advanced oxidation processes for oxidation of micropollutants. **M. Kwon***, Y. Jung, H. Kae, H. Oh, T. Hwang, J. Kang*
16:00 – 268. Modeling of UV fluence rate in an annular reactor for advanced oxidation of trace organic contaminants: Significance of reflection. **T. Zhang**, L. Cheng, R.G. Arnold, S. Snyder, E. Saez
16:20 – 269. Understanding and predicting fate of degradation of organic compounds and associated transformation products in aqueous-phase UV photolysis and UV/H_2O_2 advanced oxidation process. **D. Minakata**, D. Kamath, S. Mezyk
16:40 – 270. Applications of ceramic membrane filtration and UV oxidation synergism. **J. Alvey**

Hilton Waikiki Beach
Hawaii

Environment and Gene Interaction (#336)

Organized by: G. Cobb, C. Matson, M. Hecker, C. Wong
Presiding: C. Matson

13:00 – 271. Altered reproductive capacity of Japanese medaka exposed to maternally transferred TBCO. **D. Saunders**, J. Sun, h. peng, J.P. Giesy, S. Wiseman
13:30 – 272. Effects of short term and multigenerational exposures to PAHs in fishes: Laboratory and field studies. **R.T. Di Giulio***
14:00 – 273. Evolutionary toxicology: Gradient of heritable resistance to PCBs and PAHs in Gulf killifish (*Fundulus grandis*) from Galveston Bay, Texas, USA. **C. Matson***, E. Oziolor, B. Dubansky
14:30 Break
14:45 – 274. Quantification of antibiotic resistant bacteria and genes in urban watersheds. **J. He**, A. Low
15:15 – 275. Natural role of palytoxin: Really a toxin or a modulator of microbial communities?. **T. Yamazaki***, Y. Taira, S. Yang, H. Izumi, S. Aratake, J.D. Reimer, H. Jenke-Kodama
15:45 – 276. Atmospheric emissions of veterinary pharmaceuticals from CAFOs. **G. Cobb**, B. Blackwell, P. Smith
16:15 Closing and Summary

Hilton Waikiki Beach
Prince Johah

Fukushima and Radiological Contaminated Environments World-wide: The Important Role of Environmental Chemistry and Radiochemistry in Remediation and Restoration (#374)

Organized by: T. Sasaki, H. Nitsche, C. Liu, Z. Yoshida, S. Kalmykov, L. Rao
Presiding: K. Iijima, C. LIU, T. Ohnuki, L. Rao

13:00 – 277. Lessons we have learned from radiological accidents: The behavior of Cs-137 in the environment. **S.B. Clark***
13:40 – 278. Radionuclides sorption and migration characters in the candidate landfill site. L. Du, Z. Tan, **X. WANG***
14:05 – 279. Actinide transport in the vadose zone: Observations from old and new field lysimeter studies. **B.A. Powell***, D.I. Kaplan, L. Bagwell, H. Emerson, K. Roberts, M. Witmer
14:30 Break
14:40 – 280. Insights into the future of radionuclide retention in Fukushima soils from first principles simulations. **K. Rosso***, M. Sassi, M. Okumura, S. Kerisit, M. Machida
15:05 – 281. Physicochemical characterizations of radioactive particles emitted at the Fukushima Dai-ichi Nuclear Power Plant accident. **Y. Satou**, K. Adachi, T. Ono, Y. Iizawa, Y. Abe, I. Nakai, Y. Igarashi, K. Sasa, K. Sueki
15:30 Break
15:40 – 282. Radionuclides sorption on soil: Surface complexation model and its application. **W. Wu**
16:05 – 283. Pu transport mechanisms in the environment: Field evidence, conceptual models, and experimental data. **m. zavarin***
16:30 – 284. Radionuclides removal by graphene oxide. **S.N. Kalmykov**, A.Y. Romanchuk, A. Slesarev, J. Tour
16:55 Closing remarks

Hilton Waikiki Beach
Molokai

Food Processing: Chemistry, Quality, Safety, Sustainability, and Value-added Byproducts (#400)

Organized by: M. Tunick, L. Liu, X. Liao, H. Nabetani, S. Yoon, X. Dai
Presiding: L. Liu, M. Tunick

13:00 Introductory Remarks
13:05 – 285. Production of bioactive lipids, conjugated linoleic acids, using hydrogenation process. **S. Yoon***
13:35 – 286. Optimal parameters to produce microencapsulated Kenaf seed oil (MKSO) by co-extrusion technology. **K. Nyam***
14:05 – 287. Manipulation of molecular design of vegetable oil-based polymers for high performance. **J. Zhang***
14:35 – 288. Biobased products via microwave-assisted maleation of tung oil. **Z. Liu***, C. Liu, B. Tisserat , R. Wang, T.P. Schuman, Y. Zhou, L. Hu
15:05 Break
15:20 – 289. Alternative uses for important U.S. agro-industrial coproducts. **A. Sousa**, N. Nghiem, P.M. Tomasula, L. Liu
15:45 – 290. Stimulation of sulforaphane production in broccoli under modified atmosphere. **Y. Makino***, Y. Nishimura, S. Oshita, T. Akihiro, T. Mozosoe
16:10 – 291. Evidence for the multifunctional bioactive properties of hemp seed peptides during oral administration to spontaneously hypertensive rats. **R. Aluko***
16:35 – 292. Preparation of Si/V_xO_y film for low moisture barriers. **H. Chiu***, C. Huang, Y. Liao*, S. Chong

Wednesday Evening

Hawaii Convention Center
Halls I, II, III

Ferrites and Ferrates: Chemistry and Applications in Sustainable Energy and Environmental Remediation (#13)

Organized by: V. Sharma, R. Doong, H. Kim

Poster Session
19:00 – 21:00

293. Ferrate prepared through microwave-assisted wet oxidation method and its decoloring performance towards eosin Y. **X. Chen**
294. Degradation of 2,6-dichlorophenol by liquid ferrate(VI). **B. Gwak**, I. Kim
295. Degradation of 2,4-dichlorophenol using ferrate(VI) synthesized by wet oxidation method. **K. Park***, I. Kim

Hawaii Convention Center
Halls I, II, III

Nanointerfaces and their Role in Environmental Systems and Processes (#86)

Organized by: D. Dionysiou, J. Gardea-Torresdey, W. Lee, X. Zhao, B. Pan, M. Litter
Presiding: D. Dionysiou

Poster Session
19:00 – 21:00

296. Enhanced stability of natural dye incorporated in mesoporous silicate. **Y. Kohno**, Y. Maeda
297. Mechanism elucidation of direct adhesions between polyimide films and stainless steel substrates. **H. Akabori**, K. Iijima, M. Hashizume
298. Immobilization of metal oxide nanostructures on the surface of cellulose fibers of paper matrices and study of the photocatalytic and antibacterial activities. I. Chauhan, S. Aggrawal , **P. Mohanty***
299. Superhydrophobic hollow silica micelles for highly efficient recyclable smart materials for oil/water separation. M. Islam, W. Choi, H. Jeon, Y. Jin, **H. Lee***

*** Principle Author**

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300. Immobilization of poly(acrylic acid) on poly(tetrafluoroethylene) substrate surfaces for biomedical applications using supercritical carbon dioxide treatments. **A. Furukawa***, K. Iijima, K. Otake, M. Hashizume
301. Enhanced reactivity of Bi/Fe^0 by trace amount of citric acid in degradation of chlorophenols. **J. Gong**, Y. Chang, Y. Chang*
302. Removal of heavy metals from aqueous solutions using biogenic magnetite nanoparticles. **Y. Kim***, Y. Roh

Hawaii Convention Center
Halls I, II, III

Sustainable Chemistry: Beyond the Bench (#103)

Organized by: M. Abraham, M. Gonzalez, P. Jessop, M. Hearn
Presiding: M. Abraham

Poster Session
19:00 – 21:00

303. Catalyst development for green oxidation chemistry. **C.J. Davy***, T.J. Collins, L.J. Wright
304. Simultaneous production of vitamin E and biodiesel from waste oils obtained during edible oil refining. **K. Hiromori**, S. Borjigin, N. Shibasaki-Kitakawa*
305. Immobilized Iron TAML oxidation catalysts for drinking water purification. **N. Ismail**, T.J. Collins, L.J. Wright
306. Catalytic oxidation of organic compounds by macrocyclic tetraamidate complexes. **X. Lin***, T.J. Collins, L.J. Wright
307. Green processing technologies for the valorization of waste mussel shells. **J.N. Murphy**, K. Hawboldt, F. Kerton*

Hawaii Convention Center
Halls I, II, III

Chemistry and Biology of Auxin, Strigolactone and their Interactions (#107)

Organized by: T. Asami, Y. Zhao, C. Beveridge

Poster Session
19:00 – 21:00

308. Hormonal diterpenoids besides gibberellin are involved in photomorphogenesis of *Physcomitrella patens*. **S. Miyazaki**, S. Park, H. Kawaide, K. Hayashi, T. Asami, M. Nakajima*
309. Screening of chemicals that affect protonemal differentiation of *Physcomitrella patens*. **M. Nakajima***, C. Yang, S. Miyazaki, S. Park, M. Otani, H. Kawaide, K. Hayashi, T. Asami
310. Auxin biosynthesis inhibitor effectively targets YUCCA. **Y. Kakei***, C. Yamazaki, M. Suzuki, A. Nakamura, A. Sato, Y. Ishida, R. Kikuchi, S. Higashi, Y. Yamasaki-Kokudo, T. Ishii, K. Soeno, Y. Shimada

Hilton Waikiki Beach
Kauai

UV Photochemistry for Water: Implications for Safe Water Disinfection and Oxidation Treatment Applications (#204)

Organized by: G. Knight, W. Liu, K. Bell, M. Mohseni, K. Linden, G. Shin, K. Oguma
Presiding: M. Mohseni

19:00 – 311. Development of a simulator for design and optimization of advanced oxidation reactors. **F. Taghipour***
19:30 – 312. UV/chlorine as an alternative to UV/H2O2 for advanced oxidation treatment of drinking water. **R. Hofmann***
20:00 – 313. Kinetics modeling and performance assessment of UV advanced oxidation processes on trace organics removal in complex water matrices. **H. Liu***, L. Li
20:20 – 314. Phototransformation of iodinated contrast media and implication in the formation of iodinated disinfection by products. **S. Allard***, C. Falantin, j. criquet, J. Croue
20:40 – 315. Pilot study using engineered photolysis for the photolytic degradation of landfill leachate. **P. Thimmaraju***, S. Bolyard, D. Reinhart, D. Soulsby, B. Cottrell

Hawaii Convention Center
Halls I, II, III

Food Processing: Chemistry, Quality, Safety, Sustainability, and Value-added Byproducts (#400)

Organized by: M. Tunick, L. Liu, X. Liao, H. Nabetani, S. Yoon, X. Dai
Presiding: L. Liu, M. Tunick

Poster Session
19:00 – 21:00

316. Fabrications of pullulan and pectin submicron fibers by electrospinning. **L. Liu***
317. Improving the functionality of *Citrus junos* Tanaka (yuzu) juice by underwater shock wave pretreatment. **E. Kuraya***, S. Nakada, O. Higa, S. Itoh
318. Enhancement of anti-wrinkle activities of *Agastache rugosa* by lactic acid fermentation. **H.Y. Lee***, N. Kim
319. Adsorption of Shiga toxin to foods containing indigestible components. **K. Yokoigawa***, M. Tsuji, T. Goto
320. Alaska pollock fish oil as nutritional and functional ingredient for processed muscle foods. **A. Hunt***, R. Draves, J.W. Park
321. Injection of marinade made of fish protein and nano fish bone for improved nutrition and eating quality of frozen fish fillets. **J.W. Park**, A. Hunt
322. Analysis of deterioration in early stage of frying oil. **M. Kiuchi***, M. Maki, M. Iwamatsu, M. Kataoka
323. CO_2 processing of fruit and vegetable tissues by CO_2 clathrate hydrate formation. **S. Takeya***, K. Nakano, M. bat, H. Umeda, A. Yoneyama, K. Hyodo, T. Takeda, S. Matsuo
324. High levels of icosapentaenoic and docosahexaenoic acid in the lipid of the Humboldt squid, *Dosidicus gigas*: A healthful marine food. **h. saito***
325. Nitrosation reaction of amines under freezing condition. **K. Kitada**
326. DNA protection and antioxidant potential of chestnut shell extrcts. **J. Lee**, K. Seo, y. Lee, T.K. Park, B. Lim
327. Validation of quantification method for ethyl carbamate in four food matrices. **B. Choi**, D. Ryu, E. Kim, S. Park, H. Paeng, **E. Koh***
328. Effects of temperature and period of fermentation on total phenolics and antioxidant activity of Maesil *(Prunus mume)* extract. **B. Choi***, E. Koh
329. Effect of predehydration for freezing of walleye pollock roes. **Y. Uchiumi***, T. Suzuki
330. Title comparison of ice structure formed in homogenous or inhomogeneous food martials by freezing under conditions of deep supercooling. **R. Kobayashi***, T. Suzuki
331. Study on freezing induced texture softening of fish meat considering collagen degradation. **T. Kobayashi***, M. Watanabe, T. Suzuki
332. Oxidative stability of pork meat sausage: Effect of bee pollen extract as natural antioxidant. **S.T. Carpes**, M. Bianchin, J.d. Almeida, H.H. Carline de Lima, A.S. Reis, D. Pereira, I.S. Ribeiro, M.S. Oviedo, C.W. Haminiuk, C. Moura
333. Functional properties, antioxidant capacity, and sweetener potential during drying process of Stevia rebaudiana leaves. **R.A. Lemus-Mondaca***, L. Zura, A. Vega, P. Rojas
334. Decomposition inhibition of the perishable food using a visible-light-active TiO_2 photocatalyst without cooling. **K. Satahira**, K. Nakasone, T. Ihara*
335. Use of reducing/nonreducing two-dimensional electrophoresis for study of disulfide-mediated interactions among proteins in egg white during storage. **S. Ishikawa***
336. Development of low-allergenic prawn protein using polysaccharide as a substrate for Maillard reaction. **T. Komoda***, N. Sasaki
337. Fate of dimethachlon during tobacco planting and processing. **L. Chen***, H. Cui, F. Yu, L. Pan, L. Zhao, H. Liu
338. Preparation of cross-linked β-glucosidase aggregates for synthesis of salidroside, a nutraceutical additive. **X. Shi**, L. He, Y. Xue
339. Development of carrot (Daucus carota L.) juice powder using spray drying by response surface methodology and perturbation plot. Q. Chen, **J. Bi**, R. Chen, X. Liu, X. Wu, J. Yi, L. Zhou, M. Zhou
340. Influence of explosion puffing drying conditions on physiochemical properties of blueberries. **J. Bi**, Q. Chen, X. Wu, C. Shao, X. Liu, X. Si
341. Inhibition and criterion of deterioration of frying oil by titanium oxide plate. **K. Munakata**, I. Aruse, N. Koseki, S. Eguchi, A. Sasaki, M. Endo
342. Phenolic profiles and antioxidant activity of different fractions in whole brown rice. **H. Ti***, M. Zhang*, R. Zhang*, Y. Zhang, Z. Wei, Y. Deng, L. Liu, X. Tang, Y. Ma

Thursday Morning

Hilton Waikiki Beach
Prince Edward

Ferrites and Ferrates: Chemistry and Applications in Sustainable Energy and Environmental Remediation (#13)

Organized by: V. Sharma, R. Doong, H. Kim

8:00 Break
8:05 – 343. Potassium ferrate(vi) performance in the removal of selected micropollutants. **J. Jiang***
8:40 – 344. Transformation of olefins and thioethers by aqueous ferrate(VI): Implications for organic micropollutant elimination during water treatment with ferrate(VI). **Y. Lee***
9:15 – 345. Ferrate-induced iron particles during ferrate(VI) treatment of secondary effluent. **Y. Deng**
9:40 Introduction
9:55 – 346. Electrochemical ferrate(VI) synthesis by using sponge iron. **X. Sun***
10:20 – 347. Kinetic investigations of the oxidation of p-chlorophenol by ferrate(VI). **z. luo**
10:45 – 348. Rapid and efficient degradation of dimethylphthalate by ferrate/titanium dioxide composites. S. Yang, **R. Doong***
11:10 – 349. Sequential treatment of mining waste using bacterial assisted fuel cell technology. **W. Ju**, E. Jho, K. Nam
11:35 – 350. Recent advances made in understanding mechanisms of oxidation by ferrate(VI). **V. Sharma**, R. Zboril

Hilton Waikiki Beach
Hawaii

Chemicals of Emerging Environmental Concern: A Global Perspective (#19)

Organized by: G. Cobb, J. Giesy, M. Murphy
Presiding: G. Cobb

8:00 Welcome and Introduction
8:05 – 351. Lessons learned from pharmaceuticals to understand bioaccumulation of ionizable environmental contaminants. **B.W. Brooks**
8:35 – 352. Untargeted screening of brominated compounds in sediments using a data independent precursor isolation and characteristic fragment (DIPIC-Frag) method. **J.P. Giesy***, h. peng, c. chen, D. Saunders, S. Tang, G.P. Codling, M. Hecker, S. Wiseman, P.D. Jones, A. Li, N. Sturchio, K.J. Rockne
9:05 – 353. Occurrence of glucocorticoids and their metabolites in waters of Beijing, China. **H. Chang***, Y. Sun, D. Sun, J. Giesy
9:35 Break
9:50 – 354. Emerging contaminants in coastal waters: Personal care products and steroid hormones in Lyttelton Harbour, New Zealand. **S. Gaw***, P. Emnet, G. Northcott
10:15 – 355. Neonicotinoids: Pollinator decline reveals also a worldwide threat on biodiversity and food production. **J. Bonmatin***, M. Chagnon, C.A. Downs, D. Goulson, C.H. Krupke, E. Long, F. Sanchez-Bayo, J.P. van der Sluijs
10:40 – 356. Environmental fate of synthetic growth promoters in animal agriculture: Recent progress and remaining challenges amid increasing trends in global use. **D.M. Cwiertny***, E.P. Kolodziej
11:05 – 357. Biomass-based chemicals and processes with environmental concerns. **I.T. Horvath**

Hilton Waikiki Beach
Kauai

Analysis of Flavors in Specialty Asian Foods (#58)

Organized by: F. Chen, F. Zheng, J. Lee
Presiding: F. Chen, H. Kumagai, M. Steinhaus

8:00 Introductory Remarks
8:05 – 358. Characterization of the aroma-impact volatiles in some speciality Asian foods by application of the molecular sensory science approach. **M. Steinhaus***, J. Li, P. Schieberle
8:35 – 359. Characterization of free and bound volatile compounds of Chinese bayberry (*Myrica Rubra*). **X. Ye***, H. Cheng
9:05 – 360. Identification of predominant contributors to off-odors in thermally processed muskmelon juice. **J. Wu**
9:35 – 361. Neutraceutical functions of lenthionine, a flavor component from shiitake mushrooms. **H. Kumagai***
10:05 Session Break
10:15 – 362. Flavor changes of citrus fruits during storage are mainly determined by organic acid metabolism. **Y. Cheng**, X. Shun, L. Sheng, J. Xu, X. Deng
10:45 – 363. Changes in aroma-related volatiles and genes expression during peach fruit ripening and postharvest storage. **b. zhang***, H. Liu, J. Shen, W. Xi, K. Chen*
11:15 – 364. Features in citrus terpenoids production as revealed by carotenoids, limonoids, and aroma profiles of two pummelos (*Citrus maxima*) with different flesh colours. C. Liu, F. Yan, Y. Cheng, Z. Ma, X. Deng, **J. Xu***

Hawaii Convention Center
Halls I, II, III

UV Photochemistry for Water: Implications for Safe Water Disinfection and Oxidation Treatment Applications (#204)

Organized by: G. Knight, W. Liu, K. Bell, M. Mohseni, K. Linden, G. Shin, K. Oguma
Presiding: K. Oguma

*** Principle Author**

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Poster Session
10:00 – 12:00

365. Inactivation and photoreactivation of *E.coli* in secondary treated wastewater by various UV light sources. **A. Ishida***, N. Kamiko
366. Field test of photocatalytic solar water purifier in Thailand. **N. NEGISHI***, M. Sugasawa, C. Chawengkijwanich, N. Pimpha, S. Larpkiattaworn, J. Panichpakdee, T. Charinpanitkul, K. Kerdnawee
367. Enhancement of hydroxyl radical generation of aquatic using the visible light responsive photocatalysts of TiO_2 co-doped with nitrogen and vanadium. **Y. Han***, Y. Ishibashi, S. Kuwano-Nakatani, M. Takeda, T. Fukamatsu
368. Development and study of process effectivity of the novel conducting polymer based photocatalysts for reactive azo dye degradation in model wastewater. **Z. Katančić***, V. Gilja, **I. Peternel**, Z. Hrnjak-Murgić
369. Variation in dissolved component with irradiation ultraviolet light on mist of water samples. **T. Konno**, A. Sasaki, M. Endo
370. Photolytic and photocatalytic degradation of microcystins: from photochemical approaches to engineering considerations. H. Zamankhan, A. Zakersalehi , M. Eskandarian, **H. Choi***
371. Photo-Fenton reaction of dissolved organic matters with Fe(III)-treated hydroxyapatite catalysts activated by adsorption of humic substances. **T. Moriguchi***, S. Nakagawa
372. Application of ultraviolet irradiation to breakpoint chlorination process for ammonia removal. **A. Kubota**, N. Kamiko
373. Comparative evaluation of CECs removal by UV/H_2O_2 and UV/chlorine at pilot scale plant. **T. Hwang***
374. Comparison of UV-C and UV-C LED germicidal efficiency for *Marine bacillus subtilis* spore inactivation. **T. Hwang***, E. Kim, S. Nam

Hilton Waikiki Beach
Territorial III

Complex Mineral Growth and Dissolution Reactions: Collaborative Experimental and Computational Perspectives (#225)

Organized by: A. Stack, J. Gale, P. Raiteri, L. Wang
Presiding: J.D. Gale, P. Raiteri, A. Stack, l. wang

8:00 Opening Remarks
8:15 – 375. On the pre-nucleation cluster pathway. **D. Gebauer***
8:55 – 376. Computational investigation of mineral pre-nucleation speciation. **P. Raiteri***, W. Zhao, E. Byrne, R. Demichelis, M. De La Pierre, J.D. Gale
9:15 – 377. Computational investigation of the crystallization of calcium oxalate. W. Zhao, **R. Demichelis***, P. Raiteri, J.D. Gale, F. Jones, N. Sharma
9:35 – 378. Nucleation of metastable aragonite $CaCO_3$ in seawater. **W. Sun**, S. Jayaraman, W. Chen, K. Persson, G. Ceder
9:55 – 379. Nucleation and growth of barium sulfate nanoparticles at organic-water interfaces. C. Dai, A. Stack, A. Koishi, A. Fernandez-Martinez, **Y. Hu***
10:15 Intermission
10:35 – 380. In situ investigations of crystal nucleation and growth using electron microscopy in liquids. **R. Kroeger**
11:15 – 381. In situ view of $CaCO_3$ nucleation. **J.J. De Yoreo**, M.H. Nielsen, P.J. Smeets, N.A. Sommerdijk

Hilton Waikiki Beach
Prince David

Opportunities and Advancements in Rice Research and Aquaculture Research (#282)

Organized by: J. Johnston, T. Arao, J. Sandahl, M. Estela, S. Beebout
Presiding: S.E. Beebout, J. Johnston, J.F. Sandahl

8:00 Opening Remarks
8:05 – 382. Is arsenic in rice a public health concern?. **J. Johnston***
8:25 – 383. Effects of assorted cooking techniques on vitamin retention and arsenic mitigation in rice. **P.J. Gray***, T. Todorov, S. Conklin
8:45 – 384. Mutagenic approaches for reducing Cd and As in rice grains. **S. Ishikawa**, M. Kuramata, T. Abe, T. Arao
9:05 – 385. Weed management techniques affect water quality and availability in rice landscapes. **S.E. Beebout***, M.A. Bunquin, J. Opena, E. Pasuquin, R. Lampayan
9:25 Break
9:40 Remarks
9:45 – 386. Mineral extracts used as feed additive to control pathogens and stimule immune system on shrimps *Litopenaus vannamei*. C.T. Le*, **M. Arella**, G. Lafreniere Di Fruscia, F. Ascencio-Valle, H. Villarreal-Colmenares
10:05 – 387. Antimicrobial residues in aquaculture products and what to do about it. **b. koonse***
10:25 – 388. Inhibition and recovery of olfactory function in chum salmon (*Oncorhynchus keta*) following copper exposure. **J.F. Sandahl***
10:50 – 389. Effects of pesticides on fish and rice culture. **M. Islam***
11:10 – 390. Current status of pesticide usage and its elimination in rice-cum-fish system in the mekong delta, Vietnam. **P.T. Nguyen***
11:30 Concluding Remarks

Hilton Waikiki Beach
Prince Johah

Advances in Functional Foods and Flavor Chemistry Research (#329)

Organized by: M. Qian, Z. Chen, M. Herderich, C. Wang, H. Tamura, K. Wilkinson, A. Mitchell, Q. Li
Presiding: M. Herderich, M. Qian

8:00 Introduction
8:05 – 391. Multidimensional and chiral studies for flavour analysis and assessment. **P.J. Marriott***, S. Chin, M. Capobiango, Y. Wong
8:25 – 392. Simple HPLC-MS/MS approach to the analysis of potent thiols at ultra-trace levels in wine. **D.W. Jeffery***, R. Ristic, K.H. Pardon, D.L. Capone
8:45 – 393. Development of a method for purification of thiols. K. Sakaguchi*, D. Sugimoto, H. Kasuga, **Y. Yaguchi**
9:05 – 394. Application of sorptive bar solid extraction for the analysis of flavor compounds in Tequila spirits. **P.A. VAZQUEZ-LANDAVERDE***
9:25 Break
9:40 – 395. Defining the grape metabolome and its relationship with wine composition through comprehensive HPLC-MS/MS profiling of non-volatile grape and wine compounds. **M. Herderich***, N. Lloyd, V. Hysenaj, M. Solomon, M. Parker, J. Hack, D. Perenzoni, F. Mattivi
10:00 – 396. Tannins structural characterization by quantitative ^{31}P-NMR analysis: An unprecedented tool for tannins analysis, screening, and quality control. **C. Crestini***, H. Lange
10:20 – 397. Characterization of butter aroma in terms of solvent extraction and Lod method. **H. Tamura***, S. Ueno, A. Naka, H. Zhao, Q. Chen, L. Yonekura, R. Yang, T. Isogai, R. Wakui, M. Shiota
10:40 – 398. Recent advances in gas chromatography retention model and retention mechanism. **L. Wu**, Q.X. Li
11:00 Closing remark

Hilton Waikiki Beach
Molokai

Status and Trends of Persistent Organic Chemicals in the Environment (#402)

Organized by: L. Bommanna, S. Masunaga, P. Kodavanti, J. Khim
Presiding: L. Bommanna, J. Khim

8:00 Introductory Remarks
8:10 – 399. Spatial and temporal trends of persistent organic chemicals with emphasis on brominated flame retardants. **P. Kodavanti***, L. Bommanna
8:40 – 400. Contamination of water bodies by persistent organochlorine and organophosphate pesticides in cotton cropping area. **T. Jindal**, S. Thakur, K. Gulati, A. Kumar, A. Ranjan, R. Lal, P. Jain
9:10 – 401. Perfluorinated alkyl acids in captive dolphins and their diet from Hawaii. **J.L. Reiner***, H. Horton, C. Bryan
9:30 – 402. Effect-directed assessment of AhR-active PAHs in oil-contaminated sediments by the *Hebei Spirit* oil spill, South Korea. **S. Hong**, S. Jeon, B. Kwon, U. Yim, W. Shim, J. Giesy, J. Khim*
9:50 – 403. Lessons learned from 15 years of monitoring contaminants in Pacific seabird eggs. **S.S. Vander Pol***, P. Becker, C.E. Bryan, R. Pugh, D.G. Roseneau
10:10 Break
10:30 – 404. Spatial and temporal trends of persistent organic pollutants in ringed seals from the Canadian Arctic. **D. Muir**, X. Wang, E. Barresi , E. Sverko, S. Ferguson, B. Young
11:00 – 405. Persistent toxic substances in estuarine and coastal areas of the Yellow Sea regions: An international perspective. **J. Khim***, S. Hong, B. Kwon, T. Wang, Y. Lu, J. Giesy
11:20 – 406. Continuous monitoring of polychlorinated dibenzo-p-dioxins and dibenzofurans in the air collected from the background area in China:2007-2014. **M. Zheng**, L. Gao, Q. Zhu, Q. Fu, Y. Lv
11:40 – 407. Spatial and temporal distributions of POPs and PAHs in sediment from Masan Bay, Korea. **H. Lee***, X. Jin, S. Lee, A. Shen, Y. Jeong, S. Lee, H. Moon

Thursday Afternoon

Hilton Waikiki Beach
Prince Edward

Ferrites and Ferrates: Chemistry and Applications in Sustainable Energy and Environmental Remediation (#13)

Organized by: V. Sharma, R. Doong, H. Kim

13:00 Introduction
13:05 – 408. Sustainably sound strategies for the production of nanometal-adorned ferrites and their safer applications in catalysis and remediation. **R.S. Varma**
13:40 – 409. Synthesis of monodisperse ferrite nanocrystals and M-Fe_3O_4 heterostructures for effective degradation of nitrophenols. F. Lin, **R. Doong***
14:15 – 410. Catalytic ozonation of sulfamethoxazole by using magnetic mesoporous molecular sieve. **C. Chang**, H. Kuo
14:40 Break
14:55 – 411. Generation of OH radical in the treatment of dye effluent by zero-valent iron (ZVI). **T. Harada***, Y. Kawase
15:20 – 412. Carboxymethyl chitosan functionalized magnetic cored dendrimers for environmental applications. **H. Kim**, J. Park*
15:45 – 413. Experimental determination of storage solution and regenerants of magnetic-cored dendrimers. **K. Kim**, H. Kim, J. Park*
16:10 – 414. Investigation of reducing capacities and redox potentials of sewage sludge humic substances with iron oxides. **J. Jiang***, Z. Yang
16:35 – 415. Degradation of BTEX in aqueous solutions using Fe_3O_4 activated persulfate oxidation system. C. Hung*, C. Chen, Y. Liu, **C. Dong**

Hilton Waikiki Beach
Hawaii

Chemicals of Emerging Environmental Concern: A Global Perspective (#19)

Organized by: G. Cobb, J. Giesy, M. Murphy
Presiding: J.P. Giesy

13:00 afternoon introduction
13:05 – 416. Applications of environmental forensics for chemicals of emerging concern. **K.J. Rockne**, G.P. Codling, J.P. Giesy
13:30 – 417. Occurrence of PPCPs in Chinese streams: A nationwide study. B. Yao, S. Yan, **W. Song**
13:55 – 418. PPCP/EDCs: From soil to plants. **J. Gan***, S. Wu, J. Conkle, L. Dodgen, F. Ernst
14:20 – 419. Evaluating plant uptake of pharmaceuticals from soil afterment with urine-derived fertilizers. **D.S. Aga**, R. Mullen, A. Noe-Hays, K. Nace, N. Love, K.R. Wigginton
14:45 Break
15:00 – 420. Chemical legacy from US military bombing. **D. Klein**
15:25 – 421. Fate of emerging cyanobacterial harmful metabolites in water supply systems. **A. Zamyadi***, S. Dorner, M. Prevost, G. Newcombe, R.K. Henderson
15:50 – 422. Understanding biosynthetic routes for polybrominated aromatic pollutants and toxins from the marine environment. **V. Agarwal***, B. Moore
16:15 – 423. Investigation of perfluorinated alkyl substances contamination in groundwater: Influence of field sampling and laboratory analytical techniques. **D. Loock**, N. Battye, K. Reimer, K.P. Weber, I. Koch

Hilton Waikiki Beach
Kauai

Analysis of Flavors in Specialty Asian Foods (#58)

Organized by: F. Chen, F. Zheng, J. Lee
Presiding: F. Chen, K. Lee, Z. Xiao, F. Zheng

13:00 Introduction Remarks
13:05 – 424. Characterization of aroma compounds of Chinese famous liquors by gas chromatography–mass spectrometry and flash GC electronic-nose. **Z. Xiao**
13:35 – 425. Chemical profiles and antioxidant activity of volatile extracts isolated from Korean rice beers and wines. **K. Lee**
14:05 – 426. Analysis of volatiles in Chinese Dezhou braised chicken by ASE-SAFE/GC×GC-HR TOF MS. **F. Zheng**
14:35 – 427. Chemical and sensory profiles of Korean soybean pastes using GC-olfactometry, GC-mass spectrometry, and sensory descriptive analysis. **S. Lee***
15:05 Session Breaks
15:15 – 428. Differentiation of aroma compounds in Chinese bayberry by GC-MS and GC-O combined with principal component analysis (PCA). **H. Cheng***, X. Ye*

*** Principle Author**

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15:45 – 429. Flavor component analysis of sweet potato shochu by GC-MS-based non-target analysis and sensory evaluation. **Y. Matsuo***, T. Namiki, K. Toyama, S. Oda, K. Yamazaki, T. Nakajima
16:15 – 430. Investigation of the sunlight-induced aroma deterioration of pummelo (*Citrus maxima*) essential oil. **H. Ni***, P. Hong, H. Sun, F. Chen, H. Cai

Hilton Waikiki Beach
Territorial I & II

Advanced Products from Lignin and Micro- or Nano-fibrillated Cellulose (#70)

Organized by: T. Hu, A. Ragauskas, H. Hatakeyama
Presiding: T. Hu

13:00 – 431. Overcoming challenges on the development of nanocellulose-based products. **M. Peresin***, T. Hänninen, M. Hakalahti, J. Pere, V. Kunnari, J. Varitianen, P. Qvintus, T. Tammelin
13:25 – 432. Commercial advances in the application of fibrillated cellulose. **A. Dodd***, S. Winter
13:50 – 433. Effect of micro- and nanofibrillated celluloses on the structure, physical properties, and dewatering of a composite paper. **J.J. Rantanen***, T. Maloney
14:15 – 434. Nanocellulose composites: Optimization of properties and process. **P. Raj***, S. Varanasi, W. Batchelor, G. Garnier
14:40 – 435. Effect of cellulose nanofibrils on curing behaviour of epoxy amine systems. **N. Yan**
15:05 Break
15:15 – 436. Nanofibrillation of dried pulp in NaOH solutions and applications. **K. Abe***, H. YANO
15:40 – 437. Cellulose nanopaper with controllable optical properties. **M. Hsieh***, H. Koga, M. Nogi, K. Suganuma
16:05 – 438. Xylan tyramine conjugate as a biomimetic crosslinker for 3D bioprinted materials from trees. K. Markstedt, G. Toriz, **P. Gatenholm**

Hilton Waikiki Beach
Territorial III

Complex Mineral Growth and Dissolution Reactions: Collaborative Experimental and Computational Perspectives (#225)

Organized by: A. Stack, J. Gale, P. Raiteri, L. Wang
Presiding: J.D. Gale, P. Raiteri, A. Stack, l. wang

13:00 – 439. In situ scanning transmission X-ray microscopic analysis of biofilm formation and dissolution of sulfide minerals by *Acidithiobacillus ferrooxidans*. **S. Harmer***
13:20 – 440. Fe(II)-catalyzed recrystallization of hematite and goethite: Experimental observations, computational questions. **M. Scherer***, K. Rosso, D.E. Latta, A. Frierdich, M. Helgeson
13:40 – 441. Iron electron transfer, atom exchange, and Fe oxide growth at the clay mineral-water interface. **D.E. Latta***, W. Premaratne, K. Rosso, M. Scherer, A. Neumann
14:00 – 442. Molecular-scale change of the hydration structure of calcite surfaces due to magnesium ions probed by FM-AFM. **Y. Araki**, H. Onishi, N. Oyabu, K. Kobayashi, H. Yamada
14:20 – 443. Combined experimental and computational analysis of silica-water interfaces to understand dissolution mechanisms. **J.D. Kubicki***, J. Boettger, M. DelloStritto, J. Sofo, M. Fedkin, A. van Duin, D. Wesolowski, P. Fenter, S. Gomez, F.M. Geiger
14:40 – 444. Reactive surface area in the environment: New solid-state NMR tools coupled with computational chemistry. **K.T. Mueller***, N. Washton
15:00 Intermission
15:20 – 445. Monte Carlo simulation of nanoporous crystal growth. **M.W. Anderson***, J.T. Gebbie
15:40 – 446. Atoms to pores growth of barite. **A. Stack**
16:00 – 447. Fingering patterns induced by precipitation reactions during injection in porous media. **A. De Wit***, G. Schuszter, F. Haudin, P. Shukla, F. Brau, J. Cartwright, Y. Nagatsu
16:20 Closing remarks/Open Discussion

Hilton Waikiki Beach
Prince Johah

Advances in Functional Foods and Flavor Chemistry Research (#329)

Organized by: M. Qian, Z. Chen, M. Herderich, C. Wang, H. Tamura, K. Wilkinson, A. Mitchell, Q. Li
Presiding: H. Tamura, K. Wilkinson

13:00 Opening remark: Introduction
13:05 – 448. Characterization of branched long-chain aliphatic aldehyde analogs as potent odorants in ripe natural cheeses. **K. Kumazawa***, S. Inagaki, S. Fujikawa, Y. Wada
13:25 – 449. New approach to investigate the flavor release from different beverage compositions: Influence of milk on aroma release during consumption of coffee beverages. **T. Itobe**, K. Kumazawa*
13:45 – 450. Characterization of important aroma compounds in raw licorice (*Glycyrrhiza glabra*). **M. Granvogl**, J. Wagner, P. Schieberle
14:05 – 451. Formation of peppery, minty, rosy and woody sequiterpenes derived from α-guaiene. **D. Taylor***, A. Huang, M. Sefton
14:25 – 452. Characterisation of volatile profile of Chinese rice wines by comprehensive 2D gas chromatography coupled with time-of-flight mass spectrometry (GC $\times$ GC-TOFMS). **S. Chen***, J. Wu, N. Wang, Y. Xu*
14:45 Break
15:00 – 453. Toward a systems-based approach for hop flavoromics. **R.A. Shellie**, L. Tedone, D. Yan, L. Staskova, A. Koutoulis, S. Whittock
15:20 – 454. Combined analysis of non-targeted volatile profile and sensory evaluation of commercial tomato juices to elucidate flavor characteristics. **Y. Iijima***, Y. Iwasaki, Y. Otagiri, T. Sato, H. Otomo, Y. Sekine, A. Obata
15:40 – 455. Distinguishing the botanical origin of honey for authentication using head-space solid-phase microextraction (HS-SPME) gas chromatography mass spectrometry (GC/MS) and multivariate analysis. **A.E. Mitchell***, S. Charoenprasert
16:00 – 456. Understanding the composition of coffee quality. **H.E. Smyth***, W. Sunarharum, H. Tran, U. Pappu, B. Cheng, J. Mayze, A. Furtado, D. Williams, S. Fuller, S. Richards, R. Henry
16:20 – 457. Impact of vineyard exposure to smoke on the composition and sensory properties of wine. L. van der Hulst, C. Ford, R. Burton, R. Ristic, N. Lloyd, Y. Hayasaka, **K. Wilkinson**
16:40 – 458. Flavor and flavor stability of ready-to-drink tea beverage during storage. F. Yuan, F. He, Y.L. Qian, J. Zheng, W. Huang, **M. Qian***
17:00 Closing remark

Hilton Waikiki Beach
Molokai

Status and Trends of Persistent Organic Chemicals in the Environment (#402)

Organized by: L. Bommanna, S. Masunaga, P. Kodavanti, J. Khim
Presiding: P. Kodavanti, S. Masunaga

13:00 – 459. Impact of crude electronic waste recycling in loading polychlorinated biphenyls in Indian environment: Implications for atmospheric outflow. **P. Chakraborty***, S. Sakthivel, P. Balasubramanian
13:30 – 460. Pilot study of the breakdown of organics present in reverse osmosis concentrate from a potable water reuse facility in a constructed wetland system. **A.K. Robinson**, B. Cottrell, G. McCarthy, P. Thimmaraju, W.J. Cooper, K. Ishida
13:50 – 461. Study of analyte recovery as a function of chlorinated hydrophobic pollutant concentration and sample storage time using headspace solid-phase microextraction (HS SPME) coupled with GC-ECD. **F.M. Dunnivant***, J. Tillman, W. Weckel-Dahman
14:10 – 462. Cryo-repository and persistent organic pollutant monitoring of sea turtle tissues from the U.S. Pacific Islands region. **J.M. Lynch***, G. Balazs, C. Allen, F. Arengo, S. Benson, J. Brooker, T. Eguchi, H. Harris, B. Jensen, R. LeRoux, R.S. Pugh, M.R. Rice, J. Seminoff, E. Sterling, T.M. Summers, T. Work, P.R. Becker
14:30 – 463. Black carbon: A reactive sorbent for the destruction of persistent organic contaminants by sulfides. **W. Xu***, K. Ding
14:50 Break
15:10 – 464. Behaviors of perfluoroalkyl acid precursors in sewage treatment plants. **S. Masunaga***, F. Ye, M. Tokumura
15:40 – 465. Transformation and phytoxicity of PBD-47 in maize (*Zea mays* L.). **S. Zhang**, S. Wang, X. Xu
16:00 – 466. Effect of addition of *Bacillus subtilis* on biodegradation of DDT by *Pleurotus ostreatus*. **A.S. Purnomo***, F.T. Hermansyah
16:20 – 467. Characteristics of PAHs adsorption on inorganic particles and activated sludge in domestic wastewater treatment. **J. Liu***
16:40 Closing remarks

Thursday Evening

Hilton Waikiki Beach
Hawaii

Chemicals of Emerging Environmental Concern: A Global Perspective (#19)

Organized by: G. Cobb, J. Giesy, M. Murphy
Presiding: G. Cobb

19:00 – 468. Aqueous organic emerging contaminants from arid, anthropogenic watersheds of North America. **L. Abrell***, C. Carreón-Diazconti, I. Aviña-Lamarque, R. Preciado-Monjardin, M. Valdez-Carrillo, S. Samanthi Wickramasekara, J. Chorover
19:20 – 469. Impacts of global change on atmospheric mercury. **S. Wu**
19:40 – 470. Granulation of partial nitrifying sludge facilitated by gel carriers in treating high-strength ammonia wastewater. **Y. LI***, X. Li, R. Li, L. LIN, J. Xu
20:00 – 471. Effect of intrinsic properties of activated carbons on mercury adsorption ability. **K. Tachibana**, E. Karagianni, H. Yamaura, S. Yamaguchi, Y. Ikushima, M. Ikushima, H. Yahiro*
20:20 – 472. Experimental determination of solubilities of di-calcium ethylenediaminetetraacetic acid $[Ca_2C_{10}H_{12}N_2O_8(s)]$ in NaCl and $MgCl_2$ solutions to high ionic strengths and its Pitzer model: Applications to geological disposal of nuclear waste and other low temperature environments. **Y. Xiong***
20:40 – 473. Innovative use of carbonaceous geosorbents for sequestration of antibiotics to reduce their transport and bioavailability. C. Liu*, Y. Chuang, Y. Zhang, H. Li, S.A. Boyd, B.J. Teppen, **W. Zhang**

Hawaii Convention Center
Halls I, II, III

Analysis of Flavors in Specialty Asian Foods (#58)

Organized by: F. Chen, F. Zheng, J. Lee
Presiding: F. Chen

Poster Session
19:00 – 21:00

474. Use of stir bar sorptive extraction and thermal desorption for gas chromatography-mass spectrometry characterization of selected volatile compounds in Chinese liquors. **Y. Niu**
475. Optimization and application of headspace-solid-phasemicro-extraction coupled with gas chromatography–mass spectrometry for the determination of volatile compounds in cherry wines. **R. Zhou**
476. Volatile compounds in foot muscle of abalone (*Haliotis discus hannai* Ino) during heating process. **L. Qin***, S. Hao, H. Wang, Y. Wang, B. Zhu
477. Effect of steam cooking on physicochemical properties of turbot (*Scophthalmusmaximus* L.) muscle and its volatile compounds. **X. Dong**, Y. Wang, J. Pan, B. Zhu
478. Comparison of volatile profiles in buckwheat *(Fagopyrum esculentum*) soksungjang fermented with different starter combinations. **I. Cho***, M. Park, H. Choi, B. Shin, Y. Kim
479. Evaluation of Pu-erh tea by the electronic tongue: Correlation with sensory properties and chemical compositions according to different grade levels and varied ages. **L. Gao**, M. Bian, W. Zhao, X. Hu, J. Wu*
480. Regulating the functional component contents and antioxidant activity of tea leaves by fertilizing with N, P, Se, and Zn. **H. Li**
481. Comparison of volatile compounds in simulated mozzarella cheeses. **X. Wang***, L. Ma*
482. Analysis of characteristic aroma components in sesame seed oil and optimization of roasted aroma producing condition for Chinese black sesame Jinhuangma. **Y. Wan***, Y. Song, L. Bai, G. Fu, S. Nie, H. Li, M. Xie*
483. Research of volatile components in Sichuan pickles during fermentation. **B. Pu***

Hawaii Convention Center
Halls I, II, III

Complex Mineral Growth and Dissolution Reactions: Collaborative Experimental and Computational Perspectives (#225)

Organized by: A. Stack, J. Gale, P. Raiteri, L. Wang
Presiding: J.D. Gale, P. Raiteri, A. Stack, l. wang

Poster Session
19:00 – 21:00

484. Evaluating the contribution of energetically reactive surface sites to the dissolution of spent nuclear fuel analogs CeO_2 and ThO_2. **C.L. Corkhill**, D.J. Bailey, M.C. Stennett, J.A. Miller, J.L. Provis, N. Hyatt
485. Leaching behavior of radium and thorium isotopes in ishikawaite. **K. Komatsubara***, Y. Kurihara, R. Shiobara, K. Nomura, T. Nakamura, Y. Koike
486. Manipulation of the texture and elemental composition of the novel sheaths produced by the iron oxidizing bacterium *Leptothrix* in culture by altering components of the medium. **H. Kunoh***

*** Principle Author**

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487. Formation of calcite or vaterite via reactions between gaseous CO_2 and Ca^{2+} electrolytes. G. Choi, S. Jeon, S. Namgung, J. Choi, **G. Lee***
488. Leaching of radium and thorium isotopes from thorium minerals, thorite, and yttrialite. **R. Shiobara***, Y. Kurihara, K. Komatsubara, T. Nakamura, Y. Koike
489. Effective recovery process of insoluble Sb in urban mine by controlling the metal complexes condition in Sb-tartaric acid-OH aqueous system. **S. Ueno**, S. Yokoyama, K. Shinoda, H. Takahashi*, K. Tohji

Hawaii Convention Center
Halls I, II, III

Opportunities and Advancements in Rice Research and Aquaculture Research (#282)

Organized by: J. Johnston, T. Arao, J. Sandahl, M. Estela, S. Beebout

Poster Session
19:00 – 21:00

490. Pesticide multiresidue analysis in Red Swamp crayfish using QuEChERS and HPLC/MS/MS. **L. Han**, K. Zhu, M. Feng, Z. Zhang
491. Development of anode material for rechargeable battery from rice husk gasification technology. **M. Seo***, W. Cho, H. Ra, S. Yoon, Y. Kim, J. Kim, J. Lee, H. Kim, J. Choi

Hilton Waikiki Beach
Prince Johah

Advances in Functional Foods and Flavor Chemistry Research (#329)

Organized by: M. Qian, Z. Chen, M. Herderich, C. Wang, H. Tamura, K. Wilkinson, A. Mitchell, Q. Li
Presiding: M. Qian, H. Tamura

19:00 Opening remark
19:05 – 492. Isolation, identification, and quantification of Lichenysin, a novel nonvolatile compound in Chinese distilled spirits reduced the headspace concentration of phenolic off-flavors via hydrogen-bond interactions. **Y. Xu***, R. Zhang, Q. Wu
19:25 – 493. Analysis and identification of characteristic aroma components in Hong Qu glutinous rice wine. **W. Zhang**, **Z. Liu**, C. Zheng, **L. Ni***
19:45 – 494. Characterization of aroma compounds which induce or modulate the activity of the human sweet taste receptor. **K. Nojiri***, S. Fujiwara, T. Misaka
20:05 – 495. Green synthesis of benzaldehyde from cinnamon oil. **H. Ji***
20:25 – 496. Molecular characterisation of starch by NMR and FT-IR spectroscopies, and X-ray diffraction. **M. Van Leeuwen***, M. Toutounji, J. Mata, E. Gilbert, A. Shrestha, L. Pallas, R. Ward, P. Castignolles, M. Gaborieau
20:45 Closing remark

Hawaii Convention Center
Halls I, II, III

Status and Trends of Persistent Organic Chemicals in the Environment (#402)

Organized by: L. Bommanna, S. Masunaga, P. Kodavanti, J. Khim
Presiding: L. Bommanna, S. Masunaga

Poster Session
19:00 – 21:00

497. Spatial distribution and temporal trends of polybrominated diphenyl ethers (PBDEs) in sediment and bivalves from Korean coastal waters collected between 2004 and 2013. **S. Lee***, H. Lee, X. Jin, A. Shen, J. Lee, S. Lee, Y. Jeong, H. Moon
498. Source identification and seasonal variation of allochthonous organic matter in an artificial Lake Shihwa and surrounding inland creeks in South Korea. **Y. Lee**, S. Hong, J. Hur, J. Khim, K. Shin*
499. Current efforts to produce environmental certified reference materials. **J. Kucklick***, J.L. Reiner, S.S. Vander Pol, K. Huncik, S. Long, S. Christopher, R. Day, J. Bowden, M. Ellisor, B. Kassim, B. Benner, A. Boggs, J. Murray
500. Electrochemical process: Contribution to water environment. **D.R. Wulan***, S. Cahyaningsih, D. D
501. Variations of detection of the Japanese PRTR chemicals in urban river water. **S. MIHO**, T. KAMEYA*, T. Kobayashi, K. FUJIE
502. Combined instrumental and bioanalytical assessments of estuarine and coastal sediments along the west coast of Korea. **S. Jeon***, S. Hong, B. Kwon, J. Khim
503. Screening and source identification of flame retardants in car indoor dust using field emission electron probe micro analyzer. **M. Tokumura***, Y. Yamatori, Y. Negishi, S. Masunaga
504. Simultaneous biosorption of iodine and phenanthrene by soil indigenous microorganisms. **D. Zhang***, P. Zhou, T. Lyu, H. Zhao
505. Simple method for the determination of H_2S inside the shell of bivalves and its application to *Corbicula japonica*. **S. SUGAHARA***, H. KAMIYA, M. YAMAMURO, J. PARK, M. Egawa, Y. SEIKE
506. Behavior of arsenic in acidic river environments. **K. Eiki**, N. Sugai, A. Sasaki, M. Endo

Friday Morning

Hilton Waikiki Beach
Hawaii

Chemicals of Emerging Environmental Concern: A Global Perspective (#19)

Organized by: G. Cobb, J. Giesy, M. Murphy
Presiding: S. Gaw

8:00 Welcome and Introduction
8:05 – 507. Detection, identification, and quantification of novel brominated flame retardants in environmental matrices. **D. Saunders***, h. peng, J. Sun, P.D. Jones, S. Wiseman, J.P. Giesy
8:30 – 508. Characterization of endocrine active substances in surface waters in Taiwan using biological assays and liquid chromatography tandem mass spectrometry. **P. Chou***, K. Chen, T. Li, M. Kawanishi, T. Yagi
8:55 – 509. Measurement of in vitro biotransformation rates of xenobiotic chemicals for identifying bioaccumulative organics among chemicals in commerce. **Y. Wan**, G. Zheng, J. Hu
9:20 Break
9:35 – 510. Environmental and health issues of extensive herbicide and pesticide application from multiple agrobased activities in a tropical freshwater river system of Thailand. **B.N. Noller**, T. Komarova, C. Boonthai Iwai*, A. Somparn, N. Tokhun, J. Mueller, I.R. Kennedy
10:00 – 511. Saving our bees – removing neonicotinoids from waters using oxidizing radicals. **B. Daws**, J.J. Kiddle, S. Mezyk
10:25 – 512. Solvent usage for chemiluminescent labeling processes. **J.-. Grote**
10:50 – 513. Mechanistic study of environmentally persistent free radical formation in phenol contaminated soils. U. Nwosu, **R. Cook***

Hilton Waikiki Beach
Territorial I & II

Advanced Products from Lignin and Micro- or Nano-fibrillated Cellulose (#70)

Organized by: T. Hu, A. Ragauskas, H. Hatakeyama
Presiding: A. Ragauskas

8:00 – 514. Electrosterically stabilized nanocrystalline cellulose as a green, sustainable, advanced material. **A. Sheikhi***, T. van de Ven
8:25 – 515. Chemically assembly of hydrolyzed electrosterically stabilized nanocrystalline cellulose. **H. Yang**, T. van de Ven
8:50 – 516. Advances in nanolignocellulosics for foams and fills. **A. Ragauskas**, Q. Sun, T. Köhnke
9:15 – 517. Order of addition effects on the chemistry, structure and properties of CNC-epoxy nanocomposites. **C. Meredith***, M. Shofner, G. Schueneman, N. Girouard
9:40 – 518. Technical challenges and market opportunities of nanocellulose for high volume, innovative composite-based commercial applications. **S. Ozcan***
10:05 Break
10:15 – 519. In situ preparation of magnetic composite by immobilizing ferrite on cellulose nanocrystals. **S. Fu**, C. Tian
10:40 – 520. Cellulose nanomaterials from the viewpoint of the new microfibril model. **U. Agarwal***
11:05 – 521. Molecular origins of twists in cellulosic materials. **K. Conley**, L. Godbout, M. Whitehead, T. van de Ven
11:30 – 522. Lignin-based nanocomposite aerogels reinforced with nanocrystalline cellulose for energy storage applications. **M.A. Karaaslan**, F. Ko

Hilton Waikiki Beach
Prince Edward

Proteomics and Metabolomics in Agricultural, Environmental, and Public Health Sciences (#264)

Organized by: J. Johnston, Q. Li, J. Emon, J. Chen, S. Lee, C. Zhang
Presiding: J. Johnston, Q.X. Li, C. Zhang

8:00 Opening Remarks
8:05 – 523. Genetic diversity of four anti-nutritional factors in kidney bean (*Phaseolus vulgaris* L.). **C. Chen**
8:25 – 524. Advantage of proteomics study in microorganism involved plant-plant interaction complex. **R. Jia**, Q.X. Li, A. Guo, Y. Guo
8:45 – 525. Shiga toxin-producing *Escherichia coli* analyzed by RT-qPCR, MALDI-TOF-TOF-MS/MS-PSD and top-down proteomic analysis. **C.K. Fagerquist***, W.J. Zaragoza
9:05 – 526. Proteomic analysis on rice seed germination. **P. Yang***
9:25 – 527. Identification and classification of rhizobia by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry. **R. Jia***, Q.X. Li, Q. Wei, **A. Guo**, **Y. Guo**
9:45 – 528. Workflow for SWATH-MS data processing and analysis. K.M. Frederick, N. Haverland, M. Majumder, **P. Ciborowski***
10:05 Break
10:20 – 529. Identification of protein complexes and pathways contributes to *Escherichia coli* resistance to balofloxacin using native/SDS-PAGE-based proteomics. **H. Li**
10:40 – 530. Expression and site-directed mutagenesis of the highly stable royal palm peroxidase in *Pichia pastoris*. **H. Zhao**, Q.X. Li
11:00 – 531. Proteomics for adverse outcome pathway discovery using human kidney cells. **J. Van Emon***, F. van Breukelen , P. Pan
11:20 – 532. *Stenotrophomonas* sp. L60 degrades Cry1Ab. **S. Gao**, Q.X. Li, J. Li
11:40 – 533. Visualization of proteomics data for bioinformatics analyses. **K.M. Frederick**, N. Haverland, M. Majumder, P. Ciborowski*

Hilton Waikiki Beach
Prince David

Analytical Development Relevant to Environmental Exposure and Effects (#288)

Organized by: C. Le, X. Li, G. Jiang, S. Richardson
Presiding: K. Chen, C. Le

8:00 – 534. Analysis of agrichemicals in the environemnt using paper spray ionization mass spectrometry. S.L. Reeber, **G.L. Glish***
8:30 – 535. Environmental metabolomics and ecotoxicity modeling using earthworms. **C.K. Larive***, C. Griffith
8:50 – 536. Identification of flame retardant additives in consumer products using mass spectrometry and understanding human exposure pathways. **H. Stapleton***, E. Cooper, K. Davis, K. Hoffman
9:10 – 537. Biomarker excretion rate as a method for assessing exposure to environmental toxicants. **B. Blount**
9:30 – 538. Trace analysis of gold nanoparticles in environmental waters. **B. Hu**, B. Chen, M. He
9:50 Break
10:10 – 539. Integrating analytical biology and chemistry to resolve molecular mechanisms of toxicity for water disinfection by-products. **M.J. Plewa***, J. Pals, Y. Komaki, E.D. Wagner
10:40 – 540. Occurrence and toxicity of halobenzoquinones - an emerging class of disinfection byproudcts in drinking water. **X. Li***, W. Wang, J. Li
11:00 – 541. High resolution and tandem mass spectrometry uncovers chlorination reaction pathways for transformation of medical imaging compounds in drinking water treatment. **S. Richardson***, C. Joseph, F. Wendel, C. Luetke-Eversloh, C. Postigo, T. Ternes, E. Machek, N. Ackerson, S. Duirk, E.D. Wagner, M.J. Plewa
11:20 – 542. Chemical and toxicological analyses of halogenated disinfection byproducts in tap water and boiled tap water. **X. Zhang***, J. Liu*, Y. Li
11:40 – 543. Development of an easy and efficient tool for nitrosamine precursor concentration in water based on cation exchange. S. Li, E. Bei, J. Wang, **C. Chen***, X. Zhang, M. Suffet

Hilton Waikiki Beach
Prince Johah

Advances in Functional Foods and Flavor Chemistry Research (#329)

Organized by: M. Qian, Z. Chen, M. Herderich, C. Wang, H. Tamura, K. Wilkinson, A. Mitchell, Q. Li
Presiding: Q.X. Li, A.E. Mitchell

8:00 Opening remark: Introduction
8:05 – 544. Trehalose bioproduction by a novel trehalose synthase from *Arthrobacter chlorophenolicus* SK38.001. **B. Jiang**
8:25 – 545. Mechanisms to retain naturally-occurring anthocyanin pigments In thermally processed whole fruits in aqueous media. **Y. Zhao**, J. Jung
8:45 – 546. Preparation and microstructure of food lipid nanoparticles modified by trehalose. **Z. Wen**

*** Principle Author**

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9:05 – 547. Investigation of volatile antioxidants formed from coffee beans under various roasting conditions. **T. Shibamoto***
9:25 – 548. Searching for aroma compounds which are effective for Alzheimer's disease. **K. Murata**, K. Tanaka, T. Furuta, Y. Ueno, Y. Yoshioka, S. Matsumura, H. Matsuda*
9:45 Break
10:00 – 549. Anxiolytic-like effects of ylang-ylang essential oil and its major components in anxiety models in mice. **N. Zhang**, L. Yao*, Y. Deng, L. Feng
10:20 – 550. Analysis and identification of bitter compounds from Lulo (*Solanum quitoense* L.) fruit with potential ACE-inhibitory activity. **D. Forero***, C. Masatani, Y. Fujimoto, D.G. Peterson, E. Coy-Barrera, C. Osorio
10:40 – 551. Explore the physiological effect of functional foods by proteomics. **F.C. Kuo***
11:00 – 552. Carotenoid metabolism and cancer prevention. **S. Schwartz***
11:20 – 553. Procyanidins as functional food ingredients? Systemic absorption, metabolism, and bioavailability. **H. Humpf***, S. Rzeppa, K. Bittner
11:40 – 554. Heart protection of roselle drink - a human clinical trial. **C. Wang***
12:00 Closing remark

Hilton Waikiki Beach
Molokai

Radioactive Contaminants and Waste Management in the Environment (#390)

Organized by: W. Um, M. Baik, O. Toshihiko, A. Francis, D. Kaplan
Presiding: T. Ohnuki, W. Um

8:00 – 555. Independent monitoring of the radiological release event at the Waste Isolation Pilot Plant (WIPP) repository in New Mexico, USA. **P. Thakur***
8:20 – 556. Fundamental study of conditioning of wastes generated from several contaminated water treatment devices in Fukushima Daiich Nuclear Power Station. **Y. Meguro***, J. Sato, J. Kato, A. Nakagawa, Y. Koma, T. Ashida
8:45 – 557. Technetium and chromium release from reducing cementitious materials under laboratory and field conditions. **D.I. Kaplan***, Y. Arai, G. Flach, D. Li, B.A. Powell
9:10 – 558. Radiological contamination at US Department of Energy facilities: Lessons learned from site characterization and remediation activities. **S.B. Clark***
9:35 – 559. Uranium(VI) chemistry in natural groundwater: Chemical speciation, molecular structure, and adsorption behavior. **J. Yun***
10:00 – 560. Evaluation of fluorescence as a monitoring tool for phytoremediation of tritium. **R.L. Brigmon***, E. Doman, E. Wilde, K. McLeod, J. Seaman
10:20 – 561. Applications of two photon spectroscopy in uranium bio-geochemistry. **L. Natrajan***
10:40 – 562. Application of phytoextraction using lettuce, Chinese cabbage, and radish to the uranium contaminated soil in Korea. **M. Lee***, Y. Han, J. Kim
11:00 – 563. Geochemical behaviors of uranium in granitic groundwater. **M. Baik***, T. Park, . Jung
11:20 – 564. Characterizing the mineralogy and redox reactivity of potential host rocks in a geological disposal facility for radioactive waste. J. Quirke, M. Henderson, R. Pattrick, K. Rosso, A. Dent, J. Sharples, **C.I. Pearce***
11:40 – 565. Emerging strategies for the disposal of iodine-129 in deep geological repositories. **D. Laurencin***, L. Campayo, A. Coulon, A. Grandjean

Friday Afternoon

Hilton Waikiki Beach
Hawaii

Chemicals of Emerging Environmental Concern: A Global Perspective (#19)

Organized by: G. Cobb, J. Giesy, M. Murphy
Presiding: J. Gan

13:00 – 566. Rare earth elements as chemicals of emerging concern. **P.G. Campbell***, C. Beaubien, A. Crémazy, C. Fortin
13:25 – 567. Pollutant toxicity as measured by *Artemia Franciscana* with a focus on humic acid and surfactant interactions. **R. Williams**, R. Cook
13:50 Break
14:05 – 568. Naphthenic acid property responses to environmentally relevant changes in temperature, pH, and salinity modeled with COSMO-RS solvation theory. **J.M. Parnis***, A. Celsie, D. Mackay
14:30 – 569. Utilizing chlorine atom reactivity in UV-based advanced oxidation processes: Kinetics and efficiencies of chlorine atom reactions. **K.D. Couch**, T. Reutershan, S. Mezyk, K. Ishida
14:55 – 570. Chloramine dissipation models for stormwater sewers. **Q. Zhang***, E. Davies, J. Bolton, Y. Liu
15:20 Closing and Summary

Hilton Waikiki Beach
Territorial III

Pectin Chemistry and Technology (#20)

Organized by: B. Savary, M. Williams, S. Lu, S. Yoo, R. Cameron

13:00 Opening
13:10 – 571. Current models of pectin structure: How they were arrived at and how toimprove them. **A.J. Mort***, X. Wu
13:50 – 572. Deciphering the structure of pectic oligosaccharides by a new tandem mass spectrometry method based on photo-activation in the vacuum ultraviolet range. D. Ropartz*, A. Giuliani, J. Lemoine, P. Dugourd, **M. Ralet**, H. Rogniaux
14:25 – 573. 3D architecture of arabidopsis plant cell wall. **M. Auer**
15:00 Break
15:10 – 574. Molecular moas vs. molecular motor-mowers: The trimming of pectin by non-processive and processive methylesterases. **G.B. Jameson***, L.M. Kent, T.S. Loo, G.E. Norris, L.D. Melton, D. Mercadante, B. Williams
15:45 – 575. Regulation and roles of pectin methylesterases (PMEs) in plants. L. HOCQ, F. SENECHAL, F. FOURNET, S. BOUTON, H. DEMAILLY, L. GUTIERREZ, V. LEFEBVRE, **J. PELLOUX**
16:20 Session close

Hilton Waikiki Beach
Territorial I & II

Advanced Products from Lignin and Micro- or Nano-fibrillated Cellulose (#70)

Organized by: T. Hu, A. Ragauskas, H. Hatakeyama
Presiding: H. Hatakeyama

13:00 – 576. Determining what key attributes are needed for strong lignin based carbon fibers. A.P. Dodd, **S.K. Straus***
13:25 – 577. Control of physical properties of advanced polyurethanes derived from industrial lignins. **H. Hatakeyama***
13:50 – 578. Useful plastics with very high lignin contents should be imminent. Y. Wang, Y. Chen, **S. Sarkanen***
14:15 – 579. Unrivaled enhancement of properties in polyolefin/lignin, polyolefin/cellulose nanocrystal, and polyolefin/waste cardboard biocomposites made possible by solid-state shear pulverization. K. Iyer, G. Schueneman, **J. Torkelson***
14:40 Break
14:50 – 580. Lignin nanoparticles from tequila agave bagasse as an active component in sunscreen. J. Gutiérrez-Hernández, N. Murillo, A. Escalante, E. Delgado, **G. Toriz***, F. Gonzalez
15:15 – 581. Green Technology for valorization of lignin: Application for production of biofuels and higher valuable small molecules. **S. Afewerki**, A. Córdova, C. Carlos-Palo Nieto
15:40 – 582. Synthesis and thermal properties of epoxy resins cured with acetylated lignin. **S. Hirose***
16:05 – 583. Agricultural biomass based catalysts for organic reactions. **X. Peng***, W. Chen, C. Wu, L. Zhong, Z. Xiang, R. Sun*

Hilton Waikiki Beach
Altitude

Chemical Ecology Applied to Sustainable Agriculture (#105)

Organized by: C. Osorio, J. Bento, T. Ando, X. Chen
Presiding: C. Osorio, J. Simões-Bento

13:00 Introductory Remarks
13:05 – 584. Sustainable management for the oriental fruit moth in pear and peach orchards in Jiangsu Province of China. **X. Chen***, M. Piao, J. Xu, G. Zhan, H. Fu
13:35 – 585. Identification and synthesis of chiral methyl-branched sex pheromones secreted by female moths. **T. Ando**
14:05 – 586. Role of host-kairomones and pheromones in the interaction between guava, *Psidium guajava* L. and the guava weevil, *Conotrachelus psidii* Marshall. A. Romero Frías, Y. Murata, J. Simões-Bento, **C. Osorio***
14:35 – 587. Chemical ecology of fluorescent compounds in flower pollen. **S. Mori***, M. Kawakami, M. Oishi, t. Fukui, t. Goto, J. Tsukioka, M. Osakabe, N. Sugioka, M. Sakuma, N. Hirai

Hilton Waikiki Beach
Kauai

Fate and Risks of Nanoparticles in Aquatic and Terrestrial Environments (#220)

Organized by: J. Kirby, J. Ranville, Y. Ma, B. Lee

13:00 – 588. Necessary step forward: Incorporating chemistry and spatial and temporal resolution into environmental fate models for nanomaterials. **G. Lowry***, A. Dale, E. Casman
13:40 – 589. Development of nanoinformatics tool for environmental risk assessment of nanomaterials. **Y. Tian**, M. Wiesner
14:00 – 590. Influence of natural organic matter and carbon nanotube on inorganic and organic pollutant and nanoparticle toxicity: An interface point of view. C.L. Schneider, **R. Cook***
14:20 – 591. Assessing the fate of metal-based nanoparticles in environmental matrices by single particle ICP-MS (SP-ICP-MS). **C. Stephan***, K. Wilkinson
14:40 – 592. Methods for detection and measurement of nanomaterials in and on foods. **R.B. Reed***, J. Schoepf, J. Faust, P. Westerhoff
15:00 Break
15:10 – 593. Framework for forward modeling of engineered nanomaterials in terrestrial systems. **G. Cornelis***, J. Perez-Holmberg
15:40 – 594. Measuring the mass and density of nanoparticles using Centrifugal FFF, single particle ICP-MS and TEM. **S. Tadjiki***, M. Mantano, A. Barber, J. Ranville, R. Beckett
16:00 – 595. Tracking single-wall carbon nanotubes with ICP-MS: Release from nanocomposites and biological uptake. **J. Ranville***, J. Wang, R. Lancone, H. Fairbrother
16:20 – 596. Fate of silver nanoparticles in a boreal lake ecosystem. **H. Hintelmann***, L. Furtado, C. Metcalfe
16:40 – 597. Analysis of bimetallic and polymer nanocomposites by single particle ICP-MS and field-flow fractionation. A.G. Barber, J. Wang, M.D. Montano, S. Tadjiki, **J. Ranville**

Hilton Waikiki Beach
Prince Edward

Proteomics and Metabolomics in Agricultural, Environmental, and Public Health Sciences (#264)

Organized by: J. Johnston, Q. Li, J. Emon, J. Chen, S. Lee, C. Zhang
Presiding: S. Lee, Q.X. Li, J. Van Emon

13:00 Opening Remarks - PM Session
13:05 – 598. Blood volatile profiling for metabolomics studies. **A. de la Mata***, H. Kim, J. Harynuk
13:25 – 599. Metabolomic analysis of Rhodococcus opacus PD630 for its capability of paper and pulp wastewater treatment and lipid accumulation. **P. Fu***
13:45 – 600. Antibioitc-resistant metabolome and metabolites-enabled killing of antibiotic-resistant bacteria by kanamycin. **X. Peng**
14:05 – 601. Analysis of potential metabolic products of asparagus bean (*Vigna unguiculata* subsp. *sesquipedalis*) under saline conditions. **L. Pan**
14:25 – 602. Genome-wide investigation of diterpene biosynthesis in *Salvia miltiorrhiza* reveals rapid functional divergence of diterpene synthases. G. Cui, L. Duan, B. Jin, R. Peters, **X. Qi***
14:45 Break
15:00 – 603. Comprehensive measurement of vitamin D metabolic markers in human serum. **D.A. Volmer***, M. Müller, C. Stokes, F. Lammert
15:20 – 604. Dissection of metabolic network in soybean seeds: From –omics data to synthetic biology. **G. Wang***
15:40 – 605. Toxicological effects of BaP, DDT and their mixture on the green mussel, *Perna viridis*, revealed by an integrated proteomic and metabolomic approach. Q. Song, **H. Zhou***
16:00 – 606. Geochemical influences on the the dental wastewater microbiome. **K.J. Rockne**, A. Rani
16:20 – 607. In situ extraction of bioactive shikonins in Paterson's curse (*Echium plantagineum*) root system using polydimethylsiloxane microtubing. **X. Zhu**, J. Mwendwa, J.D. Weidenhamer, D. Skoneczny, G.M. Gurr, L.A. Weston*
16:40 – 608. Quantitative proteomics analysis of high and low antioxidant expressing lines of peanut, *Arachis hypogaea*.. **S. Muralidharan**, Y.Y. Poon, G. Wright, N.A. Lee*

Hilton Waikiki Beach
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Analytical Development Relevant to Environmental Exposure and Effects (#288)

Organized by: C. Le, X. Li, G. Jiang, S. Richardson
Presiding: C. Le, L. Zhu

13:00 – 609. Super high through put and ultra sensitive analytical methods wanted for large-scale children's epidemiological studies. **S.F. Nakayama***

*** Principle Author**

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13:20 – 610. Volumetric absorptive microsampling of blood for the measurement of selected persistent organic pollutants in humans. **J. Focant***, B. L'Homme
13:40 – 611. Mechanisms of ammonium assimilation by *Chlorella vulgaris* F1068: Isotope fractionation and proteomic approaches. **F. Ge***, N. Liu*, F. Li, Q. Zhou, N. Tao, M. Wong
14:00 – 612. Direct measurement of pharmaceuticals and naphthenic acids through online membrane extraction coupled to mass spectrometry. **K.D. Duncan***, D. Letourneau, G. Vandergrift, E.T. Krogh, C.G. Gill
14:20 – 613. Methoxylated and hydroxylated polybrominated diphenyl ethers in a marine food web from Bohai Bay, China. Y. Liu, **J. Liu***, M. Yu, G. Jiang
14:40 – 614. Development of sensitive analytical methods for studies on environmental exposure and effects. R. Freitas, Â. Almeida, V. Calisto, V.I. Esteves, **R.J. Schneider***
15:00 break
15:20 – 615. Addressing the challenge of bioactive contaminant identifcation in aquatic systems with LC/MS/QTOF. **E.P. Kolodziej***, B. Du, J.E. Baker
15:40 – 616. Variation of airborne quartz in the air of Beijing during the Asia-Pacific Economic Cooperation meeting. **Q. Zhang**, G. Li, Y. Li, G. Jiang
16:00 – 617. Chemiluminescence method for monitoring chemical oxygen demand and ammonium ion in water. **H.T. Do***, N. Takenaka
16:20 – 618. Fate and toxicity of benzophenone-type UV filters in chlorination disinfection. **Y. Du**
16:40 – 619. Metallomics study on mercury selenium interaction in rice grown in Hg contaminated field. **Y. Li***, J. Zhao, Y. Gao

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Advances in Functional Foods and Flavor Chemistry Research (#329)

Organized by: M. Qian, Z. Chen, M. Herderich, C. Wang, H. Tamura, K. Wilkinson, A. Mitchell, Q. Li
Presiding: Z. Chen, C. Wang

13:00 Opening remark: Introduction
13:05 – 620. Conformation of cinnamic acid and its derivatives exert different strength on inhibiting tuberculosis and cancer invasion. **C. Weng***
13:25 – 621. Hypocholesterolemic efficacy of quercetin rich onion juice in healthy mild hypercholesterolemic adults: A pilot study. H. Chiu, Y. Shen, **K. Venkatakrishnan**, C. Wang*
13:45 – 622. Unexpected electrophiles in the bioactivity of curcumin. **C. Schneider***, R. Edwards, P. Luis
14:05 – 623. Functional foods from ethnomycology research in Papua New Guinea. **R. Barrow***, E.M. Castillo Martinez, L. Liao, O. Kevo, A. Barish, S. Wossa
14:25 Break
14:40 – 624. Effects of the infusion of green tea, oolong tea, and black tea on gut microbiota in a mouse model with high-fat-induced obesity. **Z. Liu**, **W. Zhang**, Z. Chen, **L. Ni***
15:00 – 625. Generation of anti-inflammatory pyroglutamyl-leucine and related peptides in rat by ingestion of enzymatic soy protein hydrolysate. **K. Sato***, A. Miki
15:20 – 626. Immunomodulation of monosaccharide conjugated ovalbumin with a tolerogenic phenotype to prevent allergic response in mice. **Y. Mine***
15:40 – 627. Cholesterol-lowering activity of dietary sesamin is mediated by down-regulation on the genes involved in cholesterol absorption. **Z. Chen***, Y. Liang
16:00 – 628. Health benefits of walnut consumption: Combining physiological studies with genomic and metabolomic approaches. **N.F. Shay**, t. luo, O. Miranda-Garcia, A. Hansen
16:20 – 629. Iron-fortified rice and *malunggay* leaves powder may impact the expression of genes associated with iron deficiency anemia and levels of blood iron concentration in pregnant Filipinas. **V.A. Timoteo***, L.M. Dalmacio, M.V. Capanzana
16:40 – 630. Growth-promoting effects on intestinal probiotics in vitro by cellooligosaccharides from radix puerariae. **Y. Zhang***, S. Liu*, M. Zhang*, Y. Deng*, R. Zhang*, Y. Ma, Z. Wei
17:00 Closing remark

Hilton Waikiki Beach
Molokai

Radioactive Contaminants and Waste Management in the Environment (#390)

Organized by: W. Um, M. Baik, O. Toshihiko, A. Francis, D. Kaplan
Presiding: M. Baik, D.I. Kaplan

13:00 – 631. NMR and X-ray studies of uranium-containing solid-phase precipitates. **K.T. Mueller**, W. Um, G. Wang, E. Reinoso-Maset, P. O'Day, J. Chorover, N. Washton
13:20 – 632. Micro- to macroscale observation of radiocesium released from the Fukushima Daiichi Nuclear Power Plant. **K. Tanaka***, Q. Fan, A. Sakaguchi, Y. Takahashi
13:40 – 633. XAS studies of radiation damage in glass - ceramic wasteforms for actinide disposition. **N. Hyatt***
14:00 – 634. Behavior of technetium in nitric acid during denitration and doping into transition metal oxides. **W. Lukens**
14:20 – 635. Characterization of Fe, S, and Tc speciation within cementitious waste forms during aging under oxic and anoxic conditions. **B.A. Powell***, S. Estes, D.I. Kaplan, Y. Arai
14:40 – 636. X-ray absorption spectroscopic investigation of the molybdenum speciation in the uranium mine tailings management facility at McClean Lake, Saskatchewan. P. Blanchard, J. Hayes, **A.P. Grosvenor***, J. Rowson, K. Hughes, C. Brown
15:00 – 637. Atomistic modeling and simulations of the Tc incorporation process into iron-oxides. **E. Kim***, P.F. Weck, W. Um, K. Czerwinski
15:20 – 638. Scanning transmission electron microscopy detection of Lu incorporated in a transformation product of 2-line ferrihydrite. **T. Yokosawa***, E. Prestat, N. Finck, M. Bouby-Laliron, K. Dardenne, R. Polly, S. Haigh, M.A. Denecke, H. Geckeis
15:40 – 639. Experimental determination of solubility of neodymium hydroxide in high ionic strength soljutions at 298.15 K under well-constrained conditions: Comparison with modeld predictions. **Y. Xiong***, L. Kirkes, C. Marrs
16:00 – 640. Facilitated dissolution of metal oxides by the effect of hydrazine and copper ions. **S. Kim**, W. Choi, J. Moon
16:20 – 641. Transport behaviour of strontium under the effect of seawater intrusion on NPP sites. **S. Chang***, W. Um
16:40 – 642. Fabrication of borate glass-ceramics to sequester lanthanide oxide wastes generated from pyro-processing technology. **M. Kim***, J. Heo

Friday Evening

Hawaii Convention Center
Halls I, II, III

Chemicals of Emerging Environmental Concern: A Global Perspective (#19)

Organized by: G. Cobb, J. Giesy, M. Murphy

Poster Session
19:00 – 21:00

643. In-cloud and below-cloud scavenging of volatile organic compounds and their dry deposition via dew water. **G. Rossini**
644. Interactions of aerosols and cloud water chemistry in the free troposphere. **H. Ogata***, H. Okochi, K. Matsunaga, S. Ogawa, Y. Minami, H. Kobayashi, K. Miura
645. Effect of urban heat island on frequency and chemistry of summer heavy rainfall in downtown Tokyo, Japan. **R. Uchiyama***, H. Okochi, H. Ogata, T. Nakano
646. Observation of acidic trace gases, gaseous mercury, and water-soluble inorganic aerosol species at the top and the foot of Mt. Fuji. **S. Ogawa***, H. Okochi, H. Ogata, T. Nagoya, H. Kobayashi, K. Miura, Y. Minami, S. Kato, S. Yonemochi, N. Umezawa
647. Formation of volatile carbonyls from electronic (e-) cigarette carriers. **P. Wang**, W. Chen, T. Matsuo, K. Ito, J. Fowles, k. Kumagai
648. Method of reducing the elution of arsenic from gypsum by use of iron-based agent. **D. Yang**, A. Sasaki, M. Endo
649. Flocculation of emulsified oil using a novel amphiphilic and cationic chitosan-based flocculant. **T. Lyu***, H. Zhao, D. Zhang
650. Effects of environmental factors on the degradation on neonicotinoids. **M.M. McManus**, A.M. Cano, S. Deleon, J.D. Maul, J.E. Canas-Carrell*
651. Geospatial analysis of lead in American woodcock. **A. French***, D. Sullins, W.C. Conway, D. Klein
652. Arsenic uptake by Muskmelon (*Cucumis melo)* fruits from contaminated water. **B.E. Hettick***, D. Klein
653. ZnO nanoparticles exposure induces developmental toxicity in embryo-larval zebrafish. **J. Choi***
654. Expanded polystyrene debris as a source of toxic substance, hexabromocyclododecanes, in the marine environment. S. Hong*, M. Jang, M. Rani, W. Shim, **G. Han**, Y. Song

Hawaii Convention Center
Halls I, II, III

Chemical Ecology Applied to Sustainable Agriculture (#105)

Organized by: C. Osorio, J. Bento, T. Ando, X. Chen

Poster Session
19:00 – 21:00

655. Effect of hydrogen on plant growth subjected to salinity stress. **T. YAMAOKA***, **Y. Kurita**, **S. Okouchi**, **T. Antonio**, R. Okajima
656. Overview of research and application of insect pheromones in China. **X. Chen**, C. Sheng*
657. Radiation application for environmental pollution prevention. **T. Kim***, J. Kim, S. Lim
658. Browning mechanism on the roots of rice plant attacked by rice root aphid, *Rhopalosiphum rufiabdominalis*, and effects of salycylic acid. **A. Mori**, S. Tebayashi, S. Ueda, A. Oikawa, R. Sasaki, M. Uwate, H. Maseda, K. Saito, A. Ishihara
659. Insect growth inhibitor from Itea virginica. **K. Seo**, S. Tebayashi, M. Hiroshima, S. Oonishi, M. Sato, T. Hukuda
660. Regulation of flavonoid production in the leaves of bell pepper by light condition. **S. Tebayashi***, Y. Takeo, S. Oonishi, K. Yoshida

Hawaii Convention Center
Halls I, II, III

Fate and Risks of Nanoparticles in Aquatic and Terrestrial Environments (#220)

Organized by: J. Kirby, J. Ranville, Y. Ma, B. Lee

Poster Session
19:00 – 21:00

661. Concentration-dependent influence of engineered magnetic nanoparticles on the disinfection of fecal coliforms in wastewater effluent. **V. Hwang***, E. Montalvo
662. Transport and removal of nanoparticles with water in porous media. **X. Li***, G. Zhai
663. Differential effect of ZnO NPs and Zn ions on corn seedlings at different temperatures: enzyme activity, protein production, and Zn biotransformation. **G. de la Rosa**, L. Lopez, G. Cruz-Jimenez, L. Castellanos-Torres, J. Gonzalez-Chavez, K. Sanchez-Sánchez, J. Gardea-Torresdey
664. Oxidative dissolution of silver nanoparticles in presence of free chlorine. **S. Garg***, H. Rong, C.J. Miller, T.D. Waite
665. Fate and transport of TiO_2 and ZnO in simliar environmental conditions. **S. Al-Abed***
666. Observation of fine particles at the summit of Mt.Fuji, 2013-2015. **S. Oishi***, S. Yonemochi, M. Murata, H. Okochi, T. Nagoya
667. Direct interaction of Fe(III) complexes with inorganic/organic hybrid sheaths of *Leptothrix*, Fe-oxidizing bacterium. **T. Kunoh***, K. Tamura, H. Kunoh, J. Takada
668. Characterization of fine and ultrafine particles in urban, forest, and mountainous site in Japan. **K. Matsunaga***, H. Okochi, H. Ogata, T. Nagoya, K. Adachi, y. zaizen, Y. Igarashi, A. Miyazaki

Hawaii Convention Center
Halls I, II, III

Proteomics and Metabolomics in Agricultural, Environmental, and Public Health Sciences (#264)

Organized by: J. Johnston, Q. Li, J. Emon, J. Chen, S. Lee, C. Zhang

Poster Session
19:00 – 21:00

669. Proteomic analysis of Pinctada martensii up on exposure to benzo[a]pyrene. **H. Chen***, **Q. Song**, **X. Diao**
670. New, easy-to-use, automated, and fast method for biomarker discovery. **A. de la Mata**, L. Adutwum, A. Mani-Varnosfaderani, J. Harynuk
671. Proteomics profiling of *Bacillus licheniformis* reveals metabolic mechanism in synthesis of extracelluar polymeric flocculants. **N. He***, W. Yu, L. Shen, Y. Wang
672. CuO/TiO_2 photocatalysts for highly efficient and rapidly debromination of decabromodiphenyl ether. **M. Lei**, Q. Zhou, H. Tang
673. Qualitative and quantitative proteomics of legume-symbiont *Mesorhizobium loti*. **Y. Tatsukami**, M. Nambu, H. Morisaka, K. Kuroda, M. Ueda
674. Differential regulation to OmpC and OmpF between nalidixic acid- and chlortetracycline-resistant *Escherichia coli*. **S. Wang**, X. Lin, X. Peng
675. Ni doped graphitic-like carbon nitride nanoplate based electrochemical sensor for the determination of octylphenolin environmental water samples. **J. Zou***, w. Gong, S. Zhang, X. Zhou
676. Rapid analysis of tetracyclines and sulfonamides in chicken meat by on-line solid phase extraction–high performance liquid chromatography coupled with accelerated solvent extraction. **Q. Zhou**, M. Lei, L.h. Zhu, H.q. Tang

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677. Rapid biodegradation of organophosphorus pesticides by *Stenotrophomonas* sp. G1. S. Deng, **R. Hua**, X. Tang, X. Wu, H. Cao, X. Li, J. Tang

Hawaii Convention Center
Halls I, II, III

Analytical Development Relevant to Environmental Exposure and Effects (#288)

Organized by: C. Le, X. Li, G. Jiang, S. Richardson
Presiding: X. Li, S. Richardson

Poster Session
19:00 – 21:00

678. Role of EPS from *Chlorella vulgaris* in the removal of ammonium and orthophosphate under the stress of cadmium. **B. Chen***, **F. Li***, N. Liu, F. Ge, H. Xiao, Y. Yang
679. Estimation of heavy metals captured by Konara (*Quercus serata Murray*) canopy in a small forest ecosystem in the Greater Tokyo area using a leaf washing method. M. Yoshida, H. Okochi, **A. Miyazaki***
680. Capillary electrophoresis-mass spectrometry/characterization of water samples derived from Athabasca lean oil sands and mixed surficial materials. M.S. MacLennan, J.V. Headley, K. Peru, C. Swyngedouw, I. Fleming, **D.D. Chen***
681. Evaluation of RAR binding activity materials in Azolla to inhabit the reservoir with yeast two hybrid assay. **A. Sawabe***, S. Mukai, R. Takeda, A. Iida, D. Nakajima, F. Shiraishi
682. Atmospheric behavior and health risk assessment of polycyclic aromatic hydrocarbons in urban, forest, and mountainous site in Japan. **K. ONO***, H. Okochi, H. Ogata, Y. Minami, H. Kobayashi, K. Miura, S. Kato, K. Matsuda
683. Pyrethroid pesticide pollution of hard clams in an estuary adjacent to industrial areas. **M. Goto***, T. KANEKO, R. TAKANASHI, Y. MANAKA, T. FURUHATA
684. Composition and particle size distribution of particulate fatty acids derived from thermal cooking. **N. Shinomiya***, A. Miyazaki, N. Tanaka
685. Composition and particle size distribution of PAHs generated by thermal cooking: Effect of cooking equipment and heat sources. **N. Tanaka***, E. Saito, M. Tsuzaki, A. Miyazaki
686. Occurrence, estrogenic activity, and toxicity of emerging bisphenol analogs. M. Song*, T. Ruan, **G. Jiang**
687. Age, smoking, and radiation effects on the production of reactive oxygen species in blood cells of atomic-bomb survivors and their association with immune-related biomarkers. **T. Hayashi***, K. Furukawa, W. Ohishi, I. Hayashi, K. Yoshida, S. Kyoizumi, Y. Kusunoki, K. Nakachi
688. Development and application of a simultaneous measurement method for gaseous ammonia and particulate ammonium in ambient air. **H.H. Duong***, N. Takenaka*
689. Production control of edible mushrooms by the specific irradiation of blue light LED. **Y. Miyazaki***, S. Kaneko, Y. Sakamoto, M. Nakamura
690. Role of urban small forest on air pollution reduction and BVOCs emission in the Greater Tokyo, Japan. **C. Aso***, H. Okochi, H. Ogata, A. Miyazaki
691. Observation of dry deposition of acidic substances onto the forest canopy in a small conifer/deciduous mixed forest in greater Tokyo using foliar rinsing and surrogate surface method. **Y. Sugiura***, H. Okochi, A. Miyazaki, H. Ogata
692. Fractionation and determination of glycidol, 3-MCPD, glycidyl fatty acid esters and 3-MCPD fatty acid esters in infant formula. **T. Fukazawa***, H. Kido, S. Wada, T. Maruyama
693. Interannual change, seasonal variations, and the size distribution of anionic surfactants in particulate phase in downtown Tokyo, Japan. **R. Hirokawa***, H. Okochi, H. Ogata, M. Soda
694. New sensitive method for the determination of trace hydroxylamine in environmental water using hypochlorite, followed by gas chromatography. **Y. SEIKE***, S. SUGAHARA, Y. SENGA, M. Egawa, H. KAMIYA, M. OKUMURA
695. Geographic distribution and interannual change of trace metals in stream water in the east Tanzawa mountains and the effect of atmospheric deposition. **K. Shinmen**, H. Okochi, R. Aoki, H. Ogata
696. Simultaneous determination of urinary cotinine and an oxidative stress marker (8-OHdG) by on-line column switching liquid chromatography tandem mass spectrometry. **Y. Onoda**, M. Yoshikane, F. Mizutani, N. Sato
697. Study on determination of inorganic nitrogen in the presence of residual chlorine. **M. Egawa**, S. SUGAHARA, Y. SEIKE*
698. In-cloud and below-cloud scavenging of polycyclic aromatic hydrocarbons and their dry deposition onto forest canopy. **H. Okochi**, H. Ogata, M. Fujita, G. Rossini, Y. Minami

Hawaii Convention Center
Halls I, II, III

Advances in Functional Foods and Flavor Chemistry Research (#329)

Organized by: M. Qian, Z. Chen, M. Herderich, C. Wang, H. Tamura, K. Wilkinson, A. Mitchell, Q. Li
Presiding: Z. Chen, A.E. Mitchell

Poster Session
19:00 – 21:00

Opening remark
699. Pyrolysis GC-MS of fractionated tobacco extracts for the in-depth study of aroma compounds. **K. Mitsui***, F. David, P. Sandra, H. Tamura
700. Metabolomics approach to thermal changes in the flavor profile of tomato juice as a cooking model. **Y. Iwasaki***, Y. Otagiri, T. Sato, H. Otomo, A. Obata, Y. Iijima
701. Scale down quick, easy, cheap, effective, rugged and safe method for the determination of 3-alkyl-2-methoxypyrazines in wines by gas chromatography-mass spectrometry. **A.R. Fontana***, R. Bottini
702. Screening discrimination of snack confectionery with fragmentless ionization mass spectrometry. **T. TSUGOSHI***, Y. Kato, Y. Mishima
703. Development of a high-performance liquid chromatography method based on a core-shell column approach for the rapid quantification of polyphenols in grape pomaces. **A.R. Fontana***, A. Antoniolli, R. Bottini
704. Strategy for evaluating food functionality: Application of MALDI-MS to high-throughput metabolic profiling of green tea extracts with antioxidant activity. **Y. Fujimura***, E. Hayakawa, D. Miura, H. Wariishi, H. Tachibana
705. Applying laser Doppler vibrometer to detection of watermelon texture. **Z. Gao**, D. Cui
706. Analysis of organic acids in sake using gas chromatography. **C. Kohsaka***, K. Hirooka, Y. Yamamoto, K. Ichihara
707. Isotope dilution LC-MS method for the quantification of curcumin and its metabolites in human plasma. **C. Schneider***, P. Luis
708. 3-Methylbutanoyl glycosides in raw *Coffea arabica* beans are potent determinants of coffee beverage quality. **K. Iwasa***, D. Setoyama, H. Shimidzu, H. Seta, Y. Fujimura, D. Miura, H. Wariishi, C. Nagai, K. Nakahara
709. Selective reduction of aged odor in Japanese sake by supported noble metal nanoparticles. Y. YAMAMOTO, T. HASEGAWA, H. Murayama, T. ISHIDA, A. ISOGAI, T. FUJII, **M. Tokunaga**
710. Flavor, taste, and functional components of sweet peppers and their changes during cultivation and cooking. **N. Otsuka**, T. Esumi, T. Nishimoto, H. Takamura*
711. Taste properties of theanine. **M. Narukawa***, Y. Toda, T. Nakagita, K. Morita, Y. Hayashi, T. Misaka
712. Comparison of tea catechin polymers generated by enzymatic and chemical oxidation, microbial fermentation, roasting, and treatment with herbal essential oils. Q. Hao, T. Shii, S. Teramoto, A. Inada, **Y. Matsuo**, T. Tanaka*
713. Neuroprotective compounds from corn silks alleviate amyloid cytotoxicity in SH-SY5Y cells. **Z. Liang**, Q.X. Li*
714. Antioxidant activity and cytotoxicity of black rice extract. **K. Seo***, J. Lee, y. Lee, T.K. Park, B. Lim
715. Searching for functional foods for prevention of Alzheimer's disease. S. Matsumura, Y. Yoshioka, Y. Ueno, T. Furuta, **K. Murata**, H. Matsuda*
716. Effects of a newly found active ingredient, Fraglide1, in Zhenjiang vinegar, on a model mouse of dietary obesity. **Y. TSUJINO***, M. TAKAGI, Y. YOSHIDA, N. Gotoh, A. Satoh
717. Protective effects of dietary 1,5-Anhydro-D-glucitol in diabetes and metabolic syndrome. **A. Kato***, K. Tomohara, I. Adachi, F. Ishikawa, K. Takeshita, J. Hollinshead, R. Nash, Z. Liu, S. Jenkinson, G.W. Fleet
718. Prevention of the photobleaching of chlorophyll using antioxidants and surfactant Triton X-100. **M. Yasuda***, M. Tabata
719. Potential use of Katsuobushi processing residues as nutritional supplements or antioxidant sources. **D. MENG***, G. Kasane, H. Endo, H. Ren*

Closing remark

Hawaii Convention Center
Halls I, II, III

Fukushima and Radiological Contaminated Environments World-wide: The Important Role of Environmental Chemistry and Radiochemistry in Remediation and Restoration (#374)

Organized by: T. Sasaki, H. Nitsche, C. Liu, Z. Yoshida, S. Kalmykov, L. Rao

Poster Session
19:00 – 21:00

720. Activity concentrations of radiocesium in Tamagawa River Watershed, western district of Tokyo after the Fukushima Daiichi Nuclear Power Plant accident. **K. Ochi**, Y. Kurihara, R. Aobayashi, K. Hagiwara, N. Nogawa, T. Nakamura, Y. Koike*
721. Seasonal change of radiocesium and potassium concentrations in Someiyoshino cherry and Japanese chestnut trees observed after Fukushima nuclear accident. **K. Tagami***, S. Uchida
722. Radioactive contamination of the Tokyo metropolitan area by the Fukushima Daiichi Nuclear Power Station accident. **H. Yamazaki**, M. Ishida, W. Ishii, K. Takashimizu, K. Honda
723. Ab initio description of the changes induced by radioisotopic transmutations in Fukushima soil minerals. **M. Sassi**, K. Rosso, M. Okumura, S. Kerisit, M. Machida
724. Basic study on contaminated cooling seawater in Fukushima NPP: Behavior of fission products leached from neutron-irradiated uranium oxide solid solutions. **T. Sasaki***, Y. Takeno, T. Kobayashi, A. Kirishima, N. Sato
725. Dynamics of radioactive cesium in fish by the Fukushima Daiichi Nuclear Power Station accident and their environmental consequence in aquatic ecosystem. **M. Ishida***, T. Ikeuchi, K. Takashimizu, H. Yamazaki
726. Thermodynamic study of the complexation of humic acid by calorimetric titration. S. Kimuro, **A. Kirishima***, D. Akiyama, N. Sato
727. Electro-occlusion of cesium into a porous aluminum plate. **T. Ihara***, H. Yamanishi, N. Tanaka, H. Noma, T. Ito
728. Pu contamination in surface soils after the Fukushima Dai-ichi Nuclear Power Plant accident. **M. Yamada***, T. Yamaguchi, H. Tazoe, Y. Hosokawa
729. Decontamination system for radionuclear contaminated water caused by Fukushima Daiichi nuclear disaster. **K. Yokota**, H. Ogawa, M. Iwasa, K. Fukunishi, M. Ito, T. Otsu, H. Yoshida, R. Nakamura
730. Relation between adsorption/desorption characteristics of cesium ions onto the rocks and components. **T. Miura**, N. Takizawa, A. Sasaki, M. Endo
731. Study on Cs(I) adsorption and desorption on suspended matters in Fukushima river water. **M. Onodera**, A. Kirishima, D. Akiyama, N. Sato, S. Nagao
732. Development of radioactive cesium absorbent using chitosan-modified rayon fiber. **S. Omote**, T. Furuike, H. Tamura*
733. Effect of contact time, pH, ionic strength, coexisting ions and humic substances on the sorption of uranium(VI) on kaolinite. **X. Wang***, S. Li*, L. Du, Z. Tan, X. WANG
734. Dry, non-heated decontamination of radioactive cesium polluted soils using paramagnetic Fe_3O_4. **Y. Mitoma***, C. Simion, S.R. Mallanpati, T. Okuda, K. Nakata
735. Sorption of uranium(VI) on GMZ bentonite: Effect of pH, ionic strength, foreign ions, and humic substances. S. Li*, **X. Wang***, Z. Huang*, L. Du, Z. Tan
736. Sorption behaviors of $^{125}I^-$ on Beishan granite and Gaomiaozi bentonite. C. LIU, **X. Yang***, J. He, W. Tian, B. Ma
737. Leaching of actinide elements from simulated fuel debris to seawater and pure water. **M. Hirano***, A. Kirishima, N. Sato, T. Sasaki
738. Adsorption properties of cesium to micaceous clay minerals: Molecular modeling using density functional theory calculations. **M. Okumura***, H. Nakamua, M. Machida, M. Sassi, K. Rosso
739. Environmental dynamics of dissolved radionuclides and ions in riverine water after the FDNPP accident. **R. Tomita**, T. Matsunaka, M. Honda, Y. Satou, M. Matsumura, T. Takahashi, A. Sakaguchi, H. Matsuzaki, K. Sasa, K. Sueki
740. Concentrate of radiactive iodine in inland water to water plant. **T. Masaomi**, H. Yamamoto, H. Momose
741. Time variation of iodine-129 and radioactive cesium in river water at Ohori River. **K. Sueki**, N. Shibayama, R. Tomita, Y. Satou, K. Sasa, T. Takahashi, T. Matsunaka, M. Matsumura, H. Matsuzaki, M. Murakami, R. Yamashita, H. Takada, Y. Koibuchi, H. O, G. Mouri, T. Oki
742. Distribution of the atmospherically deposited radioactive cesium in small forest in Fukushima prefecture and development of ecofriendly technology for its decontamination. **S. Kinno**, H. Okochi, H. Kuroshima, H. Ogata, M. Hosoda, S. Tokonami, A. Sorimachi, J. Kataoka, A. Kishimoto
743. Inhibitory effects for the desorption of absorbed Cs^+ from the natural zeolite. **K. Togashi**, N. Takizawa, A. Sasaki, M. Endo

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744. Simulating the interaction between humic acid and uranyl. **D. Wang***, Z. Chai, H. Wang, T. Lan

Hawaii Convention Center
Halls I, II, III

Radioactive Contaminants and Waste Management in the Environment (#390)

Organized by: W. Um, M. Baik, O. Toshihiko, A. Francis, D. Kaplan
Presiding: W. Um

Poster Session
19:00 – 21:00

745. Detection efficiency curve using three commercially available chemical reagents for gamma-ray spectrometry. **R. Suzuki**, Y. Kurihara, Y. Iwahana, T. Nakamura, Y. Koike*
746. Uranyl peroxide cage cluster interactions at mineral interfaces. **C. Dorais***, A.E. Hixon
747. Immobilization of volatile ^{129}I by vitrification. **C. Lee***, J. Heo
748. Thermodynamic properties of Tc retention in magnetite. **M. Lee**, W. Um, V. Glezakou*
749. Study of colloid facilitated transport of contaminates in a microscale saturated porous media analog. **Y. Guo***, J. Huang, X. Yin, K. Neeves, N. Wu
750. Impacts of physical and chemical heterogeneities on radionuclide-carrying colloids transport in saturated porous media. **G. Wang**, W. Um, J. Chun
751. Fracture flow of radionuclides in unsaturated conditions at Wolsong LILW Disposal Facility, South Korea. **W. Kim***, J. Kang, J. Kim, S. Nam, H. Jung, W. Um
752. Recovery of cesium using a thixotropic gel. **T. Watanabe***, T. Saito
753. Consideration of water radiolysis in void volumes of porus zeolite bed loaded in adsorption vessels for decontamination of radioactive water. **R. Nagaishi***, M. Inoue, T. Matsumura, I. Yamagishi, R. Hino, T. Ogawa
754. Transport behavior of ^{137}Cs, ^{90}Sr and ^{99}Tc in the proposed near surface repository in Wolsong Site, South Korea. **J. Kim***, W. Kim, S. Choi, M. Kwon, W. Um
755. Functional engineered barriers: A mineralogical approach to improved radionuclide sorption. **C.L. Corkhill***, J.W. Bridge, D.E. Crean, J.E. Vigor, R. Tappero, C.A. Murray, C. Tang, N. Hyatt
756. New Techneitum-99 LSC counting methodology for environmental and radiopharmaceutical analysis. **M. Khan***, W. Um*
757. Thorium waste immobilization in hierarchical zeolite prepared from natural resources through tandem acid-base treatment. G. Nurliati, **Y.K. Krisnandi***, R. Sihombing, Z. Salimin
758. Adsorption of Th^{4+} on temperature sensitive urea-formaldehyde resin and its regeneration by extraction separation. **S. Tang***
759. Adsorption properties of Ag^{+} and Ce^{4+} in nuclear power plant wastewater by urea-formaldehyde chelating resin. **S. Tang**
760. Uranium immobilization by plant roots in acidic wetlands. **D. Li***, D.I. Kaplan, J. seaman, H. Chang, P. Jaffé, K. Scheckel, C. Segre
761. Mercury speciation in Savannah River Site high-level waste: Determination and implications for waste handling and disposal. **C.J. Bannochie***, C.L. Crawford, M.M. Reigel, P. Garcia-Strickland
762. Low temperature hydrothermal synthesis of soil into pollucite to immobilize radioactive Cs. **J. Fan**, Z. Jing, F. Jin
763. Synthesis of phosphate functionalized magnetic mesoporous carbon for sequestering of uranium. **S. Husnain**, W. Um*, Y. Chang*
764. Synthesis of amine impregnated mesoporous silica for radioactive iodine gas removal. **S. Han***, J. Kang, W. Um
765. Immobilization of strontium via strontianite ($SrCO_3$) precipitation by aerobic microorganism enriched from rhodoliths. **S. Kang**, Y. Roh
766. Removal of strontium ions from an aqueous solution by the adsorption onto Okara. **R. Ikeda**, H. Sakano, K. Omata, H. Shimofuruya*
767. Temporal variation of microbial community in low- and intermediate-level radioactive waste(LILW) disposal facility in Republic of Korea. **J. Ahn***, W. Kim, J. Park, W. Um
768. Leaching characterization methods applied to core samples from an engineered scale demonstration of a prospective cast stone process. **C.L. Crawford***, A.D. Cozzi, D.J. Swanberg
769. Removal of refractory compounds from stabilized leachate using low-cost coconut shell waste-based activated carbon modified with ozone. **T.A. Kurniawan***
770. Organic apatite synthesis and application for uranium removal. **H. Kim***, W. Um
771. Soil-soil solution partitioning coefficient of Mn-54 in Japanese agricultural fields. **S. Uchida***, K. Tagami
772. Chemical decontamination process for Chalk River unidentified deposit (CRUD) removal. **S. Nam***, W. Kim, W. Um
773. Solubility of Niobium in aqueous solution under high pH conditions. **H. Iwata***, A. Kitamura
774. Role of iron oxides on the rheology of cementitious paste. **C. Chung**, J. Chun, G. Wang, W. Um
775. Effect of curing condition on immobilization of cesium in waste Incineration fly ash by geopolymerization. **M. Takaoka***, T. Nakamura, K. Shiota, T. Fujimori, K. Oshita

Saturday Morning

Hilton Waikiki Beach
Territorial III

Pectin Chemistry and Technology (#20)

Organized by: B. Savary, M. Williams, S. Lu, S. Yoo, R. Cameron

8:00 Opening
8:05 – 776. Presence of proteoglycans containing apiose-rich pectin, xylan, and arabinogalactan in *Spirodela polyrhiza*. **L. Tan***, E. Hunt, J. Qian, G. Huang
8:35 – 777. Epitope detection chromatography: A new method to study pectin heterogeneity. **V. Cornuault**, P. Knox
9:05 – 778. Technological application for pectin methylesterase activity inhibition in tropical fruits. **P. Vasu***
9:35 – 779. Structure-function analyses of tomato and strawberry pectic polysaccharides in relation to fruit textural properties during ripening. **S. Pose***, P. Knox
10:05 Break
10:15 – 780. Composition and structure of pectic material from frozen concentrated orange juice and characterization of its molecular structural changes during juice cloud destabilization. A. Galant*, Y. Kim, G.a. Luzio, W. Widmer, **R. Cameron**
10:45 – 781. Fibergel Ic® - novel gelifying fiber for texture development in foods. **E.P. Anders***
11:15 – 782. Composition and rheological properties of processed citrus fiber. **B. Lundberg***, x. pan, A. Hotchkiss
11:45 Close

Hilton Waikiki Beach
Hawaii

Human Exposure to Environmental Contaminants (#26)

Organized by: J. Martin, K. Kannan, L. Zhu, H. Moon
Presiding: K. Kannan, J. Martin

8:00 – 783. Chemical-specific exposure assessment at EPA: Case studies on dioxin, PBDEs, and DEHP. **M. Lorber***
8:40 – 784. Assessing exposure to persistent and emerging environmental contaminants in the Australian population with an emphasis on early life exposures. **J. Mueller***, A. Heffernan, Y. Chen, C. Baduel, M. Gomez Ramos, P. Thai, P. Hobson, S. Broomhall, L.L. Toms
9:00 – 785. Meconium and placenta as a non-invasive human tissue for prenatal exposure to persistent organic pollutants (POPs). **Y. Jeong**, S. Lee, s. kim, j. park, K. Choi, s. kim, H. Moon*
9:20 – 786. Maternal urinary concentrations of free and total bisphenol A (BPA) and BPA-alternatives in the APrON birth cohort. **J. Liu**, C. Field, I. Dinu, D. Dewey, J. Martin*
9:40 – 787. Occurrence of phthalate diesters (phthalates), *p*-hydroxybenzoic acid esters (parabens), bisphenol A diglycidyl ether (BADGE), and their derivatives in indoor dust from Vietnam: Implications for exposure. **T.M. Tran***, T.B. Minh, T.A. Kumosani, K. Kannan
10:00 – 788. Biomonitoring of human exposure to endocrine disrupting chemicals in the United States. **K. Kannan**
10:20 – 789. Application of thermodynamic activity to assess human exposure and health risks of phthalate esters in consumer products. **F.A. Gobas***, L. Tupper-Ring, V. Susan
10:40 – 790. Role of biofilm roughness and hydrodynamic conditions in *Legionella pneumophila* adhesion to and detachment from simulated drinking water biofilms. **Y. Shen**, H. Nguyen*
11:00 – 791. Arsenic in wine and other alimentary items. **I. Koch***, M. Mills, K. House, J. Sui, J. Zhang, M. Nearing, K. Reimer, D. Loock, K.P. Weber
11:20 – 792. Estrogenic exposure in human from the photochemical transformation of typical emerging organic contaminations in water. Y. Gao*, G. Li*, Y. Ji*, **T. An***

Hilton Waikiki Beach
Territorial I & II

Recycling of Polymeric Materials: Challenges and Perspectives (#36)

Organized by: T. Yoshioka, K. Joo-Sik, V. Sahajwalla, B. Thallada

8:00 Opening
9:00 – 793. Production of a hydrogen-rich syngas with low tar and ammonia from steam/oxygen gasification of dried sewage sludge in a two-stage gasifier. **Y. Choi***, J. KIM
9:20 – 794. Recycling waste polymers in ironmaking: Fundamental investigations on thermal degradation, structure evolution, and carbon dissolution. **R. Khanna***, V. Sahajwalla
10:00 – 795. Recycling technology of fiber reinforced plastics using subcritical fluids. **M. Goto***, T. Nakagawa
10:40 – 796. Decrosslinking of crosslinked polyethylenes via ultrasonically aided extrusion technologies. **A.I. Isayev***
11:00 – 797. Transforming electronic waste into value-added materials. **R. Rajagopal***
11:20 – 798. Efficient conversions of plastics into economically valuable products. **A. Kamimura***, H. Matsumoto, K. Ikeda, K. Kaiso

Hawaii Convention Center
Halls I, II, III

Advanced Products from Lignin and Micro- or Nano-fibrillated Cellulose (#70)

Organized by: T. Hu, A. Ragauskas, H. Hatakeyama
Presiding: T. Hu

Poster Session
10:00 – 12:00

799. Thermal properties of kappa-carrageenan hydrogels filled with micro fibrillated cellulose. **M. Iijima***, T. Hatakeyama, H. Hatakeyama
800. Synthesis and thermal properties of cross-linked epoxy resins with ester chains derived from glycidylated lignin. **M. Masuda***, S. Hirose
801. Novel epoxy resins with ester chains derived from lignin and alicyclic compound. **M. Shimizu***, K. Zaito, D. Yamane, S. Inada, S. Hirose
802. Synthesis of lignoalkanes from lignocresols with a Ca-Rh/C-EtOH system and their application as polymer compatibilizer. Y. Mitoma*, M. Aoyagi, N. Egashira, C. Simion, **D. Yokoyama**
803. Thermal conductive properties of nanocellulose materials. **T. Okada***, K. Uetani, H.T. Oyama
804. Fluorescent property of CMC/Tb nanocomposites in different pHs. **J. Ye**, Q. Li, **J. Xiong**
805. Use of ultrasonic technology in the catalysis of the TEMPO oxidation for the nanofibrillation of Kraft pulp: Reinforcement of nanocomposites materials. **C. Daneault***
806. Characterization of lignin-carbohydrate complex linkages using nuclear magnetic resonance spectroscopy. **H. Nishimura***, A. Kamiya, M. Katahira, T. Watanabe
807. Composition of cellulosic fibers and lignin based on acidification of black liquor. **H. Nonaka***, T. Kato
808. Horseradish peroxidase modification of sulfomethylated alkali lignin to improve enzymatic saccharification of lignocelluloses. D. Yang, Y. Chang, H. Lou, X. Qiu*, **Y. Qian***
809. Cellulose nanofibres-polyvinyl alcohol nanocomposite films with improved mechanical strength. C. Yadav, **P. Mohanty***
810. Pickering emulsion stabilized using amphiphilic cellulose nanofibers prepared by the aqueous counter collision method. **K. Kamada**, S. Yokota, T. Kondo*
811. Cellulose/chitin nanowhiskers stabilized sterically by grafted polymer brushes. **J. Araki***
812. Preparation of lignin microsphere and its adsorption performance towards lead ions from aqueous solution. **Z. Li***, Y. Ge*
813. Characterization of biocompatible materials produced by nanofibrillation and surface modification of cellulose. **F. Tani***, K. Abe, T. Masuda, K. Matsumiya, Y. Nanbu, Y. Kase, D. Kamitaka, K. Fujiwara, S. Kikkawa, N. Ishii, M. Ryu, Y. Suzuki, Y. Matsumiya, H. Watanabe, Y. Matsumura, H. YANO
814. High-resolution solution-state NMR analysis of wood, cellulose, and surface-modified nanocelluloses in ionic liquid electrolytes. A. Holding, J. Helminen, V. Mäkelä, E.I. Filpponen, I. Kilpeläinen, **A.W. King**

Hilton Waikiki Beach
Altitude

Chemical Ecology Applied to Sustainable Agriculture (#105)

Organized by: C. Osorio, J. Bento, T. Ando, X. Chen
Presiding: T. Ando, J. Simões-Bento

8:00 Introductory Remarks
8:05 – 815. Design, synthesis, and insecticidal activity of novel oxadiazine derivatives. **D. XU***

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8:35 – 816. Autoxidation of longifolene and antitermite activity of its products. **A. Mukai***, T. Ashitani, K. Takahashi
9:05 – 817. Manipulation of (2*E*)-hexenal production in plants to elucidate its roles under biotic and abiotic stress conditions. **M. Kunishima**, Y. Yamauchi, M. Mizutani, Y. SUGIMOTO

Hawaii Convention Center
Halls I, II, III

Enzymes Essential to Biosphere Health: Bioremediation and Biogeochemical Cycling (#219)

Organized by: L. Eltis, M. Fukuda, L. Wackett

Poster Session
10:00 – 12:00

818. Expression of the bacterial heavy metal transporter MerC fused with a plant SNARE in *Arabidopsis thaliana* increases mercury accumulation. **M. Kiyono***, Y. Sone, R. Nakamura, Y. Takanezawa, S. Uraguchi
819. Role of Mer in the transport of mercurials in *Escherichia coli*. **Y. Sone**, R. Nakamura, Y. Takanezawa, S. Uraguchi, M. Kiyono*
820. Aerobic reduction of selenite by a filamentous fungus, *Aspergillus oryzae* for selenium recovery and recycling. **T. Sakaguchi***, H. Kimura, M. Nagaoka, T. Arima, Y. Okamura, M. Maeda
821. Identification and characterization of a novel *N*-acylhomoserine lactonase from coagulase-negative staphylococci. **R. Sato***, T. Yamaguchi, N. Someya, T. Ikeda, T. Morohoshi
822. Identification and characterization of a novel *N*-acylhomoserine lactonase from plant-associated bacteria. **T. Yamaguchi**, S. Kikuchi, N. Someya, T. Ikeda, T. Morohoshi
823. Identification and characterization of a novel *N*-acylhomoserine lactone acylase from activated-sludge bacteria. **S. Yasumoto***, S. Ochiai, T. Morohoshi, T. Ikeda
824. Biological hydrolysis and acidification of iron-enhanced primary wastewater sludge under an anaerobic condition: Effects of pH, temperature, and the substrate concentration. **X. Li***, R. Li, H. Li, Y. LI, J. Xu
825. Transformation and products of thiol drugs with the presence of humic substance in water during enzymatic catalysis. P. Du, **H. Zhao**, H. Cao
826. Enzymatic activity of cell-free extract from *Geobacillus* sp. UZO 3 catalyzes reductive cleavage of diaryl ether bonds of 2,3,7,8-TCDD. **M. Nakamura***, Y. Otsuka, Y. Miyazaki, Y. Suzuki, Y. Katayama, T. Kameyama

Hilton Waikiki Beach
Kauai

Fate and Risks of Nanoparticles in Aquatic and Terrestrial Environments (#220)

Organized by: J. Kirby, J. Ranville, Y. Ma, B. Lee

8:00 – 827. Dose and duration of manufactured nanoparticle exposure in ecosystems influences nanoparticle fate and impacts. **B.P. Colman***, L. Baker, C. Matson, R. King, C. Richardson, E. Bernhardt
8:40 – 828. Screening method for the ecotoxicological effects of engineered nanomaterials on microbial communities in terrestrial and aquatic environments. **K.P. Weber***
9:00 – 829. Effects of nanomaterials on soil microbial communities, plant-rhizobia symbiosis, and mycorrhizal colonization of plant roots in biosolid-amended soil. **J. Judy***, J. Kirby, M. McLaughlin, P. Bertsch
9:20 – 830. Determination of uptake and bioaccumulation of multi-walled carbon nanotubes in *Daphnia magna* and *Pimephales promelas* using microwave induced heating. **A.M. Cano***, M. Saed, M. Green, J.D. Maul, J.E. Canas-Carrell
9:40 – 831. Trans-generational impact of silver sulfide nanoparticles on the earthworm *Eisenia fetida*. **J. Kirby**, J. Judy, D. Navaroo
10:00 Break
10:15 – 832. Long-term effects of silver nanoparticles on activated sludge. **Z. Sheng**, J. Zhou, Y. Liu*
10:35 – 833. Carbon nanotube uptake, translocation, and stress effects in corn (Zea mays L) grown in soil. **J.E. Canas-Carrell**, A.M. Cano, M.M. McManus, S. Deleon, F. Irin, P. Payton, M. Green
10:55 – 834. Exposure of *Arabidopsis thaliana* to iron nanoparticles induces the enhancement of photosynthesis as a result of promoted stomatal opening. **H. Yoon**, J. Kim, Y. Kang, Y. Chang*
11:15 Final remarks

Hilton Waikiki Beach
Molokai

Chemistry of Integrated Water Treatment Systems for Halogenated Organics and Long-lived Radionuclides (#454)

Organized by: W. Lee, H. Kim, H. Anderson, M. Diallo, D. Waite
Presiding: W. Lee

8:00 Opening Remark
8:05 – 835. Polymer stabilized nanogold as tracer to use in co-injection with nZVI during in-situ DNAPL remediation. **B. Uthuppu***, A.S. Fjordbøge, M. . Broholm, M.H. Jakobsen
8:35 – 836. Reductive removal of Cr(VI) using zero-valent magnesium under oxygenated circum-neutral pH conditions. J. Park, J. Ahn, J. Kim, **G. Lee***
9:05 – 837. Microtiter plate based colorimetric assay for characterization of dehalogenation activity of GAC/Fe^0 composite. **Y. Hwang***, A. Salatas, P.D. Mines, M.H. Jakobsen, H.R. Andersen
9:35 – 838. Uranium Immobilization in a contaminated soil column by iron phosphate mineral. **W. Lee***, Y. Sihn
10:05 Break
10:15 – 839. Mechanistic understanding of contaminant degradation on the catalyst surface. **H. Kim***, K. Jeon, H. Shin
10:45 – 840. Nanoporous disulfide networks for selective uptake for halogenated organics and ethers. H. Patel, J. Byun, M.S. Yavuz, **C.T. Yavuz**
11:15 – 841. Covalent organic polymer functionalized activated carbon: A novel material for water contaminant removal and CO_2 capture. **P.D. Mines***, D. Thirion, B. Uthuppu, Y. Hwang, M.H. Jakobsen, H.R. Andersen, C.T. Yavuz
11:35 – 842. Simultaneous determination of heavy metal ions in contaminated groundwater by absorption spectrophotometry with Br-PADAP (2-(5-bromo-2-pyridylazo)-5-diethylaminophenol). **T. Kim***, J. Yun
11:55 Closing Remark

Saturday Afternoon

Hilton Waikiki Beach
Territorial III

Pectin Chemistry and Technology (#20)

Organized by: B. Savary, M. Williams, S. Lu, S. Yoo, R. Cameron

13:00 (delay session start)
13:15 Opening
13:20 – 843. Thermostable pectinases for processing pectin-rich food and agricultural biomass – evaluation for *in planta* expression. **B. Savary***, J.C. Tovar, J. Xu, N. Zhang
13:50 – 844. Directed expression of an endo-arabinanase in plants with a designer molecular carrier and colon-endothelium functioning by arabino-oligosaccharide products. **J. Xu**, N. Zhang, B.J. Savary
14:20 – 845. Colon-specific delivery of *Lactobacillus rhamnosus* GG using pectin hydrogel beads. **L. Liu**
14:50 Break
15:00 – 846. Encapsulation of a model compound in pectin delays its release from a biobased polymeric material. **V.L. Finkenstadt***
15:30 – 847. Role of bioactive pectic polysaccharides on intestinal immune system. **H. Yamada***, H. Kiyohara
16:00 – 848. Bioactive pectic oligosaccharide structure function relationships. **A. Hotchkiss***
16:30 Closing

Hilton Waikiki Beach
Hawaii

Human Exposure to Environmental Contaminants (#26)

Organized by: J. Martin, K. Kannan, L. Zhu, H. Moon
Presiding: J. Martin, H. Moon

13:00 – 849. Bisphenol A and its replacement BPS induce precocious neurogenesis and hyperactivity in zebrafish. **D. Kurrasch***, C. Kinch, K. Ibhazehiebo
13:40 – 850. Maternal co-exposure to methylmercury (MeHg) and perfluorooctane sulfonate (PFOS) alters the neurodevelopment of Sprague-Dawley rat pups. **A. Reardon***, K. Fouad, T. Hamilton, J.P. Benskin, B. Chandramouli, J.R. Cosgrove, E. Khodayari, I. Dinu, J. Martin
14:00 – 851. Polybrominated diphenyl ethers and 2,4,6-tribromophenol and their associations with thyroid hormone levels and thyroid sulfotransferase activity in human placental tissues. **H. Stapleton**, C. Leonetti, C. Butt, K. Hoffman, M. Miranda
14:20 – 852. Pesticide residues and dietary risk assessment of pesticides in fruits and vegetables in Beijing, China from 2012 to 2014. n. zou*, c. yu, y. li, Y. Han, y. qin, k. gu, j. zhang, **C. Pan***
14:40 – 853. Using chemical and in-vitro cell-based methods for the presiction of bioavailability of arsenic and cadmium in health risk assessment. **J. Ng***, B.N. Noller, C. Peng, V. Diacomanolis, R. Taga, H. Harris, Q. Xia
15:00 – 854. In vitro demonstration of polycyclic aromatic hydrocarbon uptake, biotransformation and DNA-adduct formation in human liver cells. **V. LAL***, C. Peng, M. Fletcher, S. Were, J. Ng
15:20 – 855. Human and environmental risk assessment: A chemical fugacity and activity approach. **F.A. Gobas**, D. Mackay, J.A. Arnot
15:40 – 856. Biomonitoring persistent organic pollutants and emerging contaminants in breast milk from Korea. **S. Lee***, s. kim, j. park, H. Kim, J. Lee, G. Choi, S. Choi, S. Kim, S. Kim, s. kim, K. Choi, H. Moon
16:00 – 857. Several persistent environmental chemicals among susceptible human populations, and endocrine disruption: Epidemiological observations and experimental evidences. s. kim, S. Kim, H. Kang, J. Jung, H. Moon, s. kim, j. park, **K. Choi***

Hilton Waikiki Beach
Territorial I & II

Recycling of Polymeric Materials: Challenges and Perspectives (#36)

Organized by: T. Yoshioka, K. Joo-Sik, V. Sahajwalla, B. Thallada

13:00 No name
14:00 – 858. Rapid and highly effective conversion of biomass into chemicals and fuels under hydrothermal conditions. **F. Jin***, G. Yao, Z. Huo
14:40 – 859. Biosynthesis of polyhydroxyalkanoates (PHAs) using volatile fatty acids (VFAs) generated from the wastewater sludge of Fe-enhanced primary treatment. **J. Xu***, X. Li, Y. Li, R. Li, L. LIN
15:00 – 860. Production of volatile fatty acids (VFAs) from the wastewater sludge of the Al-enhanced primary treatment. **L. LIN***, X. Li, H. Li, J. Xu, R. Li, Y. LI
15:20 – 861. Status and strategies for effective utilization of lignocellulosic biomass in India: Case study. **B. Thallada***
16:00 – 862. Pyrolysis: a promising process for the utilisation of lignocellulosic biomass in decentralised units. **B.B. Krishna**, B. Biswas , J. Kumar, R. Singh, B. Thallada*
16:20 – 863. Energy recovery from municipal solid waste incineration in Japan. **M. Takaoka***, T. Yokoyama

Hilton Waikiki Beach
Altitude

Chemical Ecology Applied to Sustainable Agriculture (#105)

Organized by: C. Osorio, J. Bento, T. Ando, X. Chen
Presiding: T. Ando, X. Chen

13:00 Introductory Remarks
13:05 – 864. Aluminum oxalate complex as an antimicrobial substance from the active mycorrhizal zone of *Tricholoma matsutake*. **K. Nishino***, M. Shiro, K. Oizumi, R. Okura, T. Fujita, A. Yamada, C. Tanaka, T. Sasamori, N. Tokitoh, N. Hirai
13:35 – 865. Regulatory factors that control asexual reproduction of the plant pathogen *Phytophthora*. **M. Ojika***, R. Iwai, C. Han
14:05 – 866. Measurements of nitrous acid (HONO) direct emission from rice paddy soil and its contribution to atmospheric HONO. **C. Minejima***, R. Nakane, K. Shimada, S. Riya, K. Sato, M. Ohyama, A. Terada, M. Hosomi

Hilton Waikiki Beach
Kauai

Enzymes Essential to Biosphere Health: Bioremediation and Biogeochemical Cycling (#219)

Organized by: L. Eltis, M. Fukuda, L. Wackett

13:00 – 867. Haloalkane dehalogenases in bacteria. **Y. Nagata***, R. Moriuchi, Y. Ohtsubo, M. Tsuda
13:25 – 868. New chemistry in biodegradation of (halogenated) aromatic compounds. **D. Leys***
13:50 – 869. Kinetic, mechanistic, and structural characterization of three hydratase/aldolases in polycyclic aromatic hydrocarbon degradation: Analysis and Implications. **C.P. Whitman***, W.H. Johnson, W. Li, Y. Zhang
14:15 – 870. Bacterial phosphate uptake: Sub-Angstrom insights into exquisite molecular discrimination. R. Qi, A. Wellner, D.S. Tawfik, **m. elias***

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14:40 – 871. Phosphotriesterases as catalysts for the hydrolysis and detoxification of organophosphate nerve agents. **F.M. Raushel***
15:05 – 872. Formation and breakdown of compounds with phosphorus-carbon bonds. **W.A. van der Donk***
15:30 – 873. Evolutionary contingency in an emergence of an organophosphate hydrolase. **N. Tokuriki***
15:55 – 874. Enzyme engineering for the bioremediation of *s*-triazine compounds. **L.P. Wackett***

Hilton Waikiki Beach
Molokai

Chemistry of Integrated Water Treatment Systems for Halogenated Organics and Long-lived Radionuclides (#454)

Organized by: W. Lee, H. Kim, H. Anderson, M. Diallo, D. Waite
Presiding: J. Han

13:00 Opening Remark
13:05 – 875. Mining critical metals and uranium from seawater: Overview of recent advances. **M. Diallo***, M. Kotte, M. Cho
13:35 – 876. Innovative fuel cell-based technologies for the treatment of H_2S and electricity generation. K. Kim, **J. Han***
14:05 – 877. Remediation of pharmaceuticals in DOM containing wastewaters. **T.A. Reutershan**, S. Mezyk
14:35 Break
14:50 – 878. Removing antibiotics from wastewater: Alternative radical treatments. **C.A. Rice**, S. Mezyk
15:20 – 879. Water purification by a novel flow plasma. **Y. Mizukoshi***, H. Horibe, Y. Nishimura
15:50 Closing Remark

Saturday Evening

Hawaii Convention Center
Halls I, II, III

Human Exposure to Environmental Contaminants (#26)

Organized by: J. Martin, K. Kannan, L. Zhu, H. Moon
Presiding: K. Kannan, J. Martin, H. Moon, L. zhu

Poster Session
19:00 – 21:00

880. Survey of cyclic and linear siloxanes in indoor dust and their implications for human exposures in twelve countries. T.M. Tran, K. Abualnaja, A. Asimakopoulos, A. Covaci, B. Gevao, **T.A. Kumosani**, K. kannan*
881. Cyclic and linear siloxanes in indoor air from Albany, New York, USA, and its implications for inhalation exposure. **K. Kannan**, T.M. Tran
882. Parabens and their derivatives in pharmaceuticals: A source of human exposure. **K. Kannan***, C. Moreta, M. Tena
883. Human exposure assessment by characterization of perfluoroalkyl acids and typical isomers in foodstuff, indoor dust and tap water in Tianjin, China. **L. zhu***
884. Comparative assessment of human exposure to tetrabromobisphenol A and eight bisphenols including bisphenol A via indoor dust ingestion in twelve countries. T.A. Kumosani, W. Wang, **K.O. Abulnaja**, A. Asimakopoulos, A. Covaci, B. Gevao, B. Johnson-Restrepo, G. Malarvannan, T.B. Minh, H. Moon, H. Nakata , R.K. Sinha, K. kannan*
885. Method for evaluating the exposure concentration of phenols in water. **w. zhong**, d. wang, L. zhu
886. Occurrence of phthalate diesters in particulate and vapor phases in indoor air and implications for human exposure in Albany, New York, USA. **T.M. Tran***, K. Kannan
887. Changes of chemical characteristics of the outdoor, indoor, and individual exposure of suspendeded particles in Osaka, Japan. **K. Funasaka***
888. Development of suppression method for boron elution from coal ash with formation of insoluble inorganic salt. **N. Sugai**, T. Kawashima, T. Naruse, A. Sasaki, M. Endo
889. Study on the inhibition of dissolution fluoride from the sludge. **X. Kuang**, A. Sasaki, M. Endo
890. Investigating the influence of temperature and acid matrix on the determination of arsenic in the As reference speciation standards. **S. Rabb***, M. Le, L. Yu
891. Association between arsenic concentration and satisfaction level for well water in Basailbogh village, Bangladesh. **M. Sekine***, M. RAKNUZZAMAN, M. Tokumura, K. AHMED, S. Masunaga
892. Study on the exposure by environmental samples for arsenic species using ion chromatography coupled with mass spectrometry. **J. Lee***
893. Physico-chemical and microbiological characteristics of the nearshore and surface sediments environment of the Hawkbill Turtles (Pawikan) Sanctuary in Davao City. **V.C. Badong***

Hawaii Convention Center
Halls I, II, III

Recycling of Polymeric Materials: Challenges and Perspectives (#36)

Organized by: T. Yoshioka, K. Joo-Sik, V. Sahajwalla, B. Thallada

Poster Session
19:00 – 21:00

894. Adhesion behavior of blue mussel (*Mytilus galloprovincialis*) and effects of poly(l-lactic acid). **T. Furukawa**, H. Nishida
895. Preparation of activated carbon from phenol resin for adsorption of low concentration benzene from humid air. **A. Hiwada**, M. Uddin, Y. Kato
896. Effect of reaction environment on hydrothermal valorization of lignin. **A. Prakash**, R. Singh, B.B. Krishna, J. Kumar, B. Thallada*
897. Scrap tire pyrolysis using a two stage pyrolyzer and absorbents for the removal of sulfur in pyrolysis oil and char. **G. Choi***, S. Oh, J. KIM
898. Basic study of advanced material recycle of waste plastics based on the physical degradation theory. **A. Tominaga**, H. Sekiguchi, R. Nakano, S. YAO*, E. Takatori
899. Fluid catalytic cracking reaction of waste plastic: Effect of addition of woody biomass. **K. Otani***, K. Momono, K. Takagi, N. Okazaki
900. Fluid catalytic cracking reaction of waste plastic: Activities of the iron-based catalysts. **T. Hotta***, K. Otani, K. Momono, K. Takagi, N. Okazaki
901. Geopolimerization of pulp paper industrial wastes for thermal insulating application. **M.P. Seabra***, R.M. Novais, L.H. Buruberri, J.A. Labrincha
902. Preparation of quality control plastic disks containing flame retardants and application to the weathering tests. **N. Itoh***, T. Otake, M. Ohata, A. Wada, N. Hanari
903. Surface design by photo-vapor-phase-assisted surface polymerization. **S. Gomi***, H. Nishida
904. Availability of woody biomass degraded by mushrooms as ingredient of fermented total mixed ration for feeding dairy cattle. **N. Nagatani**, T. Kojima, N. Nishino, K. Tokimoto, S. Nagao, T. Nitoda, H. Kanzaki*

Hawaii Convention Center
Halls I, II, III

Chemistry of Integrated Water Treatment Systems for Halogenated Organics and Long-lived Radionuclides (#454)

Organized by: W. Lee, H. Kim, H. Anderson, M. Diallo, D. Waite
Presiding: H. Kim

Poster Session
19:00 – 21:00

905. Theoretical studies on catalytic properties of Au nanoparticles. **T. Eom***, H. Kim
906. Reduction mechanism of nitrophenol to aminophenol on magnetie (111) surface. **S. Gim**, H. Kim
907. Study on regeneration method of spent activated carbon which adsorbs halogenated organics by using liquefied dimethyl ether gas. **T. Sano***, M. Matsuzawa

Sunday Morning

Hilton Waikiki Beach
Territorial III

Pectin Chemistry and Technology (#20)

Organized by: B. Savary, M. Williams, S. Lu, S. Yoo, R. Cameron

8:00 Opening
8:10 – 908. Pectin homogalacturonans: Nanostructural characterization of methylesterified domains. **R. Cameron***, Y. Kim, A. Galant, G.a. Luzio, J.T. Tzen
8:40 – 909. Characterization of nanostructure introduced into a model pectic homogalacturonan by pectin methyl esterases and relationship between its structure and functionality of calcium-mediated gel. **Y. Kim***, R. Cameron*, G.a. Luzio, B.J. Savary, M.A. Williams, S. Yoo
9:10 – 910. Processive PME as a fine-structure amplifier for high DM substrates: A tale of two pectins. **B. Williams***, R. Cameron, m. ralet, J. Owen
9:40 – 911. Effect of fine-structure on the long timescale dynamics of pectin gels. **J. Owen***, B. Mansel, B. Williams
10:10 Break
10:20 – 912. Role of pectin on the mechanical properties of hydrated cellulose networks as plant cell wall analogs. **P. Lopez-Sanchez**, D. wang, M. Rincon-Bonilla, J. Stokes, M. Gidley
10:50 – 913. Stability of modified low methoxyl pectin under simulated gastric conditions is greater than commercial low methoxyl pectin. J. Koh, L. Wicker, **Y. Kim**
11:20 – 914. Response surface methodology to explore the effects of polyvalent and monovalent cations on the thermal and gelling properties of low DM pectins. **G.a. Luzio***, R. Niedz
11:50 Close

Hilton Waikiki Beach
Hawaii

Human Exposure to Environmental Contaminants (#26)

Organized by: J. Martin, K. Kannan, L. Zhu, H. Moon
Presiding: J. Martin, L. zhu

8:00 – 915. Strategies based on high resolution mass spectrometry to identify novel per- and polyfluorinated alkyl substances (PFAS) in human serum. **M. Gomez Ramos***, A. Rotander, A. Kärrman, L.L. Toms, **J. Mueller**
8:20 – 916. Distribution of perfluoroalkyl acids and the typical isomers between paired human serum and whole blood samples. **L. zhu**
8:40 – 917. Occupational exposure to perfluoroalkyl acids and the isomers in a fluorochemical manufacturing plant in China: Body burden, intake, and half-lives estimation. J. Fu, Y. Gao, **Y. Wang**, a. zhang, **G. Jiang**
9:20 – 918. Assessment of human exposure to airborne particles using simulated lung fluids. **R. Balasubramanian***
9:40 – 919. Effects of size and concentration variance of Ag nanoparticles on their interfacial phenomenia in the form of surface tension in pulmonary physiology. **J.J. Bang***, T. Poteat, Z. Hendren
10:00 – 920. Studies on environmental pollutants entering food chain in southwest Louisiana - case study. **J. Sneddon***, C.E. Hardaway
10:20 – 921. Hair mercury level and fish consumption: Perception of mercury risk among general residents in China. **Y. ZHANG**, J. ZHOU
10:40 – 922. Identification of environmental sources of lead exposure in Nunavut (Canada) using stable isotopes analyses. M. Fillion, **J. Blais***, E. Yumvihoze, M. Nakajima, P. Workman, G. Osborne, H. Chan

Hilton Waikiki Beach
Territorial I & II

Recycling of Polymeric Materials: Challenges and Perspectives (#36)

Organized by: T. Yoshioka, K. Joo-Sik, V. Sahajwalla, B. Thallada

8:00 Opening
9:00 – 923. Interactions between beech wood and polyethylene during co-pyrolysis. **S. Kumagai***, K. Fujita, G. Grause, T. Kameda, T. Yoshioka*
9:40 – 924. Deicer preparation from dolomite and bio-oil from the fast pyrolysis of corncob. **S. Oh***, J. KIM, G. Choi
10:00 – 925. Physical regeneration method of waste plastics based on physical degradation theory. **S. YAO***, A. Tominaga, N. Takenaka, R. Nakano, H. Sekiguchi
10:20 – 926. Generation behavior of nitrogen compounds during steam pyrolysis of polyimide film using Ni-based catalysts. **T. Hosaka***, S. Kumagai, G. Grause, T. Kameda, T. Yoshioka
10:40 – 927. Recovery of useful resources from waste photovoltaic module by liquefaction of cured EVA. **T. Kamo***, H. Ito
11:20 – 928. Applicability of polyurethane foam generated from WEEE as energy sources by thermal methods. S. Park, J. Lee, W. Yang, C. Oh, **Y. Seo***

Hilton Waikiki Beach
Kauai

Enzymes Essential to Biosphere Health: Bioremediation and Biogeochemical Cycling (#219)

Organized by: L. Eltis, M. Fukuda, L. Wackett

8:00 – 929. Structure of anaerobic methane-oxidizing enzyme. **S. Shima***
8:25 – 930. Making diesel fuel in bacteria via the cryptically-redox oxygenation reaction of aldehyde deformylating oxygenase. **J.M. Bollinger**, M. Pandelia, N. Li, D.M. Warui, W. Chang, H. Nørgaard, L.J. Rajakovich, A.L. Compton, C. Krebs, S.J. Booker
8:50 – 931. Emergence of bacterial lignin-ases. **R. Singh**
9:15 – 932. Catalytic function of aromatic ring-hydroxylating dioxygenase, carbazole 1,9a-dioxygenase. **H. Nojiri***
9:40 – 933. Structure and function of type II extradiol dioxygenases in a catabolic pathway of lignin-derived aromatic compounds. **T. Senda***, K. Sugimoto, M. Senda, D. Kasai, M. Fukuda, E. Masai

*** Principle Author**

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10:05 – 934. C-C bond-cleaving amidohydrolases involved in biomass degradation. **L. Eltis**, E. Kuatsjah, H. Otani
10:30 – 935. Enzymes involved in microbial metabolism of toxic compounds and their application. **M. Kobayashi***
10:55 – 936. Rapid oxidation and slow mineralization of iron by a diatom ferritin. S. Pfaffen, J.M. Bradley, G.R. Moore, N.E. Le Brun, **M.E. Murphy**
11:20 – 937. Characterizing Mnx, the Mn(II)-oxidizing multicopper oxidase complex from *Bacillus* sp. PL-12. **C. Romano***, M. Zhou, L. Tao, T. Stich, Y. Song, C. Butterfield, A. Dohnalkova, L. Paša-Tolić, A. Soldatova, Z. Pinder, W.H. Casey, V. Wysocki, R. Britt, T. Spiro, B. Tebo

BIOL

Area 7 – Biological

Tuesday Morning

Sheraton Waikiki
Ewa

Low-Energy Photoexcited States in Photosynthesis (#117)

Organized by: J. Reimers, E. Krausz, A. Freiberg, D. Bruce, A. Holzwarth, H. Hashimoto, D. Coker
Presiding: E. Krausz

8:00 – 1. Algae switch excitons on and off in light harvesting. **G. Scholes***
8:30 – 2. Low-energy photoexcited states in Photosystem II: A 2D electronic spectroscopy study. **E. Romero***, V. Novoderezhkin, r. van grondelle
9:00 – 3. Modeling exciton dynamics and charge transfer states. **T. Kramer***
9:30 Break
9:45 – 4. Low energy coherent oscillations in the non-adiabatic excited state of light-harvesting phycocyanin-645. **J. Davis***, F. Novelli, A. Roozbeh, P. Curmi, K. Wilk
10:15 – 5. Tracking the energy flow through the entire photosynthetic apparatus in situ. J. Dostal, J. Psencik, **D. Zigmantas***
10:45 Break
11:00 – 6. Influence of heterogenous chromophore environments on excitation energy transport in photosynthetic complexes. **D.F. Coker**, M. Lee, D. Montemayor, E. Rivera, S. Jang
11:30 – 7. Quantum coherence between B800 and B850 assemblies of light-harvesting complex from purple bacteria observed by 5 fs optical pulses. **H. Hashimoto***

Royal Hawaiian
Regency III

Advances in Biological Solid-State NMR (#120)

Organized by: A. Naito, M. Auger, A. Ramamoorthy, F. Separovic, T. Fujiwara, Y. Kim
Presiding: A. Naito, F. Separovic

8:00 Opening Remarks
8:10 – 8. Warburg metabolism in three rapidly proliferating cell lines using solid-state NMR. **J. Schaefer***
8:35 – 9. Aggregation of β-amyloid peptides in confined space. **J.C. Chan***
9:00 – 10. Solid-state NMR of viral fusion proteins. **D. Weliky***
9:25 – 11. MAS NMR of HIV-1 capsid assemblies and their complexes with host factors: Insights into structure and dynamics. M. Lu, G. Hou, M. Wu, C. Suiter, H. Zhang, R. Gupta, C. Quinn, X. Lu, J. Ahn, I. Byeon, C. Aiken, P. Zhang, J. Perilla, K. Schulten, A.M. Gronenborn, **T. Polenova***
9:50 Break
10:05 – 12. Molecular complexity of sea silk as revealed by solid-state NMR. A.A. Arnold, B. Genard, F. Byette, C. Pellerin, R. Tremblay, **I. Marcotte***
10:30 – 13. Structure and propagation of amyloid fibril for 42-residue amyloid-β Aβ(1-42) and nano-mole-scale protein solid-state NMR using ultrafast MAS. **Y. Ishii**
10:55 – 14. Spectral snapshots of bacterial cell-wall composition and the influence of antibiotics by whole-cell NMR. J. Romaniuk, R. Nygaard, D. Rice, **L. Cegelski**
11:20 – 15. NMR characterization of conformational transition of amyloid-β peptide promoted on ganglioside clusters. M. Yagi-Utsumi*, **K. Nishimura**, K. Kato*
11:35 – 16. Amyloid, membranes, microwaves, and the magic angle. **R. Griffin***

Sheraton Waikiki
Kohala/Kona

Fluorescent and Luminescent Proteins: New Chemistries and New Functions (#180)

Organized by: M. Lin, R. Campbell, T. Nagai

8:00 Miyawaki
8:30 – 17. Physical bases for developing next generation far red fluorescent proteins. **H. Ng***
9:00 – 18. Far-red fluorescent protein evolved from the phycobilisome of a cyanobacteria. **E.A. Rodriguez**, G.N. Tran, R.Y. Tsien
9:30 – 19. Capturing photoinduced structural snapshots of emerging fluorescent protein biosensors with ultrafast vibrational spectroscopy. W. Liu, B.G. Oscar, L. Tang, Y. Wang, Y. Zhao, R.E. Campbell, **C. Fang***
10:00 – 20. Computational exploration of one- and two-photon absorption in fluorescent protein chromophores. **A. Brown***, M.A. Salem
10:15 – 21. Multicolor monomeric near-infrared fluorescent proteins engineered from bacterial phytochromes. **D.M. Shcherbakova**, M. Baloban, **V.V. Verkhusha***
10:45 – 22. Developing photoactivatable fluorescent proteins for super-resolution imaging. **P. Xu**
11:15 Zhang
11:45 – 23. Improving optical control of protein activities with an engineered photodissociable dimeric fluorescent protein domains. **M. Lin**

Royal Hawaiian
Regency I

Frontiers of Iron Chemistry in Biology (#268)

Organized by: K. Ishimori, S. Sliger, G. Mauk
Presiding: A.G. Mauk, J.S. Olson, E. Raven

8:00 – 24. Structural and functional characterization of heme-regulated proteins: Heme as a signaling molecule. **K. Ishimori***
8:24 – 25. Probing [4Fe-4S] and nitrosyl chemistry with NRVS, Mössbauer, and EXAFS, for WhiD and NsrR proteins. **P. Serrano***, H. Wang, S. George, S. Kamali, J.C. Crack, M. Hu, E.E. Alp, N.E. Le Brun, S. Cramer
8:43 – 26. Heme modulates cardiac K_{ATP} channel function. **E. Raven**
9:07 – 27. Hydrogen bonding interactions in ligand sensing and signaling by *Mycobacterium tuberculosis* DosS and DosT. Y. Madrona, D. Basudhar, S. Sivaramakrishnan, E. Yukl, P. Moënne-Loccoz, **P.R. Ortiz de Montellano***
9:31 – 28. Ligand discrimination by hemoglobins and myoglobins: How does it work and why should we care?. **J.S. Olson***
9:55 – 29. New twist on heme structure and function. **K.L. Bren***
10:19 – 30. Human indoleamine 2,3-dioxygenase isoforms IDO1 and IDO2: A study in contrasts. H.H. Kuo, **G. Mauk***
10:43 Break
10:53 – 31. Determination of the iron(IV/III) reduction potential in P450 compound II. **M. Green**
11:17 – 32. Oxygen activation by cytochrome P450. **S.G. Sligar**
11:41 – 33. Making and breaking heme in *Staphylococcus aureus:* New enzymological developments. **J. DuBois***, B. Streit

Sheraton Waikiki
Kahuku

Chemical Approaches to Astrobiology (#326)

Organized by: H. Mita, H. Clerves, A. Negron-Mendoza, H. Yabuta
Presiding: H. Mita, A. Negrón-Mendoza, H. Yabuta

8:00 Introductory Remarks
8:05 – 34. Identity as life acquired by hierarchical dynamics emerged in molecular system. **T. Sugawara***
8:35 – 35. Theoretical and methodological issues in the study of the origin of life. **A. Lazcano***
9:05 – 36. Purine biosynthetic intermediate-containing ribose-phosphate polymers as evolutionary precursors to RNA. **H.S. Bernhardt***, R. Sandwick
9:25 – 37. Simplification of the genetic code: Restricted diversity of genetically encoded amino acids. **D. Kiga***, K. Amikura
9:45 – 38. Drawbacks regarding the chemical evolution of biopolymers under the primitive hydrothermal earth environments. **K. Kawamura***
10:05 Break
10:20 – 39. Nature of the Last Common Ancestor and early evolution of autotrophy. **A. Becerra***
10:40 – 40. CHIRGEN approach to decipher the possible origin of genetic asymmetry. **T. Buhse**, G. Cocho, H.I. Cruz-Rosas, L. Le Sergeant d'Hendecourt, P. de Marcellus, U.J. Meierhenrich, C. Meinert, I. Myrgorodska, L. Nahon, A. Negrón-Mendoza, L. Rendon, P. Santiago
11:00 – 41. Size, shape, functional group distributions of organic microspherules formed by Maillard-type reaction. **A. Takahashi**, H. Yabuta
11:20 – 42. Abiotic origins of fundamental metabolic pathways from amino- and α-keto acids. **G. Springsteen**
11:40 – 43. Prebiotic polyamino acid formation under molten states. **H. Mita***, E. Nagasawa, S. Nomoto

Sheraton Waikiki
Honolulu

Chemical Biology of Protein-Lipid Modification (#421)

Organized by: M. Distefano, J. Ohkanda, Y. Chen
Presiding: J. Ohkanda

8:00 – 44. Investigating RAS GTPases' lipid modifications. **Y. Chen***
8:40 – 45. Chemical reporters for exploring protein fatty-acylation. **H. Hang***
9:20 – 46. Imaging cellular protein fatty acylation. **R. Hannoush***
10:00 Break
10:20 – 47. Development of stably membrane-anchoring molecules for "chemical transformation" of cells. **T. Mori***, W. Hatanaka, M. Takeo, R. Tokunaga, M. Kawaguchi, A. Kishimura, Y. Katayama
11:00 – 48. Elucidation of the isoprenylated substrate binding site in ras carboxyl methyltransferase using biotinylated photoaffinity probes. A. Funk, K. Hahne, J. Vervacke, L. Shrestha, J.L. Donelson, R.A. Gibbs, M. Distefano, **C. Hrycyna***
11:40 – 49. Development and application of small molecule probes for the analysis of protein prenylation. **M. Distefano**

Tuesday Afternoon

Sheraton Waikiki
Ewa

Low-Energy Photoexcited States in Photosynthesis (#117)

Organized by: J. Reimers, E. Krausz, A. Freiberg, D. Bruce, A. Holzwarth, H. Hashimoto, D. Coker
Presiding: D.F. Coker

13:00 – 50. Elucidation of the mechanisms of photoprotection in single LHCII complexes. **G. Schlau-Cohen***
13:30 – 51. Making every photon count: Single molecule spectroscopy applied to natural light-harvesting materials. **r. van grondelle***, T.P. Krüger
14:00 – 52. Explicit calculation of coupled excited states in photosystems. **T.J. Frankcombe***
14:30 Afternoon tea
14:45 – 53. Assignments of the lowest excited states of CP43, CP47 and Photosystem II core complexes via the new technique of temperature dependent circular polarization of luminescence. **E. Krausz***, J. Hall, R. Picorel, J. Shen
15:15 – 54. On the excited state electronic structure, excitation energy transfer, and electron-phonon coupling in selected photosynthetic antenna protein complexes. **R. Jankowiak***, J. Chen, M. Jassas, A. Kell

Royal Hawaiian
Regency III

Advances in Biological Solid-State NMR (#120)

Organized by: A. Naito, M. Auger, A. Ramamoorthy, F. Separovic, T. Fujiwara, Y. Kim
Presiding: T. Fujiwara, I. Marcotte

13:00 – 55. Dynamic nuclear polarization at 16.4 T and 30 K using a novel closed-cycle helium-cooling MAS NMR probe system. **Y. Matsuki**, T. Idehara, Y. Tatematsu, J. Sirigiri, S. Nakamura, T. Fujiwara
13:25 – 56. NMR determination of C-H/N-H distances for unlabeled molecules. **j. Amoureux***
13:40 – 57. Single crystal NMR of magnetically oriented microcrystal array. **R. Kusumi**, F. KIMURA, T. Kimura
13:55 – 58. Overtone ^{14}N solid-state NMR: A route to natural abundance C-N correlations. **L. O'Dell***
14:20 – 59. Photoreaction pathways of photoreceptor membrane proteins revealed by in-situ photo-irradiation solid-state NMR. **A. Naito***
14:45 Break
15:00 – 60. Instrumentation development for 2H NMR of biological solids. **R.W. Martin***
15:25 – 61. Recent advances in ^{17}O NMR spectroscopy of biological solids. **G. Wu**
15:50 – 62. Using liquids to probe solids with NMR diffusometry. **W.S. Price***, G.R. Dennis, B. Ghadirian, T. Stait-Gardner, A.M. Torres, S.A. Willis, G. Zheng

*** Principle Author**

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16:15 – 63. Short- and long-distance spin-spin correlations for spectroscopic assignment and distance information in solid-state NMR of macroscopically aligned membrane proteins. **A. Nevzorov**
16:30 – 64. 1020 MHz LTS/HTS NMR: Application to solid-state NMR. **Y. Nishiyama**
16:45 – 65. Closed-loop MAS-DNP-NMR at 30 K for affordable dramatic gains in S/N. J. Staab, J. Spitzmesser, D. Arcos, J. Doty, V. Cothran, M. Bremmer, G. Doty, D. McCree, H. suematsu, L. Holte, P. Ellis, **F. Doty**

Sheraton Waikiki
Kohala/Kona

Fluorescent and Luminescent Proteins: New Chemistries and New Functions (#180)

Organized by: M. Lin, R. Campbell, T. Nagai

13:00 – 66. Fluorescent protein-based redox probes. **H. Ai**
13:30 – 67. Directed evolution and structure-guided recombination of fluorescent membrane proteins. **F.H. Arnold***
14:00 – 68. mGRASP for mapping mammalian synaptic circuit at multiple scales. **J. Kim**
14:30 – 69. Directed evolution via multiparameter microfluidic screening to identify new red fluorescent proteins with longer lifetimes and higher photostability. F. Vietmeyer, K. Dean, P. Manna, P. Friis, L. Davis, R. Jimenez, **A.E. Palmer**
14:45 – 70. FRET imaging in organoids and mice. **E. Kiyokawa***
15:15 – 71. Bioimaging with bright luminescent proteins: Comparing pros and cons of fluorescence and luminescence. **T. Nagai***

Royal Hawaiian
Regency I

Frontiers of Iron Chemistry in Biology (#268)

Organized by: K. Ishimori, S. Sliger, G. Mauk
Presiding: B.M. Hoffman, K. Ishimori, J.D. Lipscomb

13:00 – 72. Heme regulates protein-protein interaction of transcription factor Bach2. **M. Matsui**, T. Matsui, M. Ikeda-Saito, K. Igarashi, K. Murayama*
13:19 – 73. Crystal structure of HydG and [FeFe] hydrogenase H-cluster biosynthesis. **P.L. Roach**
13:38 – 74. Diversity of the heme-copper oxidoreductase superfamily. J. Hemp, R. Murali, **R.B. Gennis***
14:02 – 75. Visualizing oxygen activation in mononuclear nonheme iron oxygenases. C.J. Knoot, B.S. Rivard, M.S. Rogers, **J.D. Lipscomb***
14:26 break
14:36 – 76. New synthetic approaches to heme-O_2-copper assemblies and insights into the O-O reductive cleavage using proton-electron sources. **K.D. Karlin***
15:00 – 77. Fungal tyrosinase. Crystal structures and maturation process. **S. Itoh***, N. Fujieda
15:24 – 78. Structure, dynamics, and mechanisms of zinc and iron receptors which regulate gene expression. **T.V. O'Halloran**
15:48 – 79. Biosynthesis of the catalytic H-cluster of [FeFe] hydrogenase. **R. Britt***
16:12 – 80. X-ray spectroscopy combined with crystallography for studying water oxidation reaction in Photosystem II at XFEL. **J. Yano***, J. Kern, V. Yachandra, R. Chatterjee, F. Fuller, S. Gul, U. Bergmann, R. Alonso-Mori
16:36 – 81. Why nature uses radical SAM enzymes so widely: ENDOR studies of lysine 2,3-aminomutase shows the 5'-dAdo● 'free radical' is never free. **B.M. Hoffman***, M. Horitani, A. Byer, K.A. Shisler, T. Chandra, J.B. Broderick

Sheraton Waikiki
Kahuku

Chemical Approaches to Astrobiology (#326)

Organized by: H. Mita, H. Clerves, A. Negron-Mendoza, H. Yabuta
Presiding: H. Mita, A. Negrón-Mendoza, H. Yabuta

13:00 – 82. Approaches to structural complexity analysis in abiotic planetary organics. **M.A. Smith***, H. Imanaka
13:30 – 83. Organic chemistry in planetary atmospheres: Chemical potential toward the origins of life. **H. Imanaka***, M.A. Smith
14:00 – 84. 1D photochemical model coupled to chemical disequilibrium applied to Archean atmospheres. **S.O. Danielache**
14:20 – 85. Evidence from meteorites for multiple amino acid alphabets for the origins of life. **A. Burton***, J.E. Elsila, M.P. Callahan, D.P. Glavin, J.P. Dworkin
14:40 – 86. Physical properties of possible glycine precursor, CH_2NH sources. **T. Suzuki**, M. Ohishi, T. Hirota, M. Saito
15:00 Break
15:15 – 87. Solution plasma synthesis of ammonium ions from water-CO_2-N_2 system and its time-resolved spectroscopic study. **H. Yui***, K. Kanno, Y. Hagiwara, M. Banno
15:35 – 88. High power laser-shock experiment of chondritic meteorites: Contributions of hydrocarbons and sulfur-bearing compounds to the early Earth atmosphere. **H. Yabuta***, T. Sakaiya, T. Kondo, S. Ohno, T. Kadono, K. Shigemori, Y. Hironaka, T. Yamanaka
15:50 – 89. Radiation chemical processes in prebiotic chemistry. **A. Negrón-Mendoza***, S. Ramos-Bernal, M. Colin-Garcia, A. Heredia
16:10 – 90. Expanding the glyoxylate/dihydroxyfumarate scenario: Production of glyceric acid and other aldonic acids. **C.J. Butch***, R. Vindas, J.D. Crowe, P.L. Pollet, R. Krishnamurthy, C.L. Liotta
16:30 – 91. Chemical astrobiology experiments in Earth orbit: The Tanpopo Mission and beyond. **K. Kobayashi***, Y. Kebukawa, H. Mita, Y. Bessho, H. Yabuta, H. Shibata, J. Takahashi, K. Nakagawa, E. Imai, Y. Ishibashi, K. Okudaira, H. Yano, H. Hashimoto, S. Yokobori, A. Yamagishi
16:45 – 92. Using experimental evolution to assess a possible early origin for DNA. **A. M. Poole**

Sheraton Waikiki
Honolulu

Chemical Biology of Protein-Lipid Modification (#421)

Organized by: M. Distefano, J. Ohkanda, Y. Chen
Presiding: Y. Chen

13:00 – 93. Structure-based design of PPI inhibitors that disrupt ras prenylation. **J. Ohkanda***
13:40 – 94. Protein farnesyltransferase inhibitors: From oncology to progeria. **C. Strickland***
14:20 – 95. Signaling pathways the regulate the prenylation of small GTPases in cancer. **C. Williams***
15:00 Break
15:20 – 96. Postsynaptic nanodomain regulated by PSD-95 palmitoylation machinery. **M. Fukata***, Y. Fukata
16:00 – 97. Membrane composition and protein lipidation as determinants of the free energy of HIV-1 matrix protein membrane binding. M. Barros, F. Heinrich, S. Datta, A. Rein, H. Nanda, **M. Lösche**

Wednesday Morning

Sheraton Waikiki
Ewa

Low-Energy Photoexcited States in Photosynthesis (#117)

Organized by: J. Reimers, E. Krausz, A. Freiberg, D. Bruce, A. Holzwarth, H. Hashimoto, D. Coker
Presiding: T. Renger

8:00 – 98. Rebuilding the photosynthetic unit: Moving energy in, and electrons out, of the reaction center in nanoscale model systems. **N. Woodbury***, D. Seo, T. Beatty, S. Lin, H. Yan, A. Carey, S. Levenberg, P. Dutta, R. Yang, M. Liu, T. Murrell, H. Zhang, D. Mieritz, K. Jeon, D. Jun, R. Saer, d. matyushov, D. Martin
8:30 – 99. Simulation of electronic spectra line-shapes of chlorophylls in different environmental conditions. **M. Biczysko***
9:00 – 100. Structure-based identification of low-energy excited states in photosynthetic antenna complexes: Electrostatics and beyond. **F. Müh***
9:30 morning tea
9:45 – 101. Photosynthetic complexes studied with picosecond spectroscopy: From dead crystals to living cells. **H. van Amerongen**
10:15 – 102. Far-red light induced photosynthesis. **F. Mamedov***, J. Jacques, A. Thapper, F. Mokvist, S. Styring
10:45 break
11:00 – 103. Linear and non-linear excitation of low-energy excited states in photosynthetic systems and related pigments. **P.J. Walla**
11:30 – 104. Energy transfer dynamics in pigment-protein complexes. **M. Lee**, D.F. Coker

Royal Hawaiian
Regency III

Advances in Biological Solid-State NMR (#120)

Organized by: A. Naito, M. Auger, A. Ramamoorthy, F. Separovic, T. Fujiwara, Y. Kim
Presiding: Y. KIM, A. Ramamoorthy

8:00 Introductory Remarks
8:15 – 105. Structure and dynamics of G protein-coupled receptors and interactions with their ligands in phospholipid bilayers. **S. Park***, A. De Angelis, B. Das, H. Pavlova, J. Radoicic, S. Berkamp, V.S. Wang, Z. Long, S.J. Opella
8:40 – 106. NMR and EPR structural studies of membrane proteins. **G.A. Lorigan***
9:05 – 107. Backbone structure determination of protein in solid-state using paramagnetic relaxation enhancement and chemical shifts. **M. Demura**
9:30 – 108. Structural characterization of fully protonated proteins by ultrafast MAS. **R.J. Linser***, S. Vasa, P. Rovó, K. Grohe, S. Xiang, N. Kulminskaya
9:45 – 109. Advancing structure determination of membrane proteins in lipid bilayer membranes. **F.M. Marassi***
10:00 Break
10:15 – 110. Solid-state NMR characterization of a panel of membrane proteins in phospholipid bilayers. **S.J. Opella***
10:40 – 111. Solid-state NMR analysis of proteins by spectral simulation. **T. Fujiwara***
11:05 – 112. Inactivation of a potassium channel. A. McDermott*, **I.V. Sergeyev**
11:30 – 113. Structure and dynamics of Anabaena Sensory Rhodopsin studied by magic angle spinning solid-state NMR. **V. Ladizhansky**

Sheraton Waikiki
Kauai

Frontiers in Chromatin Biology and Chemical Epigenetics/Epigenomics (#151)

Organized by: Y. Zheng, M. Yoshida, H. Lin, H. Jiang, A. Cheryl, Y. NAKAO, P. Cole, Y. Chang
Presiding: Y. Zheng

8:00 – 114. Discovery of chemical probes for histone methyltransferases. **J. Jin**
8:30 – 115. Journey of developing chemical tools to interrogate protein methyltransferases. **M. Luo**
9:00 – 116. Synthesis of cyclodepsipeptide histone deacetylase inhibitors. **T. Doi***
9:30 – 117. Mechanism-based inhibition of protein N-terminal methyltransferase. **R. Huang**
10:00 Break
10:10 – 118. Picking the PADlock: Chemical probes to study the protein arginine deiminases. **P.R. Thompson***
10:40 – 119. Discovery of histone lysine demethylase-selective inhibitors. **T. Suzuki***
11:10 – 120. Novel eight-membered products from polyamines under oxidative stress conditions: Possible epigenetics modulators. **K. Tanaka***
11:40 – 121. Exploring chemical strategies to control and analyze protein methylations. **Y. SOHTOME**, J. Barjau, S. Fujishiro, K. Dodo, A. Ito, M. Yoshida, T. Shimazu, Y. Shinkai, M. Sodeoka*

Hawaii Convention Center
Halls I, II, III

Fluorescent and Luminescent Proteins: New Chemistries and New Functions (#180)

Organized by: M. Lin, R. Campbell, T. Nagai

Poster Session
10:00 – 12:00

122. Novel bright large-Stokes shift fluorescent protein improves the sensitivity of dual-emission microscopy and deep-tissue imaging. **J. Chu***, M. Lin
123. Development of intrabody-based FRET probe for monitoring histone H3 acetylation in living cells. **C. Chung**, Y. Ohmuro-Matsuyama, Y. Sato, H. Kimura, H. Ueda
124. Optical control of extending neurite direction with light-induced protein oligomerizing system. **M. Endo**, M. Hattori, T. Ozawa*
125. Visible-wavelength two-photon excitation of fluorescent proteins for multicolor and high-resolution imaging. **K. Fujita***, M. Yamanaka, K. Saito, N.I. Smith, Y. Arai, K. Uegaki, Y. Yonemaru, K. Mochizuki, S. Kawata, T. Nagai
126. QM/MM free energy perturbation calculations to probe the formation of an active photoprotein. **T.M. Griffiths***, A. Oakley, H. Yu
127. Novel genetically encoded antibody-based biosensor for fluorescence ratio detection of antigen. **K.P. Huynh Nhat**, T. Watanabe, T. Hohsaka*
128. Engineering light inducible proteins to control biomolecule activity and behavior in live cells. **Z. Huang**, Y. Wang

*** Principle Author**

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129. Genetically-encoded chemiluminescent indicator applicable in millisecond voltage phenomena. **S. Inagaki**, T. Matsuda, Y. Arai, Y. Jinno, H. Tsutsui, Y. Okamura, T. Nagai*
130. HIV-1 Rev or Tat fused florescent proteins induces its folding and emission by binding with corresponding RNAs. **Y. Itou**, K. Takahashi, T. Tanaka, S. Urata, H. Kozuka, A. Kikuchi, K. Hamasaki*
131. Quenching-type of fluorescent Ca^{2+} indicator for detecting neuronal inhibition. **S. Kuge**, T. Nishihara, T. Matsuda, H. Furuie, T. Teramoto, T. Nagai, T. Ishihara
132. Intravital two photon imaging with integrated use of chemical probes, dyes, and fluorescent proteins in living animals. **S. Nishimura***
133. Chiroptical properties of fluorescent protein UnaG. **Y. SHITASHIMA***, T. SHIMOZAWA, M. ISHIDA, T. ASAHI
134. Multiple color pallet of super-duper luminescent proteins for long-term and ultrafast acquisition of biological phenomena. **K. Suzuki**, K. Enami, S. Mizobuchi, Y. Arai, M. Nakano, T. Nagai*
135. Development of a genetically-encoded probe to visualize β-actin mRNA in living cells based on a reconstituted GFP and an RNA binding domain PUM-HD. **H. Yoshimura**, T. Yamada, T. Ozawa*

Sheraton Waikiki
Maui

Strategies for Coupling and Decoupling Diverse Molecular Units in the Glycosciences (#201)

Organized by: Z. Witczak, M. Brimble, Y. Miura, R. Bielski
Presiding: R. Bielski, Z. Witczak

8:00 Oppenning Remarks
8:05 – 136. Synthesis and application of neoglycopeptides using click chemistry combined with native chemical ligation and enzymatic glycosylation. **M.A. Brimble**
8:40 – 137. Synthetic antitumor vaccines through coupling of mucin glycopeptide antigens to proteins. **H. Kunz***
9:15 – 138. NKT cell-dependent glycolipid-peptide vaccines with potent anti-tumour activity. **C. Hayman**, R. Anderson, B. Compton, C. Tang, A. Authier-Hall, R. Kowalczyk, M.A. Brimble, D. Larsen, O. Gasser, R. Weinkove, I. Hermans*, G. Painter*
9:50 Break
10:05 – 139. Chemical synthesis of homogeneous glycoproteins and an insight into the relationship between glycosylation pattern and biological activity. **Y. Kajihara***
10:40 – 140. Neoglycopeptides and neoglycoproteins as diagnostic tools and potential vaccines. **K. Michael***, N.S. Schocker, R.A. Ashmus, S. Portillo, I.C. Almeida
11:15 – 141. Coupling polyphenols with carbohydrates, a strategy toward molecules for the prevention of diabetes and Alzheimer's disease. **A.P. Rauter***
11:50 Concluding Remarks

Sheraton Waikiki
Molokai

Physiology and Metabolism of Extremophiles (#249)

Organized by: H. Atomi, J. Reeve, M. Ito, S. Kang
Presiding: S. Kang

8:00 Opening remarks
8:05 – 142. Novel pathway for cysteine biosynthesis in *Thermococcus kodakarensis*. **H. Atomi**, Y. Makino, H. Kawamura, T. Imanaka, T. Sato
8:25 – 143. Structural investigations into a promiscuous metabolic pathway in the Archaeon Sulfolobus solfataricus. **S.D. Bull**, M. Danson
8:50 – 144. Potential of extremophiles for cost-competitive bioenergy production. **L. Christopher***
9:15 – 145. Enhancing cell-specific H_2 production of the hyperthermophilic archaeon *Thermococcus kodakarensis* via genetic engineering. **J.R. Simons**, T. Kanai, H. Atomi
9:35 – 146. Unique property of acetic acid bacteria conferred by a specific regional deletion in a leucine responsive regulator. **Y. Ishii**, N. Akasaka, H. Sakoda, S. Fujiwara
9:55 – 147. Cysteine desulfurase, a key enzyme for thriving outside solfataric environment in a hyperthermophilic archaeon, *Thermococcus kodakarensis*. **R. Hidese**, S. Fujiwara*, T. Imanaka
10:15 Break
10:25 – 148. Physiology and motility of alkaliphilic *bacillus*. **M. Ito***
10:50 – 149. Tactic responses of extremely halophilic archaeon *Haloarcula japonica* overexpressing its aerotaxis transducers. **T. Matsubara**, T. Tadikara, R. Yatsunami, T. Fukui, S. Nakamura*
11:10 – 150. Detection of rotation of archaeal flagella under advanced optical microscopes. Y. Kinosita, D. Nakane, **T. Nishizaka***
11:35 – 151. Multi-omics analysis revealed the mechanism of the degradation of poultry feathers by the extremophilic eubacterium *Fervidobacterium islandicum* AW-1. Y. Lee, K. Chandrasekhar, J. Shin, **D. Lee***

Royal Hawaiian
Regency I

Frontiers of Iron Chemistry in Biology (#268)

Organized by: K. Ishimori, S. Sliger, G. Mauk
Presiding: Y. Shiro, A. Wilks

8:00 – 152. Peroxidase proton coupled electron transfer. **T. Poulos**
8:24 – 153. It makes NO sense: Visualizing nitric oxide receptor gymnastics at ultra-high-resolution. **C.S. Raman***
8:48 – 154. Proton transfer in bacterial nitric oxide reductases coupled with NO reduction. **Y. Shiro**, T. Tosha
9:12 – 155. Biosynthetic models of heteronuclear metalloenzymes involved in multi-electron redox processes. **Y. Lu***, Y. Yu, A. Bhagi-Damodaran, I. Petrik, A. Mukherjee, C. Cui, S. Chakraborty, J. Reed
9:36 break
9:46 – 156. CO releasing proteins as bioinorganic tools for CO gas biology. **T. Ueno***
10:10 – 157. Structural snapshots into mycobacterial heme uptake. N. Chim, R. Morse, A. Chao, G. Batot, **C. Goulding***
10:34 – 158. Iron release from heme by IsdI and the reductase IruO. S.A. Loutet, S.J. Takayama, M.J. Kobylarz, A.G. Mauk, **M.E. Murphy***
10:58 – 159. Host-pathogen interaction: Overcoming iron limitation through heme acquisition. **A. Wilks**
11:22 – 160. Paradigm shift in heme degradation. **M. Ikeda-Saito***, T. Matsui, S. Nambu, H. Fujii, S. Takahashi

Hawaii Convention Center
Halls I, II, III

Chemical Approaches to Astrobiology (#326)

Organized by: H. Mita, H. Clerves, A. Negron-Mendoza, H. Yabuta
Presiding: H. Mita, A. Negrón-Mendoza, H. Yabuta

Poster Session
10:00 – 12:00

161. Origin of terrestrial bioorganic homochirality relevance to asymmetry of the universe: Approaches with synergy effects of observations, experiments, and computations. **J. Takahashi***, M. Tamura, M. Katoh, K. Kobayashi, M. Umemura, J. Kwon, N. Kusakabe, M. Hosaka, N. Yamamoto, T. Konomi, K. Matsuo, Y. Ueno, Y. Kamei, M. Ehara, R. Fukuda, K. Shiraishi, H. Shinojima
162. Formation of complex amino acid precursors from possible interstellar media by particles irradiation. **T. Matsuda***, S. Enomoto, Y. Kebukawa, T. Kaneko, H. Fukuda, Y. Oguri, S. Yoshida, K. Kobayashi
163. Laboratory synthesis of alkyl phosphanes in astrochemical ice analogs. **A. Turner***, R. Kaiser, M.J. Abplanalp
164. Mass spectrometric studies of organics in the interstellar ice analogs. **M. Nakayama***, Y. Ishibashi, H. Mita, H. Naraoka, S. Tachibana, T. Hama, Y. Endo, A. Kouchi
165. Organic compounds exposure experiments on the Japanese Experiment Module, the International Space Station. **H. Mita***, K. Kobayashi, K. Nakagawa, H. Yabuta, Y. Kebukawa, E. Imai, Y. Kawaguchi, H. Hashimoto, S. Yokobori, H. Yano, K. Okudaira, M. Tabata, H. Kawai, A. Yamagishi
166. Structure analysis of cooligomers in thermal proteinoids. **E. Nagasawa**, H. Mita
167. Prediction of 66.7% glycerol solution behavior in Mars exploration mission. **M. Nishizawa***, S. Sasaki, E. Imai, T. Sato, A. Yamagishi
168. Thermodynamics and the possibility of life on extra-terrestrial worlds. **N.V. Pandey***
169. Detection of biological activities in extreme environments by amino acid analysis and phosphatase assay. **Y. Ishikawa***, K. Aoki, Y. Obayashi, Y. Kebukawa, T. Kaneko, H. Mita, M. Ogawa, R. Navarro-Gonzalez, K. Kobayashi

Sheraton Waikiki
Lanai

Carbohydrate Recognition in Health and Disease (#342)

Organized by: G. Boons, Y. Ito, A. Demchenko, D. Vocadlo

8:00 – 170. Glycocalyx engineering toward probing cancer glycome evolution. **C.R. Bertozzi**
8:30 – 171. Carbohydrate HIV vaccine design through directed evolution. **I.J. Krauss**
9:00 – 172. Glycans, guts, and PULs: Carbohydrate recognition in dietary fiber utilization. **H. Brumer***
9:30 – 173. Expanding glycoconjugate library on DNAs and its enhanced affinity to lectins. **Y. Ebara***, Y. Nomura, M. Matsuda, M. Yamabe, D. Akamatsu
9:45 break
10:00 – 174. Synthetic receptors for carbohydrates. **A. Davis***
10:30 – 175. Analysis of ER glucosyltransferase by means of chemical synthesis. **Y. Ito**
11:00 – 176. Metabolic glycan labeling using liposomal unnatural sugars. **X. Chen**
11:30 – 177. Synthesis of designer polysaccharides as probes of glycan function. **T. Lowary**

Sheraton Waikiki
Kahuku

Luciferin/Luciferase Engineering (#410)

Organized by: M. Pirrung, M. Li, M. Hiyama
Presiding: M. Pirrung

8:00 Coffee
8:30 – 178. Beyond D-luciferin: A bright future for bioluminescence. **S.C. Miller***
9:00 – 179. Imaging cell-cell contacts with engineered bioluminescent tools. **J. Prescher***
9:30 – 180. Reaction-based luciferin probes for in vivo metal and redox imaging. **C.J. Chang***
10:00 – 181. Structural variations enhancing the bioluminescence of luciferin. **M. Pirrung***, A. Dorsey, N. De Howitt, J. Liao
10:30 – 182. Mystery of firefly bioluminescence revealed?. **P. Naumov***, M. Sliwa, L. Hintermann, P. Didier
11:00 – 183. Expand the scope of bioluminescence from firefly luciferase/luciferin system. **M. Li***

Hawaii Convention Center
Halls I, II, III

Chemical Biology of Protein-Lipid Modification (#421)

Organized by: M. Distefano, J. Ohkanda, Y. Chen

Poster Session
10:00 – 12:00

184. Glutathione adduct of methylmercury activates Nrf2 through covalent modification of Keap1in SH-SY5Y cells. **Y. Kumagai**
185. Liver cell specific targeting by myristoylated preS1-conjugated nanocages for drug delivery. **M. Murata***, J. Piao, S. Narahara, T. Kawano, N. Hamano, M. Hashizume

Sheraton Waikiki
Honolulu

The RNA World: From Prebiotic Chemistry to the Emergence of Complexity (#449)

Organized by: N. Hud, P. Unrau, Y. Furukawa
Presiding: P.J. Unrau

8:00 – 186. Meteorite impacts and abiotic formation of RNA components. **Y. Furukawa***, H. Nakazawa, T. Sekine, T. Kobayashi, T. Kakegawa
8:30 – 187. Resolving paradoxes in the origin of life: The interface between mineralogy and organic chemistry. **S. Benner***, H. Kim, J. Kawai
9:00 – 188. Self-assembly approach to proto-RNA. **N. Hud***
9:30 15 min Break
9:45 – 189. Emergence of RNA. **R. Krishnamurthy***
10:15 – 190. Iron and the primordial biochemistry of nucleic acids. **L. Williams***
10:45 15 min Break
11:00 – 191. Ribozymes that catalyze tRNA aminoacylation. **N. Terasaka**, S. Ishida, H. Suga*
11:20 – 192. Spontaneous assembly of an organic-inorganic nucleic acid Z-DNA double helix structure. **L. Cronin***
11:40 – 193. Abiotic synthesis of nucleic acid bases from possible interstellar media by particles irradiation. **K. Kobayashi***, H. Tokimura, Y. Kebukawa, T. Kaneko, H. Fukuda, Y. Oguri, S. Yoshida

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Wednesday Afternoon

Sheraton Waikiki
Ewa

Low-Energy Photoexcited States in Photosynthesis (#117)

Organized by: J. Reimers, E. Krausz, A. Freiberg, D. Bruce, A. Holzwarth, H. Hashimoto, D. Coker
Presiding: A. Freiberg

13:00 – 194. Different strategies to collect light in photosynthesis: A bottom up theoretical approach. **T. Renger**, A. Klinger, F. Steinecker, M. Schmidt am Busch, F. Müh
13:30 – 195. Low energy forms of photosystem I in plants and green algae. **R. Croce***
14:00 – 196. Spectroscopic evidence for modulation of the carotenoid - bacteriochlorophyll interactions in assembly of the core LH1-RC complex of photosynthetic bacteria. **A. Freiberg***, J. Linnanto, M. Rätsep
14:30 Afternoon tea
15:00 – 197. Chlorophyll *c* and the paradox of light-harvesting in chromophyte algae. **A.W. Larkum**
15:30 – 198. Structural basis for the unusual red-shift of the LH1 Qy transition of LH1-RC core complex from *Thermochromatium tepidum*. T. Kawakami, L. Yu, **Z. Wang-Otomo***
16:00 – 199. Low energy excited states: Successes and challenges. **J. Reimers**

Royal Hawaiian
Regency III

Advances in Biological Solid-State NMR (#120)

Organized by: A. Naito, M. Auger, A. Ramamoorthy, F. Separovic, T. Fujiwara, Y. Kim
Presiding: A. Naito, F. Separovic

13:00 – 200. NMR approaches to view high-resolution interactions of Cytochrome P450 with its REDOX partners in a membrane environment. M. Zhang, K. Yamamoto, R. Huang, S. Im, L. Waskell, **A. Ramamoorthy***
13:25 – 201. Proton conduction mechanism in the cytoplasmic-containing influenza M2 protein and new solid-state NMR techniques for membrane protein structure determination. **M. Hong***, S. Liao, B. Kwon, J. Williams, T. Wang, P. White
13:50 – 202. NMR studies of lipid rafts. **N. Matsumori**, T. Yasuda, T. Yamaguchi, M. Murata
14:15 – 203. NMR studies of lipid-associated proteins in complex systems. **V. Booth**
14:40 – 204. Solid-state NMR studies for chromophore-protein interaction changes in *pharaonis* phoborhodopsin. **I. Kawamura***, R. Nishikawa, S. Nakatani, T. Okitsu, A. Wada, N. Kamo, A. Naito
14:55 Break
15:10 – 205. Solid-state NMR structural studies of antimicrobial peptides with enhanced activities. **Y. KIM***, J. KIM, J. Jeong
15:35 – 206. Localisation of the antimicrobial peptide maculatin 1.1 in anionic bicelles using solid-state NMR. **M. Sani***, F. Separovic
16:00 – 207. Solid-state NMR studies of crystalline state DMPC and a synthetic mimic of GPI-anchored protein in membranes. **K. Nomura***
16:25 – 208. Solid-state NMR of membrane proteins: From 6 kDa transmembrane domains to 2MDa membrane protein complexes. **G. Veglia***

Sheraton Waikiki
Kauai

Frontiers in Chromatin Biology and Chemical Epigenetics/Epigenomics (#151)

Organized by: Y. Zheng, M. Yoshida, H. Lin, H. Jiang, A. Cheryl, Y. NAKAO, P. Cole, Y. Chang
Presiding: C. Arrowsmith

13:00 – 209. Chemical probes for chromatin regulators. **C. Arrowsmith***
13:30 – 210. Gripping histone acetylation mark with YEATS domain. **H. Li***, Y. Li, H. Wen, Y. Xi, W. li, X. Shi
13:55 – 211. Binding mechanisms and specificities of epigenetic readers. J. Gatchalian, M. Ali, F. Andrews, B. Klein, Q. Tong, R. Rosas Ospina, **T. Kutateladze***
14:20 – 212. Functional interplay between epigenetic DNA modifications and RNA polymerase II transcriptional machinery. **D. Wang***
14:45 Break
14:55 – 213. From epigenetic mechanism to targeted therapy. **M. Zhou***
15:20 – 214. Protein methyltransferases: Structure and inhibition. **M. Schapira***
15:45 – 215. Aromatic amino acids: Privileged side-chains for bromodomain ligand discovery. **W.C. Pomerantz***, N. Mishra, A. Urick, S.W. Ember, E. Schonnbrunn
16:10 – 216. Oligomerization of protein arginine methyltransferase 8 and a novel regulatory site for substrate specificity. **M. Ho***
16:35 – 217. Identification and crystallographic analysis of a small molecule selective SIRT2 inhibitor. **A. Ito**, N. Kudo, A. Nakata, S. Maeda, **M. Yoshida***

Sheraton Waikiki
Maui

Strategies for Coupling and Decoupling Diverse Molecular Units in the Glycosciences (#201)

Organized by: Z. Witczak, M. Brimble, Y. Miura, R. Bielski
Presiding: M.A. Brimble, Y. Miura

13:00 – 218. Levoglucosenone, a not so new but now abundant and highly versatile chiron. **M.G. Banwell***
13:30 – 219. Large-scale production of levoglucosenone and dihydrolevoglucosenone from cellulosic wastes and residues. **C. Gunawan***, J. Clark, A. Constantinou, G.R. Court, M. De bruyn, T. Duncan, T.J. Farmer, A.J. Hunt, S.G. Lawrence, R. McElroy, L. Moity, W.D. Raverty, J. Sherwood
14:00 – 220. Sequential thiols recognition in coupling of functionalized carbohydrates. **Z. Witczak***, R. Bielski
14:30 – 221. Enzymatic strategies to glycan synthesis. **S.L. Flitsch**
15:05 Break
15:15 – 222. Application of the inverse-electron-demand Diels-Alder reaction for the visualization of cellular carbohydrates. **V. Wittmann***
15:50 – 223. Palladium-triggered activation of cytotoxic glycosides: An unorthodox use of the bioorthogonal concept. **A. Unciti-Broceta***
16:25 – 224. Sacrificial units in coupling and decoupling (CAD) of diverse molecules. **R. Bielski***, Z. Witczak
16:55 Concluding Remarks

Royal Hawaiian
Regency I

Enzyme Engineering and Biocatalysis Applications (#222)

Organized by: J. Pelletier, S. Lutz, B. Kim, R. Kazlauskas, N. Itoh
Presiding: J. Pelletier

13:00 – 225. Enzyme engineering as an enabling tool for synthetic biology/chemistry. **H. Zhao**
13:20 – 226. Continuous evolution of proteins with novel therapeutic potential. **D.R. Liu**
14:00 – 227. Site-directed mutagenesis of the human ITPase substrate specificity pocket. **N.E. Burgis***
14:20 – 228. Metalloenzyme design using genetic code expansion. **J. Wang***
14:40 COFFEE BREAK
14:50 – 229. Protein engineering using "small, but smart" mutant libraries. **U.T. Bornscheuer***
15:10 – 230. Engineering an enzyme complex that exhibits substrate channeling. **S. Seah***
15:50 – 231. Novel enzymes and synthetic pathways for sustainable chemicals. **D. Grabs**, E. Althoff, Y. Ban, M. Galdzicki, R. Toofanny, A. Zanghellini
16:10 – 232. Substrate-selecting mechanism of alcohol and phenol sulfotransferases. **Y. Yang***

Sheraton Waikiki
Molokai

Physiology and Metabolism of Extremophiles (#249)

Organized by: H. Atomi, J. Reeve, M. Ito, S. Kang
Presiding: H. Atomi

13:00 – 233. Formation of P-N, P-S and P-O bonds by a single archaeal enzyme. R.G. Brinson, J. Shin, Y. Simón-Manso, S. Li, J.P. Marino, **Z. Kelman***
13:25 – 234. Structure and functions of the *Thermococcal*-specific exonuclease. **S. Ishino***, K. Miyazono, T. Yamagami, T. Hamasuna, T. Shirai, H. Tomita, T. Kanai, H. Atomi, M. Tanokura, Y. Ishino
13:50 – 235. Characterization of an archaeal hyperthermophilic cellulase expressed *in planta*: Glycosylation, activity, and substrate specificity. **P. Bubner**, H. Szemenyei, S. Tang, D. Clark, C. Somerville
14:15 – 236. Geographical characteristic of piezophiles. **M. Kusube**, M. Inoue, K. Tanikawa, D.H. Bartlett
14:40 Break
14:50 – 237. Histones, chromatin structure, and genome expression in hyperthermophilic *Archaea*. **J. Reeve***, K. Sandman, D. Jaeger, Y. Fondufe-Mittendorf, T. Santangelo, S. Bhattacharyya, P. Dyer, K. Luger
15:15 – 238. Cold-stress response and adaptation in hyperthermophilic archaea. **S. Fujiwara***
15:40 – 239. Enhancing effect of thermostable archaeal helicase on the PCR specificity. **A. Fujiwara**, K. Yasukawa, S. Fujiwara
16:00 – 240. Physiological and transcriptional response of *Thermus scotoductus* SA-01 to dielectric heating. **J.C. Biffinger***, A. Cockrell, K.D. Cusick, J. Dale, J. Baldwin, S. Tsoi, L.A. Fitzgerald, D.E. Barlow, C. Soto, S. Strycharz-Glaven, B. Lin, A. Malanoski, J. Cramer, R. Morris, B. Little
16:25 – 241. Studies on the adaptive changes of a hyperthermophilic archaeon *Thermococcus onnurineus* NA1 under long-term selection on carbon monoxide. **S. Kang***, S. Lee, M. Kim, J. Lee, J. Lee, H. Lee
16:50 Closing Remarks

Sheraton Waikiki
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Carbohydrate Recognition in Health and Disease (#342)

Organized by: G. Boons, Y. Ito, A. Demchenko, D. Vocadlo

13:00 – 242. Glycosaminoglycan recognition and signaling in the brain. **L. Hsieh-Wilson***
13:30 – 243. Novel glycosidase inhibition motifs found in amylase inhibitors. **S.G. Withers***, G.D. Brayer, R. Andersen, L. Williams, X. Zhang, C. Tysoe, C. John, R. Keyzers, J. Mcneill, V. Yuen, D. Williams, S. Caner, N. Nguyen
14:00 – 244. Newborn screening for lysosomal storage diseases: Clinical carbohydrate enzymology from research to product. **M.H. Gelb**
14:30 – 245. Understanding the roles of complex glycolipids in innate immunity through chemical synthesis. M. Richardson, P. van der Peet, S. Shah, **S.J. Williams***
14:45 break
15:00 – 246. Target-selective photodegradation of oligosaccharides in health and disease. **K. Toshima***
15:30 – 247. Glycopeptide vaccines for cancer immunotherapy. **Y. Li**
16:00 – 248. Druggability of lectins, using the example of a bacterial adhesin. **B. Ernst***, P. Frei, J. Bezencon, D. Eris, R. Preston
16:30 – 249. Analysis of mucin-type *O*-glycans in tumor cells by saccharide primer method. **R. Sakura**, Y. Takahashi, T. Sato*
16:45 – 250. Analyses of glycans expressed in human hepatoma cells sensitive to hepatitis C virus. **H. Yamaguchi***, T. Suzuki, T. Sato

Sheraton Waikiki
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Luciferin/Luciferase Engineering (#410)

Organized by: M. Pirrung, M. Li, M. Hiyama
Presiding: M. Li

13:00 – 251. Theoretical study for photoluminescence of firefly-bioluminescence-related molecules. **M. Hiyama***, Y. Noguchi, T. Mochizuki, K. Yamada, H. Akiyama, N. Koga
13:30 – 252. Bioluminescence multicolor imaging and assay using secreted and non-secreted luciferases. **Y. Ohmiya**
14:00 – 253. Characterization of the luciferase active site for the color modulation mechanism in firefly bioluminescence. **T. Hirano**
14:30 – 254. Hinge region engineering of firefly luciferases for robust protein-protein interaction assay FlimPIA. **H. Ueda***, H. Yamaji, Y. Ohmuro-Matsuyama
15:00 – 255. Luminous reaction analysis of firefly luciferin analogs. **M. Kiyama***, R. Obata, T. Hirano, S. Maki
15:30 – 256. Study on the color modulation mechanism of firefly bioluminescence with an amine substituent effect of luciferin and oxyluciferin. **M. Kakiuchi**, M. Yamaji, S. Maki, T. Hirano*

Sheraton Waikiki
Honolulu

The RNA World: From Prebiotic Chemistry to the Emergence of Complexity (#449)

Organized by: N. Hud, P. Unrau, Y. Furukawa
Presiding: Y. Furukawa

13:00 – 257. Role of chance in the evolution of early life. **I. Chen**

*** Principle Author**

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13:30 – 258. Evolving increasing complexity in the RNA world. **P. Higgs***
14:00 – 259. RNA membrane vesicle: Micro compartment made by designed RNA molecules. **S.M. Nomura**, H. SAITO, M. Takinoue, K. Fujiwara, H. OHNO
14:30 15 min Break
14:45 – 260. Ribozymes that utilize heme and thiamin as cofactors. **D. Sen***, P. Cernak, N. Shumayrikh, J. Grigg
15:15 – 261. Von Neumann, and Turing with RNA: The challenges inherent in building and understanding self-replicating RNA machines. **P.J. Unrau**
15:45 15 min Break
16:00 – 262. Experimental RNA evolution in droplets: How cellularity contributes the early RNA world evolution. **S. Matsumura**, F. Coldren, A. Kun, P. Nghe, F. Jossinet, E. Szathmary, A. Griffiths*, M. Ryckelynck
16:20 – 263. In vitro selection of peptides with enhancing effect for the RNA polymerase ribozyme. **S. Kumachi**, N. Nemoto

Wednesday Evening

Sheraton Waikiki
Honolulu

New Platforms for Natural Products Discovery (#18)

Organized by: G. Carter, R. Andersen, B. Copp, S. Matsunaga
Presiding: G. Carter

19:00 – 264. Discovery of novel chlorinated acyl amides from a marine cyanobacterium using integrated genome mining and MS-based molecular networks. **W. Gerwick***, K. Kleigrewe, J. Almaliti, I. Tian, R. Kinnel, A. Korobeynikov, E. Monroe, B. Duggan, V. Di Marzo, D. Sherman, P. Dorrestein, L. Gerwick
19:40 – 265. Biologically active natural proucts: Discovery, SAR, and interactions with protein targets. **R. Andersen***
20:20 – 266. Search for marine natural products with anticancer associated activity. **S. Matsunaga***

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Advances in Biological Solid-State NMR (#120)

Organized by: A. Naito, M. Auger, A. Ramamoorthy, F. Separovic, T. Fujiwara, Y. Kim
Presiding: M. Auger

19:00 – 267. Solid-state NMR relaxometry and structural deformation in biomembrane function. **M.F. Brown***, X. Xu, J.J. Kinnun, A. Leftin, S. Lee, K.J. Mallikarjunaiah, T.R. Molugu, A.V. Struts
19:25 – 268. NMR relaxation in solid proteins and peptides: Insights into protein dynamics and structure. **K.W. Zilm**
19:50 – 269. Influenza virus fusion peptide-induced membrane acyl chain hairpins detected by paramagnetic enhancement of ^{2}H relaxation. **S. Liang**, D. Weliky
20:05 – 270. Hierarchy of picosecond to microsecond anisotropic protein motions. J.M. Lamley, R. Stevens, **J. Lewandowski***
20:20 – 271. Intrinsic disorder and conformational heterogeneity: Surprising complexities from membrane proteins. **T. Cross***, N. Das, Y. Miao, C. Escobar, V. Ekanayake, A. Wright, J. Paulino, J. Dai, M. Rajagopalan, H. Zhao
20:45 Closing Remarks

Hawaii Convention Center
Halls I, II, III

Frontiers in Chromatin Biology and Chemical Epigenetics/Epigenomics (#151)

Organized by: Y. Zheng, M. Yoshida, H. Lin, H. Jiang, A. Cheryl, Y. NAKAO, P. Cole, Y. Chang

Poster Session
19:00 – 21:00

272. Regulation of histone modifications in telomere by G-quadruplex telomere DNA and TERRA binding protein. **T. Oyoshi**
273. Acetylation of the nucleoprotein of influenza A virus by GCN5 and PCAF. D. Hatakeyama, M. Shoji, R. Yoh, N. Ohmi, S. Takenaka, S. Yamayoshi, Y. Arakaki, T. Komatsu, A. Masuda, M. Nakano, T. Noda, Y. Kawaoka, **T. Kuzuhara***
274. Identification of lysine demethylase 5A inhibitors and their effect on cancer cells. **Y. Itoh**, H. Sawada, M. Suzuki, T. Mizukami, T. Suzuki
275. DNA methylation pattern analysis of common plant virus promoter used to develop genetically modified crops. **K. Nakamura***, T. Ishigaki, K. Hanada, S. Akimoto, K. Kondo, T. NISHIMAKI-MOGAMI
276. Developing novel photoaffinity probes to identify 'readers' of histone modifications. **X. Li**, T. yang, X.D. Li*
277. Effects of epigenetic modifications on the binding of histone tail peptides with DNA strands. **K. Murata**, S. Higashida, S. Pramanik, N. Sugimoto, D. Miyoshi*
278. Discovery of dual-functional anticancer drugs using LSD1 inhibition as a trigger. **Y. Ota**, Y. Itoh, T. Suzuki*
279. Isoform-selective protein arginine methyltransferase inhibitors. **K. Qian**, Y. Zheng*
280. Synthesis strategy of linker histone H1 for chromatin research. **R. Sakamoto**, G. Hayashi, A. Okamoto*
281. Molecular basis for N-terminal tri-methylation of CENP-A by NRMT1. **R. Wu***
282. Identification of lysine glutarylation as a new type of histone modification. **X. Bao***, Y. Xiong, Y.E. Fung, X.D. Li
283. Search for active components of Japanese "miso" affecting histone modification and neural differentiation. **S. OTSUKA**, K. Sugie, K. MACHIDA, D. Arai, Y. Hayashi-Takanaka, H. Kimura, Y. Nakao
284. Isolation and structure elucidation of an active compound affecting histone modification from the marine sponge. **K. MACHIDA***, N. Ishibashi, R. Kataoka, D. Arai, Y. Hayashi-Takanaka, H. Kimura, N. Fusetani, Y. Nakao
285. Application for live-cell imaging with chemically synthesized histone H2A. **T. Sueoka**, G. Hayashi, A. Okamoto*
286. Toward SIRT7 inhibitors: From screening of known SIRT1-3 modulators to de novo-design. **P. Mellini**, Y. Itoh, T. Kakizawa, M. Lahtela-Kakkonen, E. Jarho, S. Valente, D. Rotili, A. Mai, T. Suzuki*
287. Development of a genetically encoded FRET indicator for intra-nucleosomal histone H3 lysine 9 tri-methylation and live-cell imaging. **K. Sasaki***, M. Suzuki, A. Ito, K. Shin-ya, M. Sodeoka, Y. Nakao, M. Yoshida
288. Integrative chemical biology approaches for examining "erasers" for fatty acid acylation of lysine residues in proteins. **Z. Liu***, T. yang, X. Li, X.D. Li
289. Interaction between arginine methylation and serine phosphorylation in histone H3. **M. Mendoza**
290. Probing lysine acetyltransferase substrates with clickable acetyl-CoA analogs and engineered enzymes. **Z. Han***, Y. Zheng
291. Construction and screening of a focused library for histone demethylase inhibitors. **B. Li**, Y. Ota, Z. HUI, Y. Itoh, T. Suzuki
292. Investigation of DNA demethylation by Tet protein. **S. Kizaki**, Y. Suzuki, A. Chandran, Y. Han, M. Endo, Y. Harada, H. Sugiyama*
293. Selective chemical probes of protein arginine methyltransferases. **H. Hu**, Y. Zheng*
294. New biochemical assays for the histone acetyltransferases. **L. Ngo**, Y. Zheng*
295. Crystal structure of PARG provides insight into molecular mechanism of poly ADP-ribose turnover for epigenetic regulation. **C. Hsu***, C. Cho, M. Lin, Y. Chang
296. Identification of histone deacetylase 1/2-selective inhibitors using click chemistry-based combinatorial fragment assembly. **Z. HUI**, P. ZHAN, T. Tojo, Y. Itoh, T. Suzuki
297. 2.2Å crystal structure of Bre1-RING finger domain. **S. Zhao***, X. Su, H. Li
298. Developing chemical tools to study histone acetyltransferases. **X. Li***, X. Bao, X.D. Li

Hawaii Convention Center
Halls I, II, III

Physiology and Metabolism of Extremophiles (#249)

Organized by: H. Atomi, J. Reeve, M. Ito, S. Kang

Poster Session
19:00 – 21:00

299. Protective effects of tartary buckwheat flavonoids against high TMAO diet-induced vascular dysfunction and liver injury in mice. **X. Yang***, Y. Hu*
300. Lipid characteristics of a seep clam, *Mesolinga soliditesta*: Comparison with those of two coastal clams. **h. saito***
301. Studies on the physiological function and biochemical properties of the *frhAGB*-encoding hydrogenase from a non-methanogenic hyperthermophilic archaeon. **H. Lee**, J. Jeon, J. Lim, J. Lee, S. Kang*
302. Effects of salt on the structure, stability, and function of a halophilic dihydrofolate reductase. **Y. Miyashita**, E. Ohmae*, K. Nakasone, K. Katayanagi
303. Co-cultivation with *Methylobacterium* sp. ME121 and *Kaistia* sp. 32K increased swimming velocity of ME121. **Y. Wakabayashi***, T. Shimizu, A. Nakamura, M. Ito
304. Structural analysis of PilQ from *Thermus thermophilus*. **T. Maruyama**, A. Sasaki, M. Tamakoshi, A. Koike-Takeshita*
305. Functional analysis of ΦTMA-encoded GroES-like protein. K. Kondo, M. Tamakoshi, **A. Koike-Takeshita***
306. Characteristics of microbial water gas shift reaction by carboxydotrophic archaeon *Thermococcus onnurineus* NA1 with various carbon monoxide concentrations. **J. Na**, H. Jeong, D. Jin, T. Kim*, S. Chung, S. Kang, T. Jung*
307. *gaa* and *glgX* genes are responsible for the glycogen degradation in thermoacidophilic archaeon *Sulfolobus acidocaldarius*. **J. Cha***, J. Park, K. Choi, Y. Seo, Y. Jung
308. Computational prediction of novel nucleases involved in tRNA maturation in hyperthermophilic prokaryotes. **D. Matelska**, K. Ginalski*
309. Medium optimization for enhnacement of formate-driven biohydrogen production by the hyperthermophilic archaeon, *Thermococcus onnurineus* NA1. **T. Kim**, S. Lee, H. Lee, J. Lee, J. Na*, S. Kang*
310. Elucidation of the reduced motility mechanism of alkaline *Bacillus* at low pH. **Y. Takahashi**, Y. Noguchi, M. Ito

Hawaii Convention Center
Halls I, II, III

Frontiers of Iron Chemistry in Biology (#268)

Organized by: K. Ishimori, S. Sliger, G. Mauk

Poster Session
19:00 – 21:00

311. Stopped-flow kinetic analysis of human duodenal cytochrome b_{561}. **H. Takeda***, H. Togashi, T. Kimura, G. Mauk, H. Sugimoto, Y. Shiro
312. Development of a time-resolved visible/IR absorption spectrometer with a novel microfluidic device and its application to catalytic reaction of NO reductase. **T. Kimura**, S. Ishii, T. Tosha, Y. Shiro*, M. Kubo*
313. Cytoplasmic heme-binding protein (HutX) from the heme utilization system of *Vibrio cholerae* is an intracellular heme-trafficking protein for the heme degrading enzyme, HutZ. **Y. Sekine***, K. Ishimori, T. Uchida
314. Identification of functionally critical residues for NO reduction of nitric oxide reductase from *Pseudomonas aeruginosa* by in vivo and in vitro mutagenesis analyses. R. Yamagiwa, **H. Sawai**, T. Tosha, H. Nakamura, H. Arai, Y. Shiro*
315. Unique heme degradation catalyzed by IsdG-type enzymes from *Staphylococcus aureus*. **T. Matsui***, S. Nambu, Y. Ono, K. Tsumoto, M. Ikeda-Saito*
316. Heme degradation by the heme oxygenases from different biological species: Discrimination of their heme-cleavage kinetics. **C.T. MIGITA***, N. Miyake, T. Matsui, S. YANAGISAWA, T. OGURA, M. Ikeda-Saito
317. Microbial biosynthesis of terminal alkenes and alkynes. **X. Zhu**, Z. Rui, W. Zhang
318. Enhanced MRI relaxivity induced by novel 1D Fe_3O_4 building blocks. J. Beltran-Huarac*, **D. Diaz-Diestra**, J. Vilmenay, B.R. Weiner, G. Morell
319. Expression of an oxygen-stable group III alcohol dehydrogenase from the hyperthermophilic archaeon *Pyrococcus horikoshii* OT3. **C. Sugimoto**, K. Takeda, M. Yohda, N. NAKAMURA*, H. Ohno
320. Improvement of expression and purification systems for thermophilic cytochrome P450. **N. Tsuruoka**, S. Hayakawa, K. Takeda, M. Yohda, N. NAKAMURA*, H. Ohno
321. Zinc(II) facilitates interaction between the multicopper ferroxidase ceruloplasmin and the iron transporter transferrin resulting in safe transfer Fe(III) from the former enzyme to the latter protein. T. Yamamura*, **T. Sakajiri**

Hawaii Convention Center
Halls I, II, III

Luciferin/Luciferase Engineering (#410)

Organized by: M. Pirrung, M. Li, M. Hiyama

Poster Session
19:00 – 21:00

322. Highly selective bioluminescent probes for fluoride detection and the application in bioimaging. **B. Ke**
323. Study of specific interactions of oxyluciferin with catalytic center of firefly luciferase by computational analysis of titration curves of its some amino acid residues. H. Sakai*, S. Takamatsu, **N. Wada**
324. Development of non-CRET based orange chemiluminescent imidazo[1,2-*a*]pyrazin-3(7*H*)-ones. **R. Saito***, T. Hirano, S. Maki, H. Niwa
325. Development of red-shifted luciferase mutants derived from Brazilian click beetle *Pyrearinus termitilluminans*. **T. Nishiguchi**, T. Yamada, Y. Nasu, H. Yoshimura, T. Ozawa*
326. Role of luciferase in myrFMN formation. **E. Brodl***, C. Tabib, T. Bergner, J. Ivkovic, R. Breinbauer, P. Macheroux

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327. Imaging system for monitoring of intracellular acidification in living tissues by photocontrollable luciferase. **M. Hattori**, T. Ozawa*
328. Creation of artificial luciferases and their application to bioassays. **S. Kim**

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Halls I, II, III

The RNA World: From Prebiotic Chemistry to the Emergence of Complexity (#449)

Organized by: N. Hud, P. Unrau, Y. Furukawa

Poster Session
19:00 – 21:00

329. Effect of clay minerals on the evolution of RNA function. **J.D. Stephenson***, P.S. Fliss, M. Popovic, M.A. Ditzler
330. Prebiotic flow synthesis of bioactive nucleoside precursors. **A. Evans**, J. Kading, J. Feng
331. UV photochemistry of prebiotic nucleobases. **M.S. de Vries**
332. Non-enzymatic ribonucleotide reduction in the prebiotic context. **D.M. Smith***
333. Difficulty of spontaneous formation and replication of oligonucleotides containing 4 kinds of nucleotide residues using the monomeric activated nucleotides. **K. Kawamura***
334. Emergence of RNA self-replication cycle through RNA template-directed RNA polymerization by DNA dependent RNA polymerase. **Y. Kakimoto***, A. Fujinuma, Y. Kikuchi, S. UMEKAGE*
335. Overcoming strand inhibition using viscous environments. **C. He***, I. Gallego, B. Laughlin, N. Hud, M. Grover

Thursday Morning

Royal Hawaiian
Regency II

New Platforms for Natural Products Discovery (#18)

Organized by: G. Carter, R. Andersen, B. Copp, S. Matsunaga
Presiding: S. Matsunaga

8:00 – 336. Sterol-targeting antibiotics and the balance of membrane trafficking. **S. Nishimura**, H. Kakeya
8:35 – 337. Natural product library design for fragment-based screening using bioaffinity mass spectrometry. **R.J. Quinn***
9:10 – 338. Mass imaging as a tool to study the unique natural products of plant and invertebrate microbiomes. **M.T. Hamann**
9:45 Break
10:15 – 339. Natural products-based screening study on disease and development pathways. **M. Ishibashi***
10:50 – 340. Development of in vitro and in vivo fluorescence imaging systems for chemical screening. **Y. Miwa***, Y. Nakao, J.K. Tanaka, S. Takahashi
11:25 – 341. Adhesion of alive mycolic acid-containing bacteria during the induction of secondary metabolisms in *Streptomyces*. **S. Asamizu***, T. Ozaki, K. Satoh, K. Teramoto, H. Onaka*

Sheraton Waikiki
Ewa

Characterization and Applications of Food Enzymes (#59)

Organized by: F. Chen, F. Chen, H. Ni, Y. Lee
Presiding: F. Chen, H. Ni, D. Wong, J. Wu

8:00 Introductory Remarks
8:05 – 342. Preparation and application of *Thermobifida fusca* cutinase. **J. Wu**, L. Su, X. Duan
8:35 – 343. From metagenomic gene discovery to enzymatic breakdown of crosslinks in agricultural fibers for functional products. **D. Wong***, V. Chan, M. Murakami
8:55 – 344. Optimizing heterologous protein production in food-grade lactic acid bacteria with fusion partners. P. Lim, **F. Wong**, D. Ow*
9:15 – 345. Characterization of β-aspartyltransferase from *Delftia acidvorans*. **R. Naohara***, A.A. Prihanto, Y. Nonomura, K. Takagi, M. Umekawa, M. Wakayama
9:35 – 346. Microparticle-enhanced production of ferulic acid esterases by submerged cultivation of *Aspergillus niger* ZJUQH and its application for production of ferulic acid from wheat bran. **Q. Chen**
9:55 Session Breaks
10:05 – 347. First characterization of an acidic D-psicose 3-epimerase from *Dorea* sp. CAG317. **W. Mu**
10:25 – 348. Effect of glycosylationon catalytic characteristics and stability of tannase from *Aspergillus niger* JXF02. **G. Fu***, C. Liu, S. Luo, J. Wu, P. Zhou, L. Gao, S. Wang
10:45 – 349. Purification and characterization of an α-L-rhamnosidase from the solid-state fermentation product of *Aspergillus tubingensis*. **H. Ni***, S. Wang, F. Chen, H. Cai, A. Xiao, G. Su
11:05 – 350. Characterization and gene cloning of proteases from *Lentinula edodes*. **Y. Fukuta**, T. Iwanaga, T. Terashita, N. Shirasaka
11:25 – 351. Gene cloning, expression, and biochemical characterization of two novel cold-active lipases from *Rhizomucro endophyticus*. **S. Yang***

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Halls I, II, III

Advances in Biological Solid-State NMR (#120)

Organized by: A. Naito, M. Auger, A. Ramamoorthy, F. Separovic, T. Fujiwara, Y. Kim
Presiding: T. Fujiwara, Y. KIM

Poster Session
10:00 – 12:00

352. Membrane interaction and calcium myristoyl switch of recoverin: A ^{2}H and ^{31}P solid-state NMR study. **K. Potvin-Fournier***, G. Valois-Paillard, C. Salesse, M. Auger
353. Interaction of Bombinin H4 containing a D-amino acid residue with lipid membranes as studied by solid-state NMR and MD simulations. **Y. Kitahashi***, N. Javkhlantugs, S. Kaneda, N. Altannavch, K. Ueda, A. Naito, I. Kawamura
354. Hydrogen bond alterations of Tyr174 and Tyr199 of phoborhodopsin in the lipid environment as studied by solid-state ^{13}C MAS NMR. **R. Nishikawa***, I. Kawamura*, T. Okitsu, A. Wada, Y. Sudo, N. Kamo, A. Naito
355. Structural changes in the photo-reaction pathways of retinal in bacteriorhodopsin studied by in-situ photo-irradiation solid-state NMR. **A. Shigeta***, K. Oshima, R. Miyasa, M. Horigome, I. Kawamura, T. Okitsu, A. Wada, S. Tuzi, A. Naito
356. Structural diversity of amyloid fibril and its intermediate in human calcitonin as studied by solid-state NMR and MD simulation. **S. Toyoda***, L. Ganchimeg, N. Javkhlantugs, H. Itoh-Watanabe, I. Kawamura, K. Ueda, A. Naito
357. Photo reaction pathways of sensory rhodopsin I as revealed by in-situ photo-irradiation solid-state NMR. **Y. Makino***, H. Yomoda*, Y. Tomonaga, T. Hidaka, I. Kawamura, T. Okitsu, A. Wada, Y. Sudo, A. Naito
358. H^{+}-translocation of thermophilic F_oF_1-ATP synthase *c*-subunit rings investigated using solid-state NMR. S. Kang, **Y. Todokoro**, I. Yumen, B. Shen, I. Iwasaki, T. Suzuki, A. Miyagi, M. Yoshida, T. Fujiwara, H. Akutsu

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Kauai

Frontiers in Chromatin Biology and Chemical Epigenetics/Epigenomics (#151)

Organized by: Y. Zheng, M. Yoshida, H. Lin, H. Jiang, A. Cheryl, Y. NAKAO, P. Cole, Y. Chang
Presiding: Y. Nakao

8:00 – 359. New tools for studying chromatin biochemistry. **T. Muir**
8:30 – 360. Use structurally defined nucleosomes to profile epigenetic targets of histone lysine deacylases and demethylases. **W. Liu**
8:55 – 361. Proteomic approaches for epiproteome analysis. **A. Tackett**
9:20 – 362. Modified histone proteins in the test tube and the cell. **J.J. Ottesen***
9:45 Break
9:55 – 363. Understanding aberrant methylation patterns on histones in b-cell cancers. **N.L. Kelleher***
10:25 – 364. New approach to study histone modification changes controlling biological phenomena by small molecules. **Y. Nakao***, D. Arai, Y. Kina, R. Kataoka, Y. Hayashi-Takanaka, H. Kimura
10:50 – 365. Chemical strategies to investigate histone sumoylation. **C. Chatterjee***
11:15 – 366. Allele-specific chemical genetics for the functional elucidation of chromatin modifiers. **K. Islam***
11:40 – 367. Bio-inspired synthetic DNA-based epigenetic switches for pharmaceutical gene modulation. **G. NAMASIVAYAM**, S. Sato, J. Taniguchi, J. Syed Jabarulla, T. Bando, G. Kashiwazaki, H. Sugiyama

Royal Hawaiian
Regency III

Biomolecular Structure and Dynamics: Recent Advances in NMR (#181)

Organized by: M. Tsai, A. Gronenborn, M. Ikura, W. Lee, G. Otting, I. Shimada
Presiding: I. Shimada

8:00 Opening Remarks
8:15 – 368. Studies of integral membrane proteins in nanodiscs. **G. Wagner***
8:45 – 369. How does cholesterol promote amyloidogenesis and Alzheimer's disease?. **C. Sanders***
9:15 – 370. Structure and interaction of F_oc-ring and lipid membranes for efficient energy transfer. **H. Akutsu**
9:45 – 371. Membrane interaction and conformational equilibrium of nanodisc-tethered KRAS and its oncogenic mutants. **M. Ikura***, M. Mazhab-Jafari, Z. Fang, M.J. Smith, C.B. Marshall
10:15 BREAK
10:30 – 372. Functional analyses of target proteins for drug development by NMR. **I. Shimada***
11:00 – 373. How membranes determine function of lipoproteins, enzymes, and trafficking systems. **M. Overduin**, M. Lenoir, T. Knowles, I. Henderson, S. van Doren, I. Kufareva , R. Abagyan
11:15 – 374. NMR-based drug design targeting membrane-bound proteins. **T. Haselhorst**
11:30 – 375. Molecular basis of voltage-gated ion channel inhibition by venom peptides. C.H. Lau, Y. Chin, J.K. Klint, G.F. King, **M. Mobli**

Sheraton Waikiki
Maui

Strategies for Coupling and Decoupling Diverse Molecular Units in the Glycosciences (#201)

Organized by: Z. Witczak, M. Brimble, Y. Miura, R. Bielski
Presiding: R. Bielski, M.A. Brimble

8:00 – 376. Syntheses and functions of glycosaminoglycan mimic polymers. **Y. Miura**, H. Seto, Y. Hoshino
8:30 – 377. Glycoconjugate-based inhibitors of essential enzymes in *Mycobacterium tuberculosis*. S.K. Veleti, J.J. Lindenberger, S. Thanna, D.R. Ronning, **S. Sucheck**
9:00 – 378. "Sugaring Tag" library. **T. Kitsunezuka**, K. Haneda, Y. Koda, **T. Inazu**
9:30 – 379. Pyranoside-*into*-furanoside rearrangement: New reaction in carbohydrate chemistry and its application in oligosaccharide synthesis. V.B. Krylov, D.A. Argunov, A.G. Gerbst, **N.E. Nifantiev***
10:00 Break
10:10 – 380. Synthesis and conformations of septanosides. **N. Jayaraman***, D. Supriya, N. Vijaya Ganesh
10:45 – 381. Sugar-based multicomponent coupling reactions for "Click" conjugation. **P.R. Andreana***
11:20 – 382. New methods for the direct synthesis of glycoconjugates from reducing sugars in water. **A.J. Fairbanks***
11:55 Closing Remarks

Royal Hawaiian
Regency I

Enzyme Engineering and Biocatalysis Applications (#222)

Organized by: J. Pelletier, S. Lutz, B. Kim, R. Kazlauskas, N. Itoh
Presiding: N. Itoh

8:00 – 383. Controlled burning: Toward the rational redesign of O_2 and nonheme Fe(II) enzymes. **J. Niederhauser**, G. Straganz
8:20 – 384. Enzymatic route toward the prenylation of linear and macrocyclic peptides. **S. Nair***, Y. Hao, E. Pierce, V. Agarwal, E.W. Schmidt
8:40 – 385. Innovation by evolution: Expanding the enzyme universe. **F.H. Arnold***
9:20 – 386. Aldolase-catalyzed chemo-enzymatic syntheses of fine chemicals. **M. Sugiyama**
9:40 COFFEE BREAK
9:50 – 387. Novel metabolic pathway of 3,6-anhydro-L-galactose for the red algae biorefinery. E. Yun, S. Lee, J. Yoon, I. Choi, **K. Kim***
10:10 – 388. Harnessing the promiscuity of natural product biosynthesis: A platform for engineering biosynthetic pathways with new specificities. **G.J. Williams***
10:30 – 389. Enzymes from microbial, plant, and animal aldoxime-nitrile pathways and their applications. **Y. Asano**
11:10 – 390. Establishing high-level intracellular propionyl-CoA pool for biosynthesis of non-native chemicals in *Escherichia coli*. K. Srirangan, M. Moo-Young, **C. Chou**

Sheraton Waikiki
Lanai

Carbohydrate Recognition in Health and Disease (#342)

Organized by: G. Boons, Y. Ito, A. Demchenko, D. Vocadlo

8:00 – 391. Bioconjugates vaccines for the prevention of bacterial infections. **M.T. Kowarik**

*** Principle Author**

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8:30 – 392. Design, pre-clinical, and human clinical studies of the glycomimetic antagonists Rivipansel and GMI-1271 that target the selectins. **J. Magnani***
9:00 – 393. Synthesis of a 24-member library of heparin/heparan sulfate oligosaccharides for use in glycomics applications. **A.S. Campbell***, R. Laura, T. George, O. Plante
9:30 – 394. Glycophosphonate strategy for control of protein glycosylation: Discovery of fucosephosphonate inhibitors of protein fucosylation in CHO cells. **J.G. Allen***
9:45 break
10:00 – 395. Us vs. them: Exploiting microbial cell surface glycosylation. **L.L. Kiessling**
10:30 – 396. Chemical synthesis of correctly folded and misfolded glycoproteins for understanding of glycoprotein quality control system. **Y. Kajihara***
11:00 – 397. Functional glycomics through chemical synthesis. **G. Boons***
11:30 – 398. Heparan sulfate mimetics: Promising therapeutics for a wide range of diseases. **V. Ferro***
11:45 – 399. Mouse inflammatory monocytes express SIGNR1 and differentiate into mature antigen presenting cells by uptake of oligomannose-coated liposomes. **Y. Matsuoka***, N. Kojima

Sheraton Waikiki
Kahuku

Bioorthogonal Chemistry: Tools and Applications in Chemical Biology (#343)

Organized by: J. Pezacki, Q. Lin, M. Finn, I. Hamachi, P. Chen
Presiding: P. Chen, I. Hamachi, Q. Lin, J. Pezacki

8:00 Welcome and Introductory Remarks
8:05 – 400. Bioorthogonal chemistry for biology and drug development. **C.R. Bertozzi**
8:45 – 401. Site-specific ADC generation using SMARTag™ technology. **D. Rabuka**
9:15 – 402. Metabolic labeling of polysialic acids in living primary hippocampal neurons by tissue-based system. **J. Choi***, K. kang*, S. Joo*, I. Choi*
9:35 – 403. Novel tetrazine-mediated transfer reaction probes for turnover-amplified detection of biological nucleic acid targets. **B.T. Cisneros***, H. Wu, N.K. Devaraj
9:55 coffee break
10:10 – 404. Interfacial bioorthogonal chemistry based on tetrazine ligations with trans-cycloalkenes. **J. Fox***
10:50 – 405. Identifying prostate cancer biomarkers by profiling glycoproteins in human prostate tissue. **D. Spiciarich**, S.L. Maund, S.C. Purcell, D.M. Peehl, C.R. Bertozzi*
11:10 – 406. Transition-metal-mediated uncaging in living human cells – an emerging alternative to photolabile protecting groups. **T. Völker**, E. Meggers*
11:30 – 407. Bioorthogonal elimination reaction-mediated protein decaging in living cells. **P. Chen***

Sheraton Waikiki
Molokai

Small Molecule Interactions in Biomembranes (#418)

Organized by: M. Murata, M. Burke, J. Yu
Presiding: J. Yu

8:00 – 408. Making molecular prosthetics from membrane-active small molecules. **M. Burke***
8:40 – 409. Small molecule interactions with membrane sterols. **N. Matsumori**, Y. Umegawa, Y. Nakagawa, R. Espiritu, M. Murata
9:20 – 410. Phospholipid and sterol interactions by solid-state NMR: Roles in blood clotting and antifungal drug mechanisms. **C.M. Rienstra***
10:00 – 411. Molecular aspects of Amphotericin B mode of action. **M. Baginski***
10:40 – 412. Head group-selective interaction of cations and sugars with phospholipids in multiple component bilayer systems. **S. Matsuoka***
11:00 – 413. Design, synthesis, and biological evaluation of fluorinated bafilomycin analogs as an NMR probe to analyze the interaction with vacuolar-type ATPase. **H. Tsuchikawa**, H. Shibata, T. Hayashi, S. Hanashima, N. Matsumori, M. Murata*, T. Usui
11:20 – 414. Mycolactone, a membrane perturbing bacterial toxin, behaves as a linactant. C. Lopez, B. Swanson, J. Swanson, **G. Gnanakaran**
11:40 – 415. Structure and function of heronamides, polyene macrolactams from marine-derived actinomycetes. **S. Nishimura**, R. Sugiyama, K. Fujita, S. Ito, K. Sakanishi, Y. Iwabuchi, N. Kanoh, N. Matsumori, H. Kakeya

Thursday Afternoon

Sheraton Waikiki
Kohala/Kona

Advances in Peptide and Protein Chemistry (#6)

Organized by: W. Lubell, J. Kelly, A. Smith, H. Suga, V. Nanda, J. Huang, K. Kudo, R. Cheng, P. Lyu
Presiding: H. Suga

13:00 – 416. Rapid way for the discovery of macrocyclic peptide drug leads. **H. Suga***
13:30 – 417. In vitro selection for a cocrystallization ligand of a eukaryotic P-glycoprotein homolog. **C.J. Hipolito**, A. Kodan, T. Yamaguchi, Y. Kimura, K. Ueda, H. Kato, H. Suga*
13:50 – 418. Structural diversity of catalytic antibody light chains (Antigenases) and the solving method. **T. Uda**, S. Matsumoto, H. NAKASHIMA, S. Itonaga, E. Hifumi*
14:10 – 419. Cryptand library construction via the 10BASE$_d$-T for specific binding toward a cancer-related protein. M. Kazuto, **M. Taki***
14:30 – 420. Application of selenopeptides as the active-site models of selenoenzymes. **M. Iwaoka**
14:50 – 421. Development of selective peptide catalysts having secondary structures. **K. Kudo***, K. Akagawa
15:20 – 422. Unrecognized amidation reactivity of propargyl esters and its biological applications. **K.K. Vong**, K. Tanaka*
15:40 – 423. Identification and characterization of human sORF-encoded polypeptides. **A. Saghatelian**
16:10 – 424. Circular permutation: Database, prediction, and design. **P. Lyu***
16:40 – 425. Site-specific investigation of O-GlcNAc modifications using synthetic proteins. **M.R. Pratt**
17:00 – 426. Synthesis of sulfotyrosine containing peptides by incorporating flurosulfated tyrosine using an Fmoc solid-phase strategy. **j.w. kelly***, W. Chen, j. dong, K.B. Sharpless

Royal Hawaiian
Regency II

New Platforms for Natural Products Discovery (#18)

Organized by: G. Carter, R. Andersen, B. Copp, S. Matsunaga
Presiding: R. Andersen

13:00 – 427. Discovery and biological characterization of natural products with potent cytoxocity against non-small cell lung cancer. **J.B. MacMillan***, D. Colosimo, N. Oswald
13:35 – 428. Microbial biodiscovery: Valuing the new, the known, the broken and the unknown. **R.J. Capon***
14:10 – 429. From marine toxins to promising anticancer agents through mechanistic insight and medicinal chemistry. **H. Luesch**
14:45 Break
15:15 – 430. Synthesis of the natural product marthiapeptide A: A complex heterocyclic containing macrocycle. **s.r. mcalpine***, Y. Zhang, A. Islam
15:50 – 431. Potentiating the activities of monoclonal antibodies for cancer and inflammatory disease treatment. **P. Senter**
16:25 – 432. Chemical and biochemical studies of alkaloids from marine invertebrates. **T.F. Molinski***

Sheraton Waikiki
Ewa

Characterization and Applications of Food Enzymes (#59)

Organized by: F. Chen, F. Chen, H. Ni, Y. Lee
Presiding: F. Chen, B.J. Savary, J. Wu

13:00 Introductory Remarks
13:05 – 433. Enzymology, structural characterization, and emerging applications of the thermally-tolerant *Citrus* fruit pectin methylesterase. **B. Savary***, J.C. Tovar, P. Vasu, R. Cameron
13:35 – 434. Application of proteases in preparing bioactive peptides. **J. Wu***
13:55 – 435. cDNA cloning of β-glucosidase gene from *Tricholoma matsutake.* **H. Onuma***, Y. Fukuta, M. Kusuda, T. Terashita, N. Shirasaka
14:15 – 436. Biochemical characterization of an intracellular ^{6}G-fructofuranosidase from Xanthophyllomyces dendrorhous and its application in production of neo-fructooligosaccharides (neo-FOSs). **P. Wang***, X. Xu, J. Chen, Z. Jin
14:35 – 437. Free astaxanthin preparation by lipase/astaxanthin esterase co-hydrolysis of its esters from *Haematococcus pluvialis* oil. **X. Mao***, H. Dong, **C. Xue**
14:55 Session Break
15:05 – 438. Biochemical characterization of two novel chitinases from *Paenibacillus barengoltzii* suitable for the production of *N*-acetyl glucosamine and *N*-acetyl chitobiose. **Z. Jiang**
15:35 – 439. Enzymatic synthesis of dipeptide valyl-glycine using L-amino acid esterase. **T. Tanaka***, M. Wakayama
15:55 – 440. Endogenous proteases and their inhibitors during autolysis of sea cucumber *Stichopus japonicus*. **L. Sun***, B. Zhu*, M. Yu, Y. Ma, H. Hou, G. Zhang
16:15 – 441. Internal amino-acid sequence of pigment from *Pleurotus salmoneostramineus*. **Y. Fujii**, Y. Fukuta, N. Shirasaka
16:35 – 442. Laccase: Fermentation process intensification and purification by functional magnetic nanoparticles. **C. Liu***

Sheraton Waikiki
Kauai

Frontiers in Chromatin Biology and Chemical Epigenetics/Epigenomics (#151)

Organized by: Y. Zheng, M. Yoshida, H. Lin, H. Jiang, A. Cheryl, Y. NAKAO, P. Cole, Y. Chang
Presiding: H. Lin

13:00 – 443. Reversible RNA and DNA methylation in gene expression regulation. **C. He**
13:30 – 444. Chemical technology for analysis of DNA epigenetic modification. **A. Okamoto***
14:00 – 445. Toward small-nolecule non-nucleoside inhibitors of DNA methyltransferases. **A. Gagnon***
14:30 – 446. Selective inhibition of EZH2 by EPZ-6438 as personalized cancer therapy. **T. Owa***
15:00 Break
15:10 – 447. Regulation of the core pre-mRNA splicing machinery by MYC and PRMT5 is essential to sustain lymphomagenesis. **E. GUCCIONE**
15:40 – 448. Discovery of selective protein arginine methyltransferase 5 (PRMT5) inhibitors and biological evaluations. **S. Yang**
16:10 – 449. OH-seq: A new method to produce a whole-genome map of chromosome topography. **T. Tullius**, C. Chiang, S.C. Parker
16:40 – 450. Design and synthesis of peptidic probes for polycomb group proteins upregulated in stem cells and prostate cancer. **N.H. Milosevich***, M. Gignac, C. Simhadri, N. Prashar, R. Flemmer, J. Li, C. Croft, L. Bai, R. Kratofil, F. Hof

Royal Hawaiian
Regency III

Biomolecular Structure and Dynamics: Recent Advances in NMR (#181)

Organized by: M. Tsai, A. Gronenborn, M. Ikura, W. Lee, G. Otting, I. Shimada
Presiding: M. Ikura

13:00 – 451. Conformational dynamics in protein function: Comparisons of mesophilic and thermophilic ribonuclease H enzymes. **A.G. Palmer***
13:30 – 452. Large-amplitude, slow breathing motions in proteins: New insights for the dynamics of protein interiors and protein-ligand interfaces. **M. Kainosho**
14:00 – 453. Are intrinsically disordered protein termini important to biological function: Real or imaginary?. **B.D. Sykes**
14:30 – 454. Direct observation of hierarchical protein dynamics. J. Lewandowski, M. Halse, M. Blackledge, **L. Emsley**
14:45 BREAK
15:00 – 455. Structural basis for antibody recognition of an intrinsically disordered antigen. **R.S. Norton**
15:30 – 456. Structural dynamics and their functional implications of the intrinsically disordered regions (IDRs) in transcription regulatory proteins. **S. Tate**
16:00 – 457. NMR characterization of dynamic conformational ensembles and interactions of carbohydrate chains. **K. Kato***
16:30 – 458. High fidelity protein dynamic properties analysis using nuclear magnetic resonance. **C. Tian***, Y. Xiong
16:45 – 459. Slow conformational switch in a dynamic transactivation domain regulatesthe 24-hour circadian clock. **C.L. Partch***

Royal Hawaiian
Regency I

Enzyme Engineering and Biocatalysis Applications (#222)

Organized by: J. Pelletier, S. Lutz, B. Kim, R. Kazlauskas, N. Itoh
Presiding: B. Kim

13:00 – 460. Development of enzyme-loaded polymeric nanocapsules as a versatile platform for enzyme applications: Effect of co-encapsulation of neutral macromolecules. Y. Sakamura, H. Tang, T. Mori, Y. Katayama, **A. Kishimura***
13:20 – 461. Engineering the dynamics in enzymes for reducing the product inhibition by facilitating the product release. **H. Kim***
14:00 – 462. Methyltransferase engineering: Using substrate analogs to turn alkylators into oxidizers. **K.C. Catcott***, Z. Zhou

*** Principle Author**

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14:20 – 463. Directed-ish evolution: Engineering bacterial nitroreductases as tools for cancer gene therapy and cell biology. E. Williams, J. Copp, R. Little, A. Patterson, J. Smaill, J. Mumm, **D. Ackerley***
14:40 COFFEE BREAK
14:50 – 464. Making biorefineries more cost-effective by on-site enzyme production. **B.K. Ahring***
15:10 – 465. Progress toward a near-universal optogenetic activation strategy based on genetically "caged" proteins. **R.E. Campbell***
15:50 – 466. Robust NAD(P)H regenerators for biotransformation. **M. Hayashi***, H. Yamamoto
16:10 – 467. Recombinant myriococcum thermophilium cellobiose dehydrogenase possessing increased oxygen reactivity: Application in antimicrobial composites. **G. Tegl***, B. Thallinger, B. Beer, C. Sygmund, R. Ludwig, G.S. Nyanhongo, G.M. Guebitz

Sheraton Waikiki
Lanai

Carbohydrate Recognition in Health and Disease (#342)

Organized by: G. Boons, Y. Ito, A. Demchenko, D. Vocadlo

13:00 – 468. O-GlcNAc occurs cotranslationally to stabilize nascent polypeptides. Y. Zhu, T. Liu, S. Cecioni, L. Eskandari, W. Zandberg, L. Willems, **D.J. Vocadlo***
13:30 – 469. Targeting virus-host cell interactions for drug and vaccine discovery. **M. von Itzstein**
14:00 – 470. Carbocyclic carbohydrate mimics as inhibitors and inactivators of glycoside hydrolases. **A. Bennet***, C. Adamson, R. Britton, S. Mohan
14:30 – 471. Effects of glycosylation on an immunodominant region of the HIV-1 envelope protein. J. Tian, C. Lopez, C. Derdeyn, B. Korber, **G. Gnanakaran***
14:45 break
15:00 – 472. Exploring and exploiting carbohydrate-lectin interactions. **X. Liu***
15:30 – 473. Probing specific cell-surface carbohydrate-protein interactions. **S. Hung***
16:00 – 474. O-protecting groups in sialylation reactions: Scope and limitations. **C. De Meo***
16:30 – 475. Stereoselective construction of challenging glycosidic linkages via anomeric O-alkylation. **J. Zhu**

Sheraton Waikiki
Kahuku

Bioorthogonal Chemistry: Tools and Applications in Chemical Biology (#343)

Organized by: J. Pezacki, Q. Lin, M. Finn, I. Hamachi, P. Chen
Presiding: P. Chen, I. Hamachi, Q. Lin, J. Pezacki

13:00 Introduction
13:05 – 476. Sugars and proteins: Toward a synthetic biology. **B.G. Davis***
13:45 – 477. Optimizing the tetrazole-based photoclick chemistry for biological applications. Z. Yu, C.P. Ramil, T. Lewandowski, **Q. Lin***
14:15 – 478. Template-assisted bioorthogonal photopolymerization of molecular glue for site-selective manipulation of biological events. **J. Hatano***, K. Okuro*, T. Aida*
14:35 – 479. Acyl-acyl carrier protein synthetases: A versatile tool. **K. Finzel**, J. Beld, M. Burkart
14:55 Coffee Break
15:10 – 480. Site-specific labeling and cellular delivery of functional proteins. **C.P. Hackenberger**
15:50 – 481. Enzymatic protein modification using protein farnesyltransferase for biotechnology applications. **M. Distefano**, J.K. Dozier, M. Rashidian
16:10 – 482. Bioorthogonal CuAAC-based hemoglobin-hemoglobin coupling optimized by regioselective serial cross-llnking. **R. Kluger***, S. Singh
16:30 – 483. Diazo compounds: Versatile reagents for chemical biology and pharmacology. **R.T. Raines***

Sheraton Waikiki
Molokai

Small Molecule Interactions in Biomembranes (#418)

Organized by: M. Murata, M. Burke, J. Yu
Presiding: M. Burke

13:00 – 484. Helix-loop-helix motif of amphipathic LK peptides as a nanomolar inhibitor of HIV-1 transcription. S. Jang*, Y. Lee, M. Baba, **J. Yu**
13:20 – 485. Solid-state NMR investigations of membrane-curvature induction by viral proteins. **M. Hong***, H. Yao, Y. Yang, T. Wang
14:00 – 486. Exploiting hemolytic amphiphilic peptides as a design template for cytosolic antibody delivery. **S. Futaki**
14:40 – 487. Membrane permeability and ion transport across the cell membranes induced by binol-functionalized ion transporters. **A. Hébert**, A.R. Schmitzer*
15:00 – 488. Interaction between transmembrane model peptides and ladder shaped polycyclic ethers (LSPs). K. Yamada, **M. Satake***, S. Fukuzawa, K. Tachibana, M. Murata, T. Hara
15:20 – 489. Mechanism of self-assembly of a transmembrane pore triggered by specific biomembranes. **K. Tanaka**, J.M. Caaveiro, K. Morante, K. Tsumoto*
15:40 – 490. Study of synthetic membrane perturbing peptides incorporating crown-ether by oriented circular dichroism. **P. Paquet-Côté***, J. Buerck, A. Ulrich, N. Voyer
16:00 – 491. Synergistic role of lipids and peptides in controlling membrane dynamics. **E.G. Kelley**, A.C. Woodka, M. Ohl, P.D. Butler, M. Nagao
16:20 – 492. Novel technique for forming supported anionic lipid membranes through vesicle fusion and an investigation of its interactions with chrysophsin-3. **T.A. Camesano***, K. Wang, R. Nagarajan
16:40 – 493. Umbrella rotaxanes and their transmembrane transport properties: Transport of small anions and biological active macrocycles. **J. Kempf**, A.R. Schmitzer*

Thursday Evening

Hawaii Convention Center
Halls I, II, III

New Platforms for Natural Products Discovery (#18)

Organized by: G. Carter, R. Andersen, B. Copp, S. Matsunaga
Presiding: G. Carter

Poster Session
19:00 – 21:00

494. Automated genomes-to-natural products platform. **C. Johnston**, M. Skinnider, M. Wyatt, X. Li, L. Yang, D. Zechel, B. Ma, N. Magarvey*
495. Basic research for the evaluation of novel apoptosis-inducing anti-tumor agent based on the binding inhibition of survivin and HBXIP. **Y. Hasebe**, T. Saitoh, T. Takamura, Y. Iida*
496. Investigation of the products of transformation of Stemodin analogs by *Beauveria bassiana* ATCC 7159 to generate an active site model of its cytochrome P450 enzyme. **G.G. Williams***
497. New polyketides from dinoflagellate *Amphidinium* sp. **T. Kubota***, T. Iwai, H. Sato, J. Kobayashi*
498. Construction of HAS2-GFP fusion vector for analysis of HAS2 intracellular localization. **S. Tokioka**, T. Ide, Y. Iida*
499. Elucidation of inhibition of apoptosis for the survivin-interaction with use of yeast two-hybrid method. **T. Saitoh***, Y. Hasebe, T. Takamura, Y. Iida
500. Investigation of autolytic enzyme for antifungal agent. **A. Kida**, Y. Iida*
501. Study of fungal biotransformations on terpenoid substrates using alginate-immobilized filamentous fungi. **M.A. Collins**, P.B. Reese*
502. Goadsporin, a peptidic natural product which induces secondary metabolism in actinomycetes. **T. Ozaki**, S. Asamizu, H. Onaka*
503. Evaluation of the In vitro schistosomicidal activity of Brazilian ascidians. M.E. Ribeiro, J.P. Batista, L.G. Magalhães, G.M. Dias, M.L. Andrade e Silva, W.R. Cunha, P.M. Pauletti, V.H. Woolner, A.J. Singh, P.T. Northcote, **A.H. Januario**
504. Effect of endophytic fungal associations on the chemical profile of *Vochysia divergens* seedlings. L.P. Pimenta, L.C. Kellner Filho, B.A. Soares Parpinelli, k.A. Siqueira, M.A. Soares, R.M. Costa, R.L. Tame Parreira, R.C. Sola Veneziani, M.L. Andrade e Silva, W.R. Cunha, P.M. Pauletti, **A.H. Januario**
505. Evalution of hyaluronan production by *HAS2* inducung compounds from *Atractylodis lanseae*. **Y. Hosaka**, Y. Iida*, Y. Nakamura, M. Naruoka

Hawaii Convention Center
Halls I, II, III

Characterization and Applications of Food Enzymes (#59)

Organized by: F. Chen, F. Chen, H. Ni, Y. Lee
Presiding: F. Chen

Poster Session
19:00 – 21:00

506. Extracellular production of recombinant *Bacillus deramificans* pullulanase in *Brevibacillus brevi*. **X. Duan**, C. Zou, J. Wu
507. Identification and analysis of antigenic epitopes of arginine kinase from *Scylla paramamosain*. **L. Guang-Ming**
508. Study on the enzyme related with GABA formation in *Lentinula edodes*. **K. Iwamoto**, Y. Fukuta, N. Shirasaka
509. Influence of probiotic fermentation on the efficacy components of fruit and vegetable. **T. Xiong**
510. Alkaline protease expressed by a recombinant strain and immobilization in microcapsules. **S. Lin***, M. Zhang, R. Liang, J. Liu
511. Activation and conformational changes of mushroom polyphenoloxidase by high pressure microfluidization treatment. **C. Liu***, W. Liu, J. Chen, J. Liu, Y. Yejun, J. Wan, W. Liu
512. Purification and cDNA cloning of β-xylosidase from *Tricholoma matsutake*. **k. kamei***, Y. Fukuta, M. Kusuda, T. Terashita, N. Shirasaka
513. Purification and characterization of D-amino acid oxidases from *Aspergillus* sp. GI-3. **A. Kariyone***, S. Yano, K. Takagi, M. Wakayama
514. Enhancing extracellular production of *Streptomyces* sp. FA1 xylanase by co-expression with phospholipase C. **L. Su**, J. Wu

Sheraton Waikiki
Kauai

Frontiers in Chromatin Biology and Chemical Epigenetics/Epigenomics (#151)

Organized by: Y. Zheng, M. Yoshida, H. Lin, H. Jiang, A. Cheryl, Y. NAKAO, P. Cole, Y. Chang
Presiding: M. Yoshida

19:00 – 515. CoREST in peace: Adventures in epigenetics drug discovery. P. Cole*, **J.H. Kalin**
19:30 – 516. Integrative chemical biology approaches to study histone posttranslational modifications. **X.D. Li***
19:55 – 517. Sirtuins and novel protein post-translational modifications. **H. Lin***
20:20 – 518. New insights into protein acetylation from chemoproteomics. **J.L. Meier**
20:40 – 519. Bioorthogonal chemical probes of protein acetylation. **Y. Zheng***

Sheraton Waikiki
Waialua

Biomolecular Structure and Dynamics: Recent Advances in NMR (#181)

Organized by: M. Tsai, A. Gronenborn, M. Ikura, W. Lee, G. Otting, I. Shimada
Presiding: G. Otting

19:00 – 520. Exploiting chemical shifts and RDCs in the study of structured and intrinsically disordered proteins. **A. Bax***, Y. Shen, N. Sgourakis, A. Mantsyzov, J. Ying, J. Roche
19:30 – 521. Chemical tags for protein NMR spectroscopy. **G. Otting***
20:00 – 522. PRE and PCS techniques utilized for high-resolution protein structure determination. **C. Kojima***
20:15 – 523. NMR experiments for proteins at high-magnetic field strength. **R. Ishima***
20:30 – 524. Study of cancer metabolism in real-time with Live NMR metabolomics. **S. Park**
20:45 – 525. Computational and experimental studies of CH and NH isotopic exchange effects on ^{13}C NMR spectra of small, rigid peptides. **E.M. Kleist***, B. Hudson

Hawaii Convention Center
Halls I, II, III

Enzyme Engineering and Biocatalysis Applications (#222)

Organized by: J. Pelletier, S. Lutz, B. Kim, R. Kazlauskas, N. Itoh
Presiding: J. Pelletier

Poster Session
19:00 – 21:00

526. Super catalytic antibody light chains (Antigenase) capable of suppressing the infection of influenza virus. **E. Hifumi***, T. Uda, M. Arakawa
527. Engineering a glucose-sensitive regulator. **F. Wong***, K.J. Png , M.M. Zhang
528. Biocatalytic approach for enhancement of antimicrobial activity of 7,10-dihydroxy-8(E)-octadecenoic acid. I. Choi, H. Sohn, C. Hou, **H. Kim***
529. Riboregulation of gene expression in *Synechococcus elongatus* PCC7942. **D.T. Fox**, M. Krishnamurthy, T. Kern, M.K. DeAguero, S. Hennelly, T. Dale, S.N. Twary, S.R. Starkenburg, R. Marti-Arbona, K. Sanbonmatsu*, C. Unkefer*
530. Modular multi-enzyme cascade reactions using highly stabilized enzyme microbeads. **M. Gu***
531. Modeling of enhanced catalysis in multienzyme nanostructures: Effect of molecular scaffolds, spatial organization, and concentration. **C. Chang***, C. Roberts
532. Creation of hypermultivalent protein polymer using horseradish peroxidase mediated tyrosyl radical coupling reaction. **K. Minamihata**, S. Yamaguchi, K. Nakajima, T. Nagamune
533. Effect of hydrothermal dissolution on the rate of enzymatic hydrolysis. **M. Kanna**, Y. Fukutomi, Y. Matsumura

*** Principle Author**

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534. Efficient conversion of genomic promoter region by genome engineering systems. **W. Nomura***, H. Tamamura
535. CorNet: Correlated mutation network analysis combined with structure and literature data to guide smart library design. **H. Joosten***
536. Expression of a cloned alcohol oxidase gene from *Ochrobactrum* sp. AIU 033: Glyoxylate production from glycolate using resting cells of recombinant *Escherichia coli*. **M. Yamada***, H. Muto, K. Isobe
537. Lipase-catalyzed stereoselective transesterification of 2-methylcycloalkanols. **K. Ashida**, C. Yamamoto, K. Hiraiwa, C. Fujiwara, Y. Utaka, T. Kitayama
538. Thymidine phosphorylase synthesis of nucleosides labeled with three types of markers. **N. Terado**, A. Hatano
539. Screening for cyclic dipeptide-producing fungi using enzymatic conversion by cyclo(Leu-Phe) oxidase. **M. Tokushima**, K. Takahashi, Y. Fukuda, T. Nitoda, H. Kanzaki*
540. Identification and characterization of physiologically active γ-glutamyltranspeptidase in *Pseudomonas aeruginosa* PAO1. **M. Wakayama***, Y. Nonomura, K. Takagi, S. Yano
541. Approach for an alignment of chaperonin GroEL complexes encapsulating metal nanoparticles. **H. Yoda**, O. Yamamoto, A. Koike-Takeshita*
542. Expression and site-directed mutagenesis of the highly stable royal palm peroxidase in *Pichia pastoris*. **H. Zhao***, Q.X. Li
543. Inhibition studies of LL-diaminopimelate aminotransferases (DapL). **E.M. Rodriguez-Lopez***, J.C. Vederas
544. Quantification of free heme by using a sensor based on fluorescently labeled heme oxygenase-1. Y. Nakashima, J. Taira, Y. Higashimoto, S. Sueda, H. Komatsu, **H. Sakamoto***
545. Pros and cons between whole-cell microorganisms and Chiralscreen® in the quest of best biocatalyst for asymmetric reduction. R. Tsunekawa, N. Natori, M. Hataoka, **S. Sakurai**, K. Hanaya, M. Shoji, T. Sugai*
546. Effect of alkyl tail length of allylic substrate analogs to the enantioselectivity of farnesyl pyrophosphate synthase from *Geobacillus stearothermophilus*. **P.Y. Samori**, Y. Yoshida, M. Kusakari, S. Murakami, B. Hatano, N. Ohya, T. Kijima
547. Comparative study of transglycosylation and hydrolysis activities of β-glucosidases from different organisms. **S. Suganuma**, M. Terasaka, Y. Hayakawa, T. Nitoda, H. Kanzaki*
548. Construction of cassette mutagenesis library for esterase containing GGGX-motif. **R. Momma**, S. Yoshida, N. Kawakami, K. Miyamoto
549. Engineering increased activity of the key degradative enzyme chlorocatechol 1,2-dioxygenase from *Burkholderia xenovorans* LB400. **M. Muthu***, G. Lloyd Jones*
550. High performance hybrid nano-cellulosome design with the synergy effect-inductivity in cellulase activity between different CBD. **H. Nakazawa**, I. Okada, Y. Ishigaki, E. Kobayashi, M. Umetsu
551. Recognition of remote stereogenic center in lipase-mediated kinetic resolution of 1,3-benzodioxols, useful scaffold of chiral derivatizing reagents. **N. Natori**, M. Shoji, T. Sugai, K. Hanaya*
552. Construction of GroEL-GFP protein which holds the chaperonin function: A tool to study elucidation of GroEL molecular mechanism in vivo. **Y. Nishimura**, T. Niwa, H. Taguchi, A. Koike-Takeshita*
553. Detection of dopamine on glassy carbon electrode modified by using tyrosinase and multiwalled carbon nanotube. **D. Park***, S. Rahman*, H. Lee, S. Park, J. Park, G. Jeong, D. Kim
554. Chemoenzymatic synthesis of blood group antigens and development of high-throughput assays enables a platform for screening blood group antigen-cleaving enzymes. **D. Kwan**, I. Constantinescu, R. Chapanian, M. Higgins, S. Ernst, M. Kötzler, E. Samain, A. Boraston, J. Kizhakkedathu, S.G. Withers*
555. Structural basis for BVMO substrate profile and stereospecificity. B. Yachnin, M. McEvoy, R. MacCuish, **P. Lau**, A. Berghuis
556. Chemoenzymatic synthesis of epoxydocosapentaeoic acids. **K. Lee**, J. Yang, L. Cheruzel, B. Hammock*, A. Lewis
557. Expression of recombinant aryl alcohol oxidase from *Trichoderma reesei*. **Y. Maegaki**, Y. Liu, K. Takeda, M. Yoshida, N. NAKAMURA, H. Ohno
558. Screening of microorganisms from flowers for high reducing ability of the aldehyde group of oleuropein aglycon. **S. Makio**, T. Norimatsu, M. Jyo, K. Kikuchi, T. Nitoda, H. Kanzaki*
559. Enzymatic removal of steryl glucosides from biodiesel. **H.G. Menzella**
560. Characterizing the thioesterase from 6-deoxyerythronolide B synthase: Stereoselective macrolide and macrodiolide formation. **T.P. Hari***, A. Pinto, A.A. Caissie, C.N. Boddy
561. Identification of phenylmalonate metabolic pathway in *Bordetella bronchiseptica* KU1201. **R. Hemmi***, S. Yoshida, N. Kawakami, K. Miyamoto
562. Expansion of substrate scope of *Candida antarctica* lipase B toward bulky phenylalkanols by liquid carbon dioxide. **H.N. Hoang***, T. Matsuda
563. Biochemical characterization of a novel xylanase from rhizosphere microorganisms. **M. Kanoh***, N. Kawakami, S. Yoshida, K. Miyamoto
564. Genetic engineering of esterases to improve polyester hydrolysis. **K. Gitschtaler**, D. Ribitsch, S. Zitzenbacher, E. Herrero Acero, K. Gruber, G.M. Guebitz*
565. Biotransformation of flavonoid compounds using plant cultured cell. **Y. Fujitaka**, T. Akashi, S. Kawamura, T. Ono, K. Manabe, K. Ishihara, N. Nakajima, H. Hamada
566. Screening of thermostable α-1,3-glucanase producing bacteria and characterization of the isolates. **H. Fujiki***, W. SUYOTHA, S. Yano, M. Wakayama
567. Design of a potent host for artificial metal centers in assymetric Diels-Alder reactions. **J. Fischer**, F. Quitterer, M. Groll, J. Eppinger*
568. Enzymatic route to one-component thiol-alkene functional resins. **M. Finnveden**, S. Nameer, M. Johansson, M. Martinelle
569. Proteins and oligopeptides as green catalysts for chiral epoxidations. **C. Bérubé***, C. Bouchard, N. Voyer
570. Biotransformation of stilbene compounds using plant cultured cells. **D. Uesugi**, E. Noyama, M. Araki, N. Nakayama, S. Okada, S. Ozaki, K. Shimoda, N. Kubota, H. Hamada
571. Identification of novel cupredoxin homologs using overlapped conserved residues based approach. A. Goyal, K. Hwang, **J. Kim***, **S. Lee***
572. Fluorescence-based kinetic assay for high-throughput discovery and engineering of stereoselective ω-transaminases. **H. Land***, T. Scheidt, M. Anderson, Y. Chen, P. Berglund, D. Yi, W. Fessner
573. Glucose-driven chemo-mechanical autonomous drug-release system toward feedback control of blood glucose in diabetes. **R. XIE**, K. Kurihara, M. Munkhbayar, K. Toma, T. Arakawa, K. Mitsubayashi*
574. Engineering of *Photobacterium Lipolyticum* M37 lipase to increase catalytic activity for efficient production of biodiesel. **K. Yang**, S. Jung, J. Lee, B. Sung, H. Kim, S. Kim
575. Accurate detection and manipulation of adenylation domain functions in nonribosomal peptide synthetases by an enzyme-linked immunosorbent assay system using active site-directed probes for adenylation domains. **F. Ishikawa***, K. Miyamoto, S. Konno, S. Kasai, H. Kakeya*
576. Enzymatic synthesis of chiral γ-amino acids Using ω-transaminase. **H. Yun**
577. Synthesis of chitin/chitosan stereoisomers by phosphorylase-catalyzed enzymatic polymerization. **K. Yamashita**, R. Shimohigoshi, K. Yamamoto, J. Kadokawa*
578. Development of biosensor system by degradation of azo dyes using azoreductase from Geobacillus stearothermophilus. **N. Suzuki***, T. Ooi, S. Murakami, B. Hatano, T. Kijima
579. Investigating the sulfur incorporation mechanism into biotin. **D.L. Tran***, J.T. Jarrett
580. Bioproduction of optically pure (*S*)-epoxides using styrene monooxygenase of *Rhodococcus* sp. ST-10 expressed in organic solvent-tolerant microorganism. **H. Toda**, N. Itoh*
581. Design of an artificial cellulase with cellulose-binding DNA aptamer. **M. Takahara***, Y. Mori, G.A. Gonçalves, H. Nakazawa, M. Umetsu, N. Kamiya
582. Characterizing and modifying archaeal prephenate dehydrogenases for efficient biocatalysis in tyrosine biosynthesis. **I. Shlaifer***, J.L. Turnbull*
583. Isolation of bacterial expansins and enhancement of cellulose saccharification. **F. SUMISA***
584. Asymmetric nitroaldol reactions of aromatic aldehydes using human serum albumin. S. Asakura, **T. Shimoda**, K. Matsumoto*
585. Generation of functionally and structurally distinct *Rhizopus oryzae* lipase through protein folding memory. **A. Satomura**, K. Kuroda, M. Ueda
586. Kaurene production in recombinant *Escherichia coli*. **P. Lee**, M. Kong
587. Accelerated protein engineering using cell-free transcription-translation systems. **L.T. Quertinmont***, S. Lutz
588. Ionic liquid-type activating agents for the lipase-catalyzed reaction. **T. Nishihara***, Y. Matsubara, Y. Fukaya, T. Nokami, T. Itoh
589. Enzymatic production of dicarboxylic acids by combining an enzyme from *Phialemonium* sp. AIU 274 oxidizing the ω-amino group in ω-amino compounds and an aldehyde oxidase from *Pseudomonas* sp. AIU 362. **M. Ooe**, M. Yamada*, W. Hojo, T. Yamashita, K. Isobe
590. Enhanced enantioselectivity of thermostable esterase from *Archaeoglobus fulgidus* toward *(S)*-ketoprofen ethyl ester using directed evolution and characterization of mutant esterases. **J. Kim***, E. Hong, H. Kang, Y. Ryu
591. Screening of gene-specific amplicons from metagenomes for chiral biocatalysis. **M. Kazama**, S. Kariya, J. Kurokawa, H. Toda, N. Itoh*
592. *Ortho*-hydroxylation of monophenolic compounds by tyrosinase. **B. Kim***, S. Lee, J. Lee
593. Enzyme-mediated hydrolysis of aliphatic dicarboxylic acid diesters. **Y. Igawa**, H. Ise, S. Ichinoseki, A. Kobayashi, F. Maeda, K. Matsumoto*
594. Facile dynamic kinetic resolution of amino acid esters in organic media by enzymatic hydrolysis combined with racemases from *Pseudomonas putida*. **T. Kijima***, K. Shimizu, S. Murakami, B. Hatano, N. Ohya
595. Encapsulation of laccase and its biocatalysis in non-conventional media. **S. Kermasha***
596. Biocatalyst activity of entomogenous fungi: Stereoselective reduction of carboynl compounds using tochukaso and related species. **K. Ishihara**, G. Hori, N. Masuoka, H. Hamada, N. Nakajima
597. Thiol-functionalization of oligo- and polysaccharides by phosphorylase-catalyzed enzymatic glycosylation. **T. Jodoi**, R. Shimohigoshi, K. Yamamoto, J. Kadokawa*
598. Heterologous production and characterization of marine-derived tyrosinases in *E. coli*. **Y. Choi**
599. Enzyme-assisted aqueous extraction of pumpkin oil. G. Ustun, **G. Balcioglu***, M. Tuter
600. Preparation of chiral alcohols using actinobacteria: Biocatalyst activity of marine-derived actinomycetes. **K. Ishihara***, G. Hori, N. Masuoka, N. Nakajima, H. Hamada
601. Biotransformation of monoterpenoids using plant cultured cell. **S. Doi**, S. Takara, J. Akahori, K. Shimoda, H. Hamada
602. Cofactor-assisted protein folding in flavoenzymes. **S. Iamurri***, S. Lutz

Hawaii Convention Center
Halls I, II, III

Carbohydrate Recognition in Health and Disease (#342)

Organized by: G. Boons, Y. Ito, A. Demchenko, D. Vocadlo

Poster Session
19:00 – 21:00

603. Hexavalent glycoclusters having tris-bipyridine ferrous complex cores for probing intramolecular carbohydrate-carbohydrate interactions. **Y. Nonaka**, T. Hasegawa*
604. Synthesis and molecular recognition of ferrocene carrying two GlcNAc units. **F. Dai**, T. Hasegawa*
605. Studies towards understanding the biosynthesis of the capsular polysaccharide in *Campylobacter jejuni*. **R.A. Ashmus**, A. Jayasuriya, C.Q. Wenzel, C.M. Szymanski, T. Lowary
606. Probing interactions between cell wall binding proteins and *B. anthracis* secondary cell wall polysaccharide using synthetic compounds. **R.N. Chapman**, G. Boons*, L. Liu
607. Design and synthesis of potential influenza viral neuraminidases inhibitors based on a fused cyclopropane scaffold. **C. Colombo**, A. Bennet*, M.B. Pinto, A. Bernardi
608. Elucidation of the essential elements for recognition of anti-MUC1 antibodies. **F. Garcia-Martin***, G. Artigas, E.J. Cabrita, H. Coelho, H. Hinou, C. Leclerc, R. Lo-Man, F. Marcelo, M. Takahiko, S. Nishimura
609. Discovery, characterization, and exploitation of the first sulfoquinovosidase. G. Speciale, Y. Jin, G.J. Davies, S.J. Williams, **E.D. Goddard-Borger***
610. Novel approach in cancer immunotherapy: Using synthetic α-gal epitope to increase the immunogenicity of tumor antigens. **L. Hao Sheng**, Y. Manabe, K. Tokunaga, N. Terao, S. Takamatsu, M. Tanemura, E. Miyoshi*, F. Koichi*
611. Synthetic study of the polymer as multivalent bioprobe (V): Novel approach for lectin detection using combination of the glycocluster effect and FRET in the fluorogenic glycopolymers. **R. Hayama**, T. KOYAMA, K. Hatano, K. MATSUOKA*

*** Principle Author**

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612. Structual and functional eveluation of POMGnT1 modification using synthetic glycopeptide. **H. Hinou***, S. Kikuchi, A. Seo, S. Nishimura
613. Computational modeling of carbohydrate recognition in norovirus capsid protein with Lewis antigen. **T. Ishida***, T. Kubota, H. Shirato
614. Synthesis of substrate for analysis of hydrolysis reaction of ENGases. **N. Ishii**, C. Sunaga, Y. Yoshimura, J. Kumada, Y. Matsuzaki, I. Matsuo
615. *N*-Glycosylation with synthetic undecaprenyl pyrophosphate-linked oligosaccharide to oligopeptides by PglB oligosaccharyltransferase from *Campylobacter jejuni*. **A. Ishiwata***, Y. Taguchi, Y. Lee, T. Watanabe, D. Kohda, Y. Ito
616. High throughput evaluations of carbohydrate-carbohydrate interactions by using fluorescence intensity distribution analysis-polarization technique. **M. Iwamura**, T. Hasegawa*
617. Chemical synthesis of ubiquitinated glycoproteins having different protein conformation. **M. Izumi***, H. Araki, M. Tominaga, R. Okamoto, Y. Kajihara
618. Detection of *Helicobacter pylori* using carbohydrate conjugates. **J. Jeong**, S. Park, I. Shin*
619. Suppression of IL-6 production from murine macrophages by phagocytosis mediated by the specific C-type lectin receptor. **Y. Kawauchi**, N. Kojima*
620. Synthetic lectin (SL) arrays to target tumor associated carbohydrate antigens (TACAs) for the detection and management of cancer. **J.J. Lavigne**
621. Stereoselective synthesis of β-mannopyranosides in N-linked glycans. **X. Li***, H. Nguyen, J. Zhu
622. Rare sugars as potential inducers of the rhamnose operon: Biotechnology and chemistry in the production of 6-deoxyhexoses and related monosaccharides. **Z. Liu***, C. Kelly, A. Yoshihara, K. Izumori, M. Wormald, J.M. Otero-Casas, A.M. Estevez-Reino, J. Heap, A. Kato, S. Jenkinson, G.W. Fleet, R.J. Estevez
623. Synthesis and interactions of rhamnose iminosugar mimics with the rhamnose operon, rhamnosidases, and rhamnose isomerase. **Z. Liu***, C. Kelly, A. Yoshihara, K. Izumori, M. Wormald, J.M. Otero-Casas, A.M. Estevez-Reino, J. Heap, A. Kato, I. Adachi, S. Jenkinson, G.W. Fleet, R.J. Estevez
624. Analysis of endo α-mannosidase using synthetic glycan. **I. Matsuo***, S. Iwamoto, Y. Yoshimura, N. Ishii, T. Utsui, A. Seko, Y. Takeda, Y. Ito
625. Synthesis of helical glyco-polyacetylene for probing cation-induced carbohydrate-carbohydrate interactions. **R. Matsuoka**, T. Hasegawa*
626. Molecular interaction between rhamnose and a bacteria recognition lectin. **S. Ng**, Y. Lee, T. Fu, T. Wu, S. Sue, T. Pai, M. Chang*
627. Chemical synthesis of inducible costimulator molecule (AILIM/ICOS) bearing three complex-type oligosaccharides at the native positions. **H.M. NGUYEN**, M. Izumi, R. Okamoto, Y. Kajihara*
628. Structure analysis of glycosaminoglycan-type oligosaccharides elongated on saccharide primers and investigation of their priming abilities. **Y. Otsuka***, T. Sato
629. Synthesis of LacNAc derivatives used for identification of specific lectin binders. **C. Park**, I. Shin*
630. Inhibition of rotavirus adhesion protein VP8* utilizing asymmetric human milk oligosaccharides. **A. Prudden**, S. Wang, Z. Gao, L. Meng, K. Moremen, G. Boons*
631. Targeting cancer's sweet spot: Taking advantage of a polymer platform. **Q. Qin***
632. Complexation of PDI family protein ERp29 with lectin chaperone calreticulin. **M. Sakono***, A. Seko, Y. Takeda, Y. Ito
633. Novel ionic glyco-tools to harness the glycosynthetic machinery of live systems. **I. Sittel***, M.C. Galan
634. Glycation of bone matrix proteins and skeletal health. **G.E. Sroga***, A. Siddula, D. Vashishth
635. Targeted labeling of glycans in B-cell lymphoma with CD22 ligands. **Y. Sun**, R. Xie, X. Chen*
636. Linear synthesis and immunological evaluation of monoglycosylated and pentaglycosylated MUC1 vaccine candidates for cancer. **N.T. SUPEKAR**, A. Sirohiwal, S. Sarkar, M. Wolfert, G. Boons*
637. Functional analysis of UDP-Glc: glycoprotein glucosyltransferase using synthetic substrates. **Y. Takeda**, A. Seko, K. Ohara, M. Hachisu, K. Fujikawa, N. Wang, Y. Ito*
638. Synthetic study of Fc fragment by using Boc SPPS and expression method. **M. Ueda**, S. Imada, R. Okamoto, M. Izumi, Y. Kajihara*
639. Syntheses of LacdiNAc-containing trisaccharides applying for antibody discovering. **T. Utsui**, S. Miyazawa, N. Ishii, Y. Yoshimura, I. Matsuo
640. Chemoenzymatic synthesis of homogeneous glycoproteins for studying glycan-mediated protein folding. **N. Wang***, A. Seko, Y. Takeda, Y. Ito*
641. New family of 7-bladed bacterial family of lectins. P. Sykorova, J. Novotna, M. Pokorna, G. Demo, **M. Wimmerova***
642. Sialic acid-modified nucleic acids that bind to all kinds of influenza viruses. **M. Yamabe**, D. Akamatsu, K. Kaihatsu, N. Kato, Y. Ebara*
643. Conformational dynamics of high-mannose-type oligosaccharides as studied by NMR spectroscopy combined with molecular dynamics simulation. **T. Yamaguchi***, T. Satoh, T. Zhu, K. Kato*
644. Analysis for the mechanism of deposition and fibril formation of beta-amyloid on lipid membrane. **H. Yasumori**, T. Matsubara, R. Fukuda, N. Oikawa, H. Hatsuta, M. Shigeo, A. Suzuki, K. Yanagisawa, T. Sato*
645. Structural elucidation of fucosylated glycoepitops: Nonconventional C-H●●●O hydrogen bonds contribute to a reduction of conformational flexibility. **M. Zierke**, T. Aeschbacher, M. Schubert*, B. Ernst*

Hawaii Convention Center
Halls I, II, III

Bioorthogonal Chemistry: Tools and Applications in Chemical Biology (#343)

Organized by: J. Pezacki, Q. Lin, M. Finn, I. Hamachi, P. Chen
Presiding: P. Chen, I. Hamachi, Q. Lin, J. Pezacki

Poster Session
19:00 – 21:00

646. Spontaneous reconstitution of functional transmembrane proteins during bioorthogonal phospholipid membrane synthesis. **C.M. Cole**, R.J. Brea, M. hardy, Y. Kim, J. Yang, N.K. Devaraj
647. Expanding the bioorthogonal chemistry toolbox with click boronate formation. **B. Akgun**, S. Bernard, D. Hall*
648. New methods for living virus labeling based on bioorthogonal chemistry. **H. XIE***, L. Huang, G. Lu
649. In vivo imaging of sialic acid in a zebrafish cancer model. **N.A. Yee***, A. Baldridge, C.R. Bertozzi
650. Azido-type selective reactions for molecular conjugation. **T. Hosoya***, S. Yoshida, A. Shiraishi, K. Kanno, I. Kii, K. Johmoto, H. Uekusa, M. Hagiwara
651. Construction of 3D tissues containing tubular structures by bioprinter. **Y. Takamura**, M. Matsusaki, M. Akashi
652. Development of CHAD-Linkers for theranostic multiplexed antibody constructs. **R.A. Willand-Charnley**, C.R. Bertozzi
653. Development of histological evaluation method for the analysis of 3D tissues constructed by LbL technique. **A. Hiura**, M. Matsusaki, M. Akashi
654. Electrochemical control of rapid bioorthogonal tetrazine ligations for selective functionalization of microelectrodes. **F. Ehret***, H. Wu, S.C. Alexander, N.K. Devaraj
655. Exploration of novel methods for in situ vesicle formation and linking them with gene expression. **A. Bhattacharya***, N.K. Devaraj
656. Fluorogenic RNA labeling facilitated by short encoded recognition sequences at the 3' end of transcribed RNAs. **S.C. Alexander***, **K.N. Busby**, N.K. Devaraj
657. In situ synthesis of fluorogenic bioorthogonal tetrazine probes and its application on bioorthogonal tetrazine-mediated transfer reactions facilitate reaction turnover in nucleic acid-templated detection of microRNA. **H. Wu**
658. Isotope targeted glycoproteomics (IsoTaG): A chemical proteomics platform for N- and O-glycopeptide discovery. **C. Woo***, C.R. Bertozzi, A. Iavarone
659. ppGalNAcT protein substrate identification: Bump-hole engineering and substrate delivery. **M.F. Debets***, L. Wagner*, M. Ito, C.R. Bertozzi
660. Reassignment of a sense codon with unnatural amino acids. **T. Yoo***, B. Lee, S. Shin
661. Substituted PABC linkers to improve the bioorthogonal activation rate and stability of prodrugs. **S. Matikonda***, F. Feidler, A.B. Gamble
662. Transient protection of strained alkynes from click reaction via complexation with copper. **S. Yoshida***, Y. Hatakeyama, K. Johmoto, H. Uekusa, T. Hosoya*

Hawaii Convention Center
Halls I, II, III

Small Molecule Interactions in Biomembranes (#418)

Organized by: M. Murata, M. Burke, J. Yu
Presiding: M. Murata

Poster Session
19:00 – 21:00

663. Physical interactions of catechin derivatives with cell membrane models. **T. Matsuzaki***, H. Ito, V. Chevyreva, A. Makky, S. Kaufmann, M. Suganuma, S. Nakabayashi, H. Yoshikawa, M. Tanaka
664. Relationship of accumulation pattern of amyloid β protein on lipid planar membrane with fibril morphology. **M. Iwamura**, T. Shimanouchi, S. Aoyagi, Y. Kimura
665. Optimization and characterization of synthetic antimicrobial peptides. **N. Poulin**, G. Simon, P. Paquet-Côté, M. Auger, N. Voyer*
666. Design and synthesis of tetracaine derivatives as CNG channel blockers. **S. Kirk***, J. Neal, C. Gangan, S. Wax, A. Andrade, K. Melich, J. Karpen
667. The more the merrier: *C*-terminus multimerization potentiates membrane permeability of the prototypical cell penetrating peptide TATp. I. Monreal, **D.S. Dalisay**, G. Wayman, H. Aguilar, J.P. Saludes*
668. Conjugation of methotrexate to cell penetrating peptide enhances anti-inflammatory effect of the drug. S. Hyun, **Y. Choi**, D. Kim, J. Ko, D. Chung*, J. Yu*
669. Are mechanosensitive channels involved in entry of streptmycin in to the bacterial cell?. **K. Hashimoto***, I. YABE, H. KAWASAKI
670. Interactions of small molecules on mutant N-methyl-D-aspartate (NMDA) receptors: Implications for epilepsy. **B. Ito***, Y. Chen
671. Susceptibility of the nAChR to inhibition is regulated by a single amino acid residue in the TM2 region. **E.K. Henze***, Y. Chen, J. Huang

Friday Morning

Sheraton Waikiki
Kohala/Kona

Advances in Peptide and Protein Chemistry (#6)

Organized by: W. Lubell, J. Kelly, A. Smith, H. Suga, V. Nanda, J. Huang, K. Kudo, R. Cheng, P. Lyu
Presiding: W. Lubell

8:00 – 672. Advances in the synthesis and application of heterocycle turn mimics. **W. Lubell**, N. Atmuri, M.K. Boukanoun, J. Dufour-Gallant, X. Hou, D. Chatenet, S. Chemtob
8:30 – 673. Synthetic, structural, and biological studies of peptides containing bulky dehydroamino acids. **S.L. Castle***
8:50 – 674. AApeptides: From structure to function. **J. Cai**
9:10 – 675. Combinatorial library screening platform for rapid discovery and SAR of protein ligands. **K. Pels***, D. Trader, T. Kodadek
9:30 – 676. Optimization for robust and reliable high-throughput screening of bead-based peptide libraries. **J. Jee***, S. Lee, J. Lim, I. Gao, Y. Ong, J. Oon
9:50 Coffee Break
10:00 – 677. Flexible approaches for the selective *C*-terminal modification of peptides. **P.E. Dawson***
10:30 – 678. Chemoselective Staudinger reactions for the synthesis of functional peptide protein-conjugates. **C.P. Hackenberger***
10:50 – 679. New method for N-to-C direction peptide synthesis. **C.A. Hutton***, J.R. Cochrane, A. Pourvali
11:10 – 680. Sortase A as a tool for the enzymatic cyclization of disulfide-rich cyclic peptides. **D. Craik**, X. Jia, Y. Huang, L. Chan, J. Rosengren, C. Schroeder

Sheraton Waikiki
Molokai

Functional Nucleic Acids: Chemistry, Biology, and Materials Applications (#10)

Organized by: S. Silverman, Z. Huang, Y. Li, Y. Lu, H. Suga
Presiding: Y. Li

8:00 Opening remarks
8:05 – 681. RNA mango: A fluorophore-binding aptamer for single molecule visualization of RNA and native RNA/protein complex purification. S. Jeng, **P.J. Unrau***, S. Panchapakesan
8:30 – 682. DNA nanotechnology-based dynamic organization on the nano-bio interfaces. **C. Fan**
8:55 – 683. Achieving room temperature DNA amplification by dialing in destabilization. **B. Alladin-Mustan***, J.M. Gibbs-Davis
9:15 – 684. Functional DNA nanotechnology: Precise spatial and dynamic controls of nanomaterials assembly and its applications in sensing, imaging, and targeted drug delivery. **Y. Lu***, L. Tan, J. Zhang, H. Xing
9:40 – 685. DNA nanostructures for cellular delivery of therapeutics. **H. Sleiman***
10:05 Break

*** Principle Author**

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10:20 – 686. Toward the development of oligonucleotide-based therapeutic drugs. **M.J. Damha***
10:45 – 687. Fine-tuning thermal stability and pH sensitivity of i-motif DNA structures. **R.M. Wadkins***, S.M. Reilly, R.K. Morgan, T.A. Brooks
11:05 – 688. Selenium atom-specific functionalization for structure and function studies of nucleic acid-protein complexes. R. Abdur , J. Gan, J. Salon, **Z. Huang***
11:30 – 689. Chemical biology of nucleic acids: DNA origami and artificial genetic switch. **H. Sugiyama***

Royal Hawaiian
Regency II

New Platforms for Natural Products Discovery (#18)

Organized by: G. Carter, R. Andersen, B. Copp, S. Matsunaga
Presiding: G. Carter

8:00 – 690. Stimulation of secondary metabolism in actinomycetes. **B.A. Haltli**, F. Berrue, A. Grunwald, L. Liang, N. Prigoda-Lee, E. McCauley, A. Sproule, R.G. Kerr*
8:35 – 691. New methods for compound discovery in symbiosis. **E.W. Schmidt**
9:10 – 692. Metagenome mining of sponge-derived natural products. **T. Wakimoto***
9:45 Break
10:15 – 693. Chemical diversity of limonoids from mangrove plants. **J. Wu***, L. Shen
10:50 – 694. Genomes to natural products and back. **N. Magarvey***, M. Skinnider, G. Chen, C. Dejong, P. Rees
11:25 – 695. Sponge-metabolomics for the discovery of new cytotoxic constituents. **K. Takada***

Hawaii Convention Center
Halls I, II, III

Biosynthesis of Natural Products (#27)

Organized by: I. Abe, B. Moore, D. Ro

Poster Session
10:00 – 12:00

696. *De novo* biosynthesis of terminal alkyne-tagged natural products and applications. **W. Zhang***
697. Functional and strctural analysis of β-amino acid-activating adenylation enzymes in macrolactam biosynthesis. **A. Miyanaga***, J. Cieslak, Y. Shinohara, F. Kudo, T. Eguchi
698. Elucidation of pseurotin biosynthetic pathway revealing the unexpected role of glutathione *S*-transferase in natural product biosynthesis. **Y. Tsunematsu***, T. Yamamoto, H. Noguchi, K. Hotta, K. Watanabe*
699. Functional analysis of a new diterpene biosynthetic gene cluster in *Herpetosiphon aurantiacus*. **C. Nakano**, M. Oshima, N. Kurashima, T. Hoshino*
700. Aspoquinolone biosynthesis: Non-heme dioxygenase catalyzes atypical oxidations of 6,7-bicycle to form 6,6-quinolone core of viridicatin-type fungal alkaloid. **Y. Hirayama**, K. Watanabe*, N. Ishikawa, H. Noguchi, K. Hotta
701. Understanding the role of ketoreductase in polyketide biosynthesis. **A. Garg**, D. Cane
702. Oxidase domains in nonribosomal peptide synthesis: Probing the mechanism of thiazole and oxazole formation. **T.L. Schneider***, J.W. Dronzek
703. Structure-function analyses of two novel plant type III polyketide synthases obtained from medicinal plant *Evodia rutaecarpa*. **T. Kodama***, T. Matsui, T. Mori, T. Tadakoshi, H. Noguchi, I. Abe, H. Morita*
704. Synthetic plant activator affect production of antifungal compounds by fluorescent pseudomonads as biocontrol agent. **N. Akiyama**, K. Nara, N. Someya, T. Ikeda, T. Morohoshi
705. Biosynthesis and characterization of the polyketide antibiotic 2,4-diacetylphloroglucinol produced by plant-associated pseudomonads. **N. Ichimura***, T. Yamaguchi, T. Yokotsuka, K. Nara, N. Someya, T. Ikeda, T. Morohoshi*
706. Enzymatic syntheses of unnatural head-to-tail pentacyclic triterpenes by sesquarterpene cyclase. W. Okamoto, **T. Sato**
707. Cyclization of squalene from both termini: identification of an onoceroid synthase and enzymatic synthesis of ambrein. **D. Ueda**, T. Hoshino, T. Sato
708. Enzyme-catalyzed stereoselective intramolecular Diels–Alder reaction in biosynthesis of decalin-containing natural products. **M. Sato**, F. Yagishita, T. Mino, N. Uchiyama, A. Patel, Y. Chooi, Y. Goda, W. Xu, H. Noguchi, K. Hotta, K.N. Houk, Y. Tang, K. Watanabe*
709. Biosynthetic study on fungal polyketides using *Aspergillus oryzae* heterologous expression system. **T. Ugai**, A. Minami, R. Fujii, H. Oguri, H. Oikawa*
710. Characterization of PLP-dependent 3-aminobenzoate synthase PctV in pactamycin biosynthesis. **A. Hirayama**, A. Miyanaga, F. Kudo, T. Eguchi*
711. Biosynthesis of antimycins with a reconstituted 3-formamidosalicylate pharmacophore in *Escherichia coli*. **J. Liu**, W. Zhang
712. 1,3-Propanediol production from glycerol in engineered *K. pneumoniae* AJ4 by inactivating LPS biosynthesis-related *wabG* gene. **E. Hong***, J. Kim, S. Ha, H. Kang, Y. Ryu
713. Functional identification of lycopene β-cyclase and β-carotene hydroxylase in a cyanobacterium *Arthrospira platensis*. **K. Sugiyama***, M. Ebisawa, Y. Nagashima, H. Suzuki, S. Takaichi, M. Yamada
714. Substrate sequestration and protein-protein interactions of NRPS PCPs. **M.J. Jaremko**, D. Lee, M. Burkart*
715. Total biosynthetic study of antitumor antibiotic ophiobolins using by Aspergillus oryzae heterologous expression system. **K. Narita***, R. Chiba, A. Minami, H. Oikawa
716. New enzyme involved in the control of the stereochemistry in the decalin formation during equisetin biosynthesis. **N. Kato**, T. Nogawa, H. Hirota, S. Takahashi, J. Jang, J. Ahn, H. OSADA
717. Detoxicification catabolism of chlorophylls among a secondary plant Euglenophyceae: Physiology and biochemical processes. **J. Kawahara**, M. Maruyama, Y. Kashiyama*, T. Suzaki, A. Yokoyama, M. Nakazawa, T. Ishikawa, H. Tamiaki
718. Biosynthesis and efficient heterologous production of haliangicin, the first marine myxobacterial polyketide antibiotic. **Y. Sun**, Z. Feng, T. Tsuge, J. Suh, **M. Ojika***
719. Biosynthetic study of alkyl citrate natural products. **I. Takeuchi***, A. Minami, H. Oikawa
720. Engineering a tandem acyl carrier protein domain in 6-deoxyerythronolide B synthase. **Z. Wang**, C. Kim*
721. Reconstitution of biosynthetic machinery for highly elaborated indole diterpene penitrem in *Aspergillus oryzea*. **L. Chengwei**, K. Tagami, A. Minami, T. Matsumoto, H. Oikawa
722. Rapid and efficient genome mining for novel fungal metabolite. **Y. Ye**, A. Minami, H. Oikawa
723. Biosynthesis and characterization of the antibiotic phenazine-1-carboxylate produced by plant-associated *Pseudomonas chlororaphis* subsp. *aurantiaca*. **T. Morohoshi**, N. Someya, T. Ikeda
724. Progress on chemoenzymatic total synthesis of albomycin δ_2. **H. Kim***, J. An, W. Song
725. Characterization of the first bryophyte isoprene synthase from the isoprene-emitting moss *Campylopus introflexus* (heath star moss). A.T. Lantz, J.F. Cardiello, T.A. Gee, M.G. Richards, T.N. Rosenstiel, **A. Fisher***
726. Improved astaxanthin productivity in *Haematococcus pluvialis* by fungicide. **J. Lee**, D. Vijayan, R. Praveenkumar, B. Kim, K. Lee, Y. Oh*
727. Characterization of fatty acyl-CoA ligase for the biosynthesis of the extender unit of reveromycin A. **S. Takahashi**, T. Miyazawa, H. Osada
728. Precursor-directed biosynthesis of unnatural novel alkaloids by using a plant type III polyketide synthase obtained from *Evodia rutaecarpa*. **T. Ito**, T. Kodama, H. Noguchi, I. Abe, H. Morita
729. Study on solution structure of an acyl carrier protein domain from a highly reducing fungal iterative polyketide synthase and its interactions with an acyltransferase protein. **W. Xu***, Y. Tang
730. Profiling of nonribosomal peptide synthetase activities using active site-directed proteomic probes for adenylation domains. **S. Konno**, F. Ishikawa*, T. Suzuki, N. Dohmae, H. Kakeya*
731. Characterization of the unusual enzymatic transformations in cylindrocyclophane biosynthesis. **H. Nakamura**, E.P. Balskus*
732. Characterization of indole diterpene cyclase genes in yeast. **m. tang**, Y. Tang
733. Biosynthesis of the *ortho*-diazoquinone secondary metabolite cremeomycin in *Streptomyces cremeus*. **Y. Sugai**, Y. Katsuyama, Y. Ohnishi*
734. Exploring novel peptide ligase orthologs in *Actinobacteria*. **Y. Ogasawara***, J. Kawata, M. Noike, K. Furihata, T. Dairi
735. Exploring synthetic utility of natural product glycoside biosynthetic enzymes by genome mining, functional characterization, and combinatorial biosynthesis. **H. Chiu***
736. Structure-function analyses of novel indole prenyltransferases. **T. Mori**, H. Morita, I. Abe*
737. Functional identification of ζ-carotene isomerase (Z-ISO) in a cyanobacterium *Arthrospira platensis*. **K. Takahashi**, H. Fukuizumi, K. Shimizu, Y. Nagashima, H. Suzuki, S. Takaichi, M. Yamada, K. Sugiyama*
738. Cloning of saprolmycin biosynthetic gene cluster from *Streptomyces* sp. TK08046. **T. Kawasaki***, A. Moriyama, K. Nakagawa, N. Imamura
739. Biosynthesis of methanobactins. **H. Wang***

Sheraton Waikiki
Ewa

Heat Shock Proteins: The Next Target in the Disease Frontier (#91)

Organized by: P. Wipf, S. McAlpine, P. Pan
Presiding: P. Pan

8:00 Opening Remarks
8:15 – 740. Why is inhibiting hsp90 function via the C-terminus a highly effective oncogenic treatment when N-terminal inhibitors have failed?. **s.r. mcalpine***, Y. Wang, Y. Koay, I. Buckton
8:55 – 741. Role of Hsp 70 in the protective effect of 17-DMAG on the heat stroke rats and the possible mechanism of action. **P. Cheng**, C. Yang, Y. Tsai, M. Yen
9:35 – 742. Synthesis and mitochondrial targeting of Hsp70 inhibitors. **P. Wipf***
10:15 – 743. Isolation of novel small molecule modulators of the Hsp70 molecular chaperone: A route to novel therapeutic applications. **J.L. Brodsky***
10:55 – 744. Amyloid diversity necessitates chaperone functional complexity: A specific role for the yeast auxilin homolog Swa2 in [*URE3*] prion propagation. **J.K. Hines***, E.M. Troisi, M.E. Rockman, E.E. Oliver

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Kauai

Frontiers in Chromatin Biology and Chemical Epigenetics/Epigenomics (#151)

Organized by: Y. Zheng, M. Yoshida, H. Lin, H. Jiang, A. Cheryl, Y. NAKAO, P. Cole, Y. Chang
Presiding: Y. Chang

8:00 – 745. Development of chemical tools for imaging protein localization and epigenetic phenomena. **K. Kikuchi***
8:30 – 746. Targeting PRMT5 for cancer therapeutics. J. Park, K. Qian, Y. Zheng, **K. Malik***
8:55 – 747. Adipose stem cells: Potential for metabolic reprogramming. **S. Sugii**
9:20 – 748. Direct lineage conversion of fibroblasts into oligodendrocyte progenitor cells. **J. Kim***, H. Lee*, M. Park, D. Nam, M. Araúzo-Bravo, H. Zaehres
9:45 Break
9:55 – 749. Fluorescent smartprobes for live cell imaging. **M. Vendrell***
10:20 – 750. Understanding reprogramming by pluripotent stem cell probe, CDy1. **S. Park**, N. Kang, S. Yun, Y. Chang*
10:45 – 751. Understanding the functional roles of histone methylation and acetylation. **S.D. Taverna***
11:10 – 752. YcgC represents a new protein deacetylase family in prokaryote. **H. Zhu**
11:35 – 753. Marine natural products that control a specific set of histone modifications. **D. Arai***, C. Sakuma, Y. Hayashi-Takanaka, H. Kimura, Y. Nakao

Royal Hawaiian
Regency III

Biomolecular Structure and Dynamics: Recent Advances in NMR (#181)

Organized by: M. Tsai, A. Gronenborn, M. Ikura, W. Lee, G. Otting, I. Shimada
Presiding: M. Tsai

8:00 – 754. Hybrid methods approach to determine the structure of Tetrahymena telomerase. **J. Feigon***
8:30 – 755. Structure and dynamics of the polymyxin-resistance-associated response regulator PmrA in complex with the promoter DNA. **C. Chen***
9:00 – 756. Molecular insight into the RanGTP level regulated by hMog1 for faithful mitotic chromosome segregation. **Y. Shi***
9:30 – 757. NMR structural view and mechanism of non-Watson-Crick dG:dGTP incorporation by DNA polymerase X. **M. Tsai**
10:00 BREAK
10:15 – 758. Redefining the double helix using NMR. **H. Al-Hashimi***
10:45 – 759. Structural and dynamics studies of the influenza A virus RNA and recognition mechanism by RIG-I. **B. Choi**
11:15 – 760. Design of potent and selective integrin drugs for cancer. **W. Chuang***
11:45 – 761. Structural mapping and comparability assessment of protein-based therapeutics using high-resolution NMR. **R.G. Brinson**, L.W. Arbogast, J.P. Marino*

*** Principle Author**

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Royal Hawaiian
Regency I

Enzyme Engineering and Biocatalysis Applications (#222)

Organized by: J. Pelletier, S. Lutz, B. Kim, R. Kazlauskas, N. Itoh
Presiding: S. Lutz

8:00 – 762. Rapid evolution of enzymes for pharmaceutical applications. **J.J. Lalonde***, O. Alvizo, D. Entwistle
8:20 – 763. Dynamic amino acid networks regulate catalytic activity of tryptophan synthase. J. Axe, K. O'Rourke, N. Kerstetter, E. Yezdimer, **D.D. Boehr***
8:40 – 764. Expanding the synthetic capabilities of yeast. **V. Cornish**
9:20 – 765. Ancestral α/β-hydrolases catalyze a broader range of reactions than the modern equivalents. T. Devamani, A. Rauwerdink, M. Lunzer, B. Jones, J. Mooney, M. Tan, Z. Zhang, J. Xu, A. Dean, **R. Kazlauskas***
9:40 COFFEE BREAK
9:50 – 766. Indirect immobilization of cytochrome P450 and cofactor regeneration system on magnetic beads using PCNA subunit as a scaffolding protein. **T. Nagamune***, Y.C. Tan, H. Hirakawa
10:10 – 767. Engineering proteins for selective catalysis. H. Yang, C. Zhang, K. Ellis-Guardiola, P. Srivastava, **J.C. Lewis**
10:30 – 768. Metalloprotein design using genetic code expansion. **L. Jiang**, J. Wang
10:50 – 769. Enzymatic antifouling. **J. Kim**

Hawaii Convention Center
Halls I, II, III

Bioorganic Reaction Mechanisms (#224)

Organized by: J. Richard, M. Tanner, C. Easton

Poster Session
10:00 – 12:00

770. Effect of pressure and temperature on the viability and function of human-derived glioblastoma cell line a-172. **K. Ishikawa**, A. Shimizu, B. yamanoha, K. Nei, S. Yamamoto
771. Structural study on reaction mechanisms of enzymes involved in resorcinol catabolism. **Y. Hata***, T. Fujii, T. Yamauchi, T. Oikawa
772. Structure and mechanism of ObcA: An enzyme responsible for bacterial quorum sensing-dependent oxalogenesis. **S. RHEE***
773. Analysis of the stability of DNA duplexes containing DNA damages. **M. Suzuki**, T. Kawada, M. Morikawa, T. Kobayashi, H. Miyazawa, K. Kino*
774. Rolling circle translation using small circular RNA. N. Abe*, Y. Nakano, **H. Abe***
775. Coupling of polyaniline polymerization on giant vesicles with membrane fluctuation. T. Shimanouchi, **S. Fukuma**, P. Walde, Y. Kimura
776. Redox chemistry of the formylglycine-generating enzyme: A unique thiol oxidase. **M.J. Appel**, C.R. Bertozzi
777. Destabilization of a radical intermediate accelerates catalysis in a coenzyme B12-dependent aminomutase. C. Makins, **G.A. DiLabio**, K.R. Wolthers*

Sheraton Waikiki
Maui

Bio/chemical Approaches for Single Cell Biosensing Technologies (#257)

Organized by: E. Tamiya, K. Kerman, D. Chiu, G. Zhou

8:00 Opening remark
8:03 – 778. Toward innovative technology platforms for integrated single cell analysis. **S. Sugano**
8:23 – 779. Single cell omic analysis based on microfluidic chips. **B. Liu***
8:38 – 780. Phosphorescence lifetime measurement for oxygen concentration imaging inside a single cel. **T. Kamachi***, H. Ito, H. Kurokawa, M. Inoue, S. Yano, Y. Kobayashi
8:53 – 781. Ratiometric dual pH and oxygen intracellular sensors. **F. Su***, K. Day, L. Zhang, X. Kong, Y. Tian, D.R. Meldrum
9:08 – 782. Imaging of single cancer and fungal cells using scanning electrochemical microscopy and multifunctional quantum dots. **F. Zhou***, T. Kai*, G. Zhang, J. Lopez, J. Ren
9:23 – 783. Organotellurium probes for single cell multiparameter biology. L. Edgar, L. Willis, **M. Nitz**
9:38 – 784. Enhanced-scRRBS for massive single cell methylome analysis toward *in silico* 3D-reconstructions of mouse and human tissues. **J. Yamane**, K. Kobayashi, N. Taniyama, W. FUJIBUCHI*
9:53 Coffee break
10:00 – 785. Signal amplification for bioanalysis and cytosensing. **H. Ju**
10:15 – 786. Microtechnologies to interrogate signaling in single cells. **N. Allbritton***
10:30 – 787. Membrane fluidity and cell signal transduction: Effect of menthol on cell membrane. **M. TAKAGI***, S. YABUUCHI, N. SHIMOKAWA, K. HOSHINO, Y. TSUJINO
10:45 – 788. Bioluminescence analysis in living cells using NanoLuc luciferase based probes. **M. Hattori**, T. Ozawa*
11:00 – 789. Development of Quenchbody to image and quantify tumor-associated membrane protein claudin. **H. Ueda***, H. Jeong, T. Kawamura, M. Iida, Y. Kawahigashi, M. Takigawa, C. Chung, J. Dong, M. Kondoh
11:15 – 790. Decipherment of olfactory receptor repertoire by using an automated single-cell analysis and isolation system equipped with real-time calcium imaging device. **N. Yoshimoto***, M. Suzuki, A. Kida, K. Shimono, S. Kuroda
11:30 – 791. Application of PC12 cells expressing Yellow Cameleon for monitoring the intracellular Ca^{2+} concentration change by nanosecond electric field stimulation. **H. SHINOHARA***, M. SUGA, R. HASEGAWA
11:45 – 792. Droplet-based cell manipulation for analyzing environmental microbes at single-cell resolution. **M. Hosokawa***, Y. Nishikawa, H. Takeyama

Sheraton Waikiki
Kahuku

Bioorthogonal Chemistry: Tools and Applications in Chemical Biology (#343)

Organized by: J. Pezacki, Q. Lin, M. Finn, I. Hamachi, P. Chen
Presiding: P. Chen, I. Hamachi, Q. Lin, J. Pezacki

8:00 Introduction
8:05 – 793. Ligand-directed chemistry for bioorthogonal protein labeling in living system. **I. Hamachi***
8:45 – 794. TQ-ligation: A powerful tool for chemical biology. **X. Lei***
9:15 – 795. Refined mechanism of the copper (I)-catalyzed azide-alkyne Huisgen cycloaddition reaction. **W. Liu***
9:35 – 796. Bioorthogonal prodrug activation via a 1,3-dipolar cycloaddition. **A.B. Gamble***, S. Matikonda, D.L. Orsi, V. Staudacher, I.A. Jenkins, F. Feidler, J. Chen
9:55 Coffee Break
10:10 – 797. Chemoenzymatic methods for visualizing glycans in the immune system and human samples. **P. Wu***
10:50 – 798. Visualizing mycobacterial trehalose glycolipids during infection. **F.P. Rodriguez-Rivera**, C.R. Bertozzi*
11:10 – 799. Dual-intein autoprocessing domain that directs synchronized protein co-expression in both prokaryotes and eukaryotes. **B. Zhang**, M. Rapolu, Z. Liang, Z. Han, P.G. Williams, W. SU*
11:30 – 800. Strain-promoted alkyne-nitrone cycloaddition reactions and their use in studying host-pathogen interactions. **J. Pezacki***, A. Sherratt, M. Chigrinova, L. Cheung

Sheraton Waikiki
Honolulu

Chemistry and Applications of Retinal Proteins: From Microbes to Humans (#395)

Organized by: L. Brown, H. Kandori, M. Olivucci
Presiding: L. Brown

8:00 Introduction
8:05 – 801. Lessons from rhodopsin and bacteriorhdopsin: Engineered protein/chromophore systems with unique spectroscopic properties. **B. Borhan***, J. Geiger
8:35 – 802. Understanding and designing color variants of retinal biding proteins by molecular simulations. **S. Hayashi***
9:05 – 803. Proton transfers and water dynamics in retinal proteins. C. Mielack, **A. Bondar***
9:35 – 804. Mechanistic insights from the crystal structure of an inward proton-transporting *Anabaena* sensory rhodopsin mutant. **H. Luecke**
9:50 – 805. Ultrafast 2D correlation spectroscopy elucidates primary proton pump dynamics in bacteriorhodopsin. **A. Yabushita***, C. Hung, C. Kao, C. Yang, T. Kobayashi
10:05 Break
10:15 – 806. Early activation of Channelrhodopsin-2: The EHT(E90-Helix2-Tilt)-model. **K. Gerwert***
10:45 – 807. On the gating mechanism of channelrhodopsin. **J. Heberle***
11:15 – 808. Spectroscopic and structural studies on the sodium transporting mechanism of sodium pump rhodopsin. **K. Inoue**, H.E. Kato, Y. Kato, R. Abe-Yoshizumi, O. Nureki, H. Kandori*
11:30 – 809. Crystal structures of the N, X, and O states occurring in late steps of the ion pumping cycle of *pharaonis* halorhodopsin. **T. Kouyama***

Hawaii Convention Center
Halls I, II, III

Biological General Posters
10:00 – 12:00

Agricultural and environmental biology
810. Effect of GABA-enriched brown rice on blood pressure in spontaneously hypertensive rats. **K. Kawakami***, K. Yamada, T. Yamada, R. Takada, A. Sawabe, M. Nomura, T. Nabika
811. UPLC-MS analysis of endocannabinoids in plasma using magnetic dispersive micro-extraction (MDME). **M. Guo***
812. Influence of food matrix on chemical properties and bio-activities of dry sugar-amino acid Maillard reaction models. **Y. Chen**, X. Chen, D. Kitts
813. Isolation, identification, and characterization of lactic acid bacteria from raw milk and traditional food used for fermented dairy products. **T. Kouya***, Y. Negoro
814. α-Glucosidase inhibitory effect of various coffees by three types extracting-methods. **M. Shirahase**, T. Furune, K. Terao, H. Yasui, Y. Yoshikawa*
815. Physicochemical characteristics and toxicity of leachate from livestock mortality burial. **J. Kim***, J. Choi, S. Han, J. Song, J. Park, C. Lee*
816. Effect of eggshell membrane on the inhibition of food discoloration. **C. Maeta**, M. Yamamura, Y. Nishio, S. Tabara, M. Tanaka, N. Konishi, N. Tanifuji*
817. Extraordinary heat production of *Pseudomonas putida*. **K. Tabata***, T. Kamachi
818. Changes of functional components and bacterial augmentation in the plastic-wrapped and vacuum packed fresh foods during cold storage. **M. Moriyama***, R. Moriyama, A. Yamamoto, M. Kurotani
819. Functional characterization of chloride channel proteins in development of rice. **T. UM**, G. JANG, Y. Choi*, S. CHANG, J. MOON
820. Inactivation of MS2 coliphage by UV and hydrogen peroxide: Comparison by cultural and molecular methodologies. **S.P. Sherchan***
821. Quality and antioxidant activity of ginseng seed processed by fermentation strains. **K. Kim**, M. LEE*, C. Cho, Y. RHEE, H. Hong, Y. LEE, Y. KIM, S. CHOI
822. Isolation and characterization of potassium-solubilizing bacteria and their status in rhizospheric microbial communities. **x. liu**
823. Effect of the petit-high pressure carbon dioxide gas to the microbes. **M. Kusube**, R. Okabe, C. Horie, S. Hamada

Cancer therapy
824. Design and synthesis of a potent HDAC inhibitor. **H. Jung***, C. Lee, J. Kim
825. Organometallic C^N-C-R^C Au(III) coupled systems for cancer cell treatment. **S. Juergens***, F. Guarra, N. Ortiz*, F. Kuhn, A. Casini*
826. Antitumor activity of (–)-antofine via negative regulation of Met endosomal signaling in renal cancer cell. **J. Song**, Y. Kwon, S. Kim, S. Lee
827. Toxicity and mechanisms of transport of a novel organometallic Au(III) compound compared to cisplatin on rat kidney tissue slices ex vivo. **S. Spreckelmeyer***, G. Groothuis, I. Lambert, S. Stürup, C. Orvig, A. Casini
828. Gold-labeled liposomes enhances triggered drug release in tumor microenvironment by photothermal effect. **B.C. Shin***, S. Cho, H. Kwon

Peptides
829. $(D\text{-}Trp)_3$-OMe: D-homo tripeptide constructed by enzymatic synthesis showed antibacterial activity against Gram-positive bacteria. **Y. Isoda**, Y. Tsunehara, J. Arima*
830. Effect of cell-penetrating peptides on interactions between liposomal membranes. T. Shimanouchi, **M. Tanaka**, P. Walde, D. Seebach, Y. Kimura
831. Construction of non-natural dipeptide library by peptide bond formation reaction catalyzed by D-stereospecific amidohydrolase. **Y. Tsunehara**, A. Tamura, Y. Isoda, J. Arima*

Bacteria and antimicrobials
832. Relationship of between biomembrane composition and fluidity. **n. Iwamoto**, K. Sumiyama, Y. Masaki, M. Kusube, M. Nishimoto
833. D-amino acid analogs to study the bacterial cell wall. **P. Shieh**, C.R. Bertozzi
834. Behavior of elongated *E.coli* membrane components under high pressure. **K. Sumiyama**, M. Kusube
835. Piezophilic characterization of *Colwellia* MTCD1 from mariana trench challenger deep. **K. Tanikawa**, M. Kusube, D.H. Bartlett
836. Copper(II) complexes as antibiofilm agents. **D. Nguyen**, N. Ng, M. Wu, J. Aldrich-Wright

*** Principle Author**

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Cell biology and biochemistry

837. Phosphorylations of Grb14 BPS domain by GSK-3 are correlated with complex forming between Grb14 and insulin receptor. **J. Taira***, Y. Higashimoto, H. Sakamoto

838. ATRX and small molecules bind to G-quadruplex formed by VNTR sequence and affect α-globin gene expression. **Y. Li**, J. Syed Jabarulla, H. Sugiyama

839. Small molecular chemicals with botulinum toxin-like activity modulating neuroexocytosis. **D. Kweon**, J. Park, Y. Jung, P. Heo

840. Design and development of a chemically-inducible activator of RAS. **J. Rose**, D. Maly

841. Analysis of chemoselective derivatives of carbonyl and thiol metabolites in complex mixtures by HRMS and NMR. **R.M. Higashi**, A.N. Lane, S. Gori, P. Lorkiewicz, S. Laulhe, N. Michael, S. Arumugam, H. Moseley, t.W. fan*

842. Exploring biomarker signatures of stress-associated diseases using ^{1}H NMR metabonomics. D. Kiss, E. Paxman, M. Ambeskovic, T. Montina, **G.A. Metz***

843. [Zn(hinokitiol)$_2$] complex showed the insulin-like effects on the insulin signaling pathway through an insulin-independent manner. **Y. Naito**, Y. Yoshikawa*, H. Yasui*, H. Yamamoto

844. Structural basis of PPARγ transactivation by endocrine-disrupting organotin compounds. **T. Nakanishi***, Y. Hiromori, S. Harada, S. Nakamura, S. Uchiyama, H. Nagase, T. Yoshida

Bioactive natural products

845. Probing the adhesion of *Caulobacter crescentus* holdfast by atomic force microscopy. **C. Berne***, M. Hernando-Pérez, X. Ma, N. Licata , B. Neves, S. Setayeshgar, Y. Brun, B. Dragnea

846. Anticancer activity of the flower bud of *Sophora japonica* L. through upregulating activating transcription factor 3 in human colorectal cancer cells. H. Jeong, J. Lee, G. Park, H. Eo, H. Song, M. Kim, **J. Jeong**

847. Sphingolipids upregulated caspase-14 expression by involvement of MAPK. **Y. Nagahara***, K. Kawakami, K. Sunaga

848. Anti-inflammatory and anti-proliferative activities of lees of Korean traditional rice wines. **S. Lee**, S. Woo, H. Sohn, W. Shin, **J. Kim**

849. Identification of natural product anticancers that inhibit CDC25s phosphatase activity. **K. Park**, H. Kang, S. Chung

850. Metabolomic analysis of protective effects of Prunus mume Sieb. et Zucc. on alcohol-induced liver injury by regulating apoptotic signaling pathway. **Y. Kim***, J. Pan, E. Lee, J. Lee

851. Identification novel natural product inhibitors for slingshot (SSH) family. **S. Lee**, **Y. Lee**, H. Kang, S. Chung

852. Efficacy of *Citrus* plants on lifestyle diseases: Anti-obesity effect of *Citrus unshiu* leaf. **K. Ito**, K. Shimizu, Y. Horikawa, N. Tomohiro, T. Tsumoto, J. Hashizume, T. Fujita, M. Fumuro, N. Utsunomiya, Y. Takada, T. Matsukawa, S. Kajiyama, Y. Nakagaki, A. Shimizu, K. Murata, H. Matsuda*

853. Effectiveness of sublingual immunotherapy with transgenic rice seeds expressing hypoallergenic modified antigens in murine allergic rhinitis model. **T. Yamada**, Y. Qu, F. Takaiwa, N. Aoi, I. Morikura, T. Fuchiwaki, H. Kawauchi

854. Effect of nutmeg (*Myristica fragrans* Houtt) on cedar pollinosis in mice. **H. Matsuo**, T. Yamada, K. Kawakami, R. Takeda, A. Sawabe, M. Nomura, T. Nabika

855. Lifestyle-related disease improvement effect of alpha-lipoic acid with γ-cyclodextrin. **Y. Hashimoto**, H. Okamoto, K. Terao, Y. Yoshikawa*

856. Discovery of potent natural product inhibitors for Vaccinia H1-related (VHR) phosphatase. **K. Roh**, H. Kang, S. Chung

857. Effects of saturated fatty acid to the lipid bilayer membarane fluidity. **Y. Masaki***, Y. Nishi, M. Kusube, M. Nishimoto

858. Effects of unsaturated fatty acid to lipid bilayer membrane fluidity. C. Nishikawa, Y. Masaki, **M. Nishimoto**

Enzymes and enzyme inhibitors

859. Family S9 peptidase from *Pleurotus eryngii*: Change in aminolysis function and substrate specificity by oxidation. **J. Arima***, S. Tokai, N. Mori

860. Cavity size of D-stereospecific amide-hydrolase relates to its side reaction "aminolysis". **K. Miyatani**, A. Ota, J. Arima*

861. Reductive dehalogenation reactions using modified cytochromes P450. **R.K. Bains***, J. Warren

862. *trans*-Aconitic acid from citric acid by whole-cell reactions of *Escherichia coli* heterologously expressing aconitate isomerase gene (*acn*). **K. Kobayashi**, K. Yuhara, H. Yonehara, J. Maruebi, T. Hattori, K. Kirimura

863. Characterization of the hot hepper (*Capsicum annuum*) NADPH-cytochrome P450 reductase. **Y. Joung***, H. Kim, . Kim, S. Park, S. Ma, C. Yun

864. Probing the binding orientation of endogenous substrate, epoxy-eicosanoid (EET), in soluble epoxide hydrolase with EET mimics. **K. Lee**, C.J. Ng, J. Yang, B. Hammock

865. Identification of mutations causing the increase in secretory laccase activity in agaricomycete *Copriniopsis cinerea*. **T. Nakazawa***, H. Muraguchi, Y. Honda

866. Distinct characteristics of two 2-cys peroxiredoxins of *Vibrio vulnificus* suggesting differential roles in detoxifying oxidative stress. Y. Bang, M. Oh, **S. Choi***

Genes and transcription

867. Synthetic transcriptional activator of genes associated with retina in human dermal fibroblasts. **J. Syed Jabarulla**, A. Chandran, G. NAMASIVAYAM, J. Taniguchi, S. Sato, K. Hashiya, G. Kashiwazaki, T. Bando, H. Sugiyama*

868. Rational design of the specific binding hairpin Py-Im polyamides targeting human telomere sequences. **C. Guo***, Y. Kawamoto, S. Asamitsu, Y. Sawatani, K. Hashiya, T. Bando, H. Sugiyama

869. Mixed isotope labeling strategies for biomarker analysis. **S.M. Lamos***

870. Identification of SNPs in genes that confer susceptibility to iron deficiency anemia and their potential association with the biochemical parameters of blood iron status and concentration among pregnant Filipinas. **V.A. Timoteo***, L.M. Dalmacio, M.V. Capanzana, J.S. Nacis, R.L. Agarrado

871. Synthetic genetic switches for directed differentiation of human pluripotent stem cells. **J. Taniguchi***, Y. Wei, T. Sadoi, S. Sato, G. NAMASIVAYAM, T. Bando, H. Sugiyama

872. Bioactivity of pyrrole-imidazole polyamides conjugated with a synthetic HAT activator. **G. Kashiwazaki***, G. NAMASIVAYAM, T. Bando, H. Sugiyama*

873. Effect of FABP2 Ala54Thr gene polymorphism on obesity and metabolic syndrome in Korean middle aged women with abdominal obesity. T. Han, **S. Woo***, Y. Kim

Proteins and protein structure

874. Purification and crystallization of a type II extradiol dioxygenase DesZ derived from *Sphingobium* sp. SYK-6. **H. Matsubara**, N. Kamimura, E. Masai, T. Senda*

875. Volume fluctuation of protein in ionic liquid aqueous solutions at various temperatures. **K. Shimotani**, T. Inomata, K. Takayoshi, T. Kamiyama

876. Stability of protein in ionic liquids at various mole fraction. **M. Okabe**, T. Miki, K. Takayoshi, T. Kamiyama

877. Thermodynamic properties of sorbitol-induced molten globule state of myoglobin. **t. marutani**, T. Kamiyama, K. Takayoshi

878. Thermodynamic properties of aggregate state of proteins in dioxane aqueous solutions. **T. Kamiyama***, T. Inomata, K. Takayoshi

879. Altering stability of a transmembrane protein, MsbA, by structural comparison with its thermophilic homolog. **K. Lu***, T. Yamaguchi, T. Nakatsu, H. Kato

880. Copper binding-induced tertiary folding of the cellular prion protein revealed by site-directed spin labeling with EPR spectroscopy and molecular dynamics. **J.M. Pushie**, E.G. Evans, G.L. Millhauser, G.N. George

881. Development of selective covalent labeling method for proteins and its application to visualization of proteins by transmission electron microscopy. **S. Tabata**, M. Kido, H. Fuchida, R. Shigemoto, I. Hamachi, A. Ojida*

882. Enhanced catalytic activity and oxidative stress tolerance in Escherichia coli by overexpression of Deinococcal Hsp20. **Y. Choi***

883. Selectivity of protein binding on surface templates of organosilane nanopatterns investigated using atomic force microscopy. **Z.L. Highland**, R. Girard, J.C. Garno

884. Unnatural amino acids in proteins: Exploring the permissivity of orthogonal tRNA/aaRS pairs and designing biosensors. **L. Rowe***, B. Kelly, E. Wetzel, K. Puvar, R. Clark, T. Goyne

885. Fragment-based drug development targeting KEAP1/Nrf2 binding. **M. Zhong**, A. Lynch, S. Jehle, L. Luo, D. Kozakov, S. Vajda, K. Allen, A. Whitty

DNA and RNA

886. Identification of genomic targets of DNA binding small molecules using next generation sequencing. **A. Chandran**, R. Taylor, J. Syed Jabarulla, S. Sato, G. Kashiwazaki, T. Bando, H. Sugiyama*

887. DNA cleavage through reductive dioxygen activation by iron-bleomycin mimics. **A. Nomura***

888. Evaluating a molecular mechanism of the intracellular A-to-I RNA editing by analyzing a reaction behavior of ADAR2 in vitro and in the cell. **K. Nose**, A. Nishitarumizu, H. Umeno, H. Nakagawa, M. Deshimaru, M. Fukuda

889. Protein-dependent destabilization of DNA duplex on DNA-linked AuNP assembly. **Y. Kim***, X. Zheng, S. Park, H. Lee

890. Construction of artificial guide-RNAs for a site-directed RNA mutagenesis utilizing intracellular RNA editing by hADAR2. **H. Umeno**, A. Nishitarumizu, K. Nose, M. Deshimaru, M. Fukuda

891. Determining the efficacy of disinfectants against human noroviruses among 10 commercially available disinfectants in Asia. **M. Kim***, J. Choi, J. Kim

892. Studies of the rapid detection of Staphylococcus aureus by the antibody and isothermal target and probe amplification assay. **H. Shin***, G. Kang, J. Kim

893. Extra-chromosomal DNA maintenance in *Bacillus subtilis*, dependence on flagellation factor FliF and moonlighting mediator EdmS. **Y. Hakumai***, k. shimomoto, M. Ashiuchi

894. Synthesis and evaluation of *N*-methylpyrrole-*N*-methylimidazole polyamide probes for human telomeres. **Y. Kawamoto***, A. Sasaki, S. Ide, K. Hashiya, T. Bando, K. Maeshima, H. Sugiyama

895. Sequence-specific DNA alkylation and transcriptional inhibition by pyrrole-imidazole polyamide-chlorambucil conjugates. **S. Asamitsu**, Y. Kawamoto, F. Hashiya, K. Hashiya, M. Yamamoto, S. Kizaki, T. Bando*, H. Sugiyama*

Friday Afternoon

Sheraton Waikiki
Kohala/Kona

Advances in Peptide and Protein Chemistry (#6)

Organized by: W. Lubell, J. Kelly, A. Smith, H. Suga, V. Nanda, J. Huang, K. Kudo, R. Cheng, P. Lyu
Presiding: I. Smith

13:00 – 896. Understanding peptide macrocycles: From structural studies to oral bioavailability. **A.K. Yudin***

13:30 – 897. Comparing how heat shock protein inhibitors as oncogenic therapies: Have we forgotten something?. **s.r. mcalpine**, Y. Wang

14:00 – 898. Preparation and preliminary biological evaluation of Ga-68 labeled somatostatin analog DOTA-Pasireotide. **F. Liu**, H. Zhu, X. CHiyi, C. Li, Z. Yang*

14:20 – 899. When structure leads to activity - analysis of a novel conotoxin. **N. Daly**, Z. Dekan, A. Jin, M. Smout, D. Wilson, A. Loukas, P. Alewood

14:50 – 900. Constrained peptide analogs elucidate the complex pharmacology of the Apelin GPCR. **R.C. Glen***, A.P. Davenport, J. Gavard, K.A. Jolliffe

15:10 – 901. Peptide isolated from the venom of bothrops asper. enhances the activity of endothelin converting enzyme and neprilysin. **I. Smith***, S.D. Kuruppu

15:40 – 902. Modulating the apelin (APJ) receptor signaling with macrocycles. **E. Marsault***, A. Murza, É. Besserer-Offroy, J. Côté, J. Longpré, P. Sarret

16:00 – 903. Synthesis of a cytotoxic amanitin for biorthogonal conjugation. **D. Perrin***, L. Zhao, D. Dietrich, A. Blanc, J. May, K. Matinkhoo, A. Pryyma

16:30 – 904. Molecular recognition of venom peptides by acid-sensing ion channels and their therapeutic potential in stroke and pain. **L.D. Rash***

Royal Hawaiian
Regency II

New Platforms for Natural Products Discovery (#18)

Organized by: G. Carter, R. Andersen, B. Copp, S. Matsunaga
Presiding: R. Andersen

13:00 – 905. Novel LXR antagonist represses hepatic steatosis and ameliorates glucose tolerance in mice. D. Won, J. Hong, E. Kim, J. Kim, T. Lee, H. Hwang, A. Giri, V. Reddy, D. Hahn, **H. Kang***

13:35 – 906. Genetic network analysis for target identification of theonellamides. **M. Yoshida***, S. Nishimura

14:10 – 907. Something old, something new, something bottled, something blue. V.H. Woolner, M. Stott, P.T. Northcote, **R.A. Keyzers***

14:45 Break

15:15 – 908. Bioprospecting in micro-algae: mega-scale meta-meatabolomics. **G. Carter**

15:50 – 909. Phytochemical and biological investigations of *Conradina canescens* Gray. **N.S. Dosoky**, D.M. Moriarity, W.N. Setzer

16:25 – 910. Fungal fragments immobilised in calcium alginate: Transformation of substrates to new analogs. P.C. Peart, A.R. Chen, **P.B. Reese***

Sheraton Waikiki
Kauai

Biosynthesis of Natural Products (#27)

Organized by: I. Abe, B. Moore, D. Ro
Presiding: B. Moore

*** Principle Author**

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13:00 – 911. Recent studies on fungal metabolite biosynthesis by iterative polyketide synthase enzymes. **J.C. Vederas***
13:30 – 912. Aspoquinolone biosynthesis: Non-heme dioxygenase catalyzes atypical oxidations of 6,7-bicycle to form 6,6-quinolone core of viridicatin-type fungal alkaloid. **K. Watanabe***
14:00 – 913. Genome mining of filamentous fungi natural products. **Y. Tang**
14:30 – 914. Hapalindole alkaloid biosynthesis: a treasure trove of novel enzymatic transformations. **X. Liu***
14:50 – 915. Total biosynthetic study of bioactive fungal natural products: Pathway elucidation and genome mining. **H. Oikawa***
15:20 – 916. Discovery of novel natural products via synthetic biology. **H. Zhao**
15:50 – 917. Genome mining of natural product biosynthesis pathways in filamentous fungi. **C. Wang***
16:10 – 918. Cure for baldness and cryptic biosynthesis in *Streptomyces calvus*. **D. Zechel***
16:30 – 919. Diverse solutions in nature to the synthesis of beta-lactam antibiotics. **C.A. Townsend**, J.M. Davidsen, D.H. Long, N.M. Gaudelli

Sheraton Waikiki
Ewa

Heat Shock Proteins: The Next Target in the Disease Frontier (#91)

Organized by: P. Wipf, S. McAlpine, P. Pan
Presiding: s.r. mcalpine, P. Wipf

13:00 – 920. Targeting protein-protein interactions in the heat shock protein 70 (Hsp70) complex. **J. Gestwicki***
13:40 – 921. 17-DMAG induces HSP70 to ameliorate multiple organ dysfunction syndrome caused by endotoxemia in rats. **Y. Lee***
14:20 – 922. Hsp90 inhibitor drug conjugates (HDCs). **W. Ying***
15:00 – 923. Characterization and targeting of androgen receptor regulation by the Hsp90-associated cochaperone FKBP52 for the treatment of prostate cancer. **M.B. Cox**
15:40 – 924. Developing HSP60/10 chaperonin inhibitors for breast cancer chemotherapy. N. Salim, S.J. Abdeen, A. Ambrose, E. Chapman, **S.M. Johnson***
16:10 Closing Remarks

Royal Hawaiian
Regency III

Biomolecular Structure and Dynamics: Recent Advances in NMR (#181)

Organized by: M. Tsai, A. Gronenborn, M. Ikura, W. Lee, G. Otting, I. Shimada
Presiding: W. Lee

13:00 – 925. Complex interactions among the proteins involved in the maturation of iron-sulfur proteins. T.R. Alderson, J.H. Kim, **J.L. Markley**
13:30 – 926. Structural aspects of gene regulation. **J. Mackay***, S. Webb, N. Shepherd, J. Low, A. Silva, D. Ryan
14:00 – 927. Allosteric inter-domain communication in protein kinase A. **M. Akimoto**, E.T. McNicholl, A. Ramkissoon, G. Melacini*
14:15 – 928. Look into the factors in modulating chemokine CXCL4 oligomerization. Y. Chen, C. Lin, Y. Chen, C. Pan, **S. Sue***
14:30 – 929. Structural basis of nonthermal plasma effect on cancer cells by NMR spectroscopy. **W. Lee***, S. Choi, P. Attri, E. Choi
15:00 BREAK
15:15 – 930. Cargo recognition mechanisms of unconventional myosins. **M. Zhang***
15:45 – 931. Self-mediated protein metamorphosis. **B. Xia***
16:15 – 932. Protein-protein interaction that involves coupled unfolding and binding. **J. Suh***
16:30 – 933. Structural polymorphism and substrate promiscuity a ribosome-associated molecular chaperone. **S. Hsu***, C. Huang, Y. Lai, Y. Chiang
16:45 – 934. Characterization of the functionally relevant changes in the structure and dynamics of PPIase. **J. Wang**, N. Tochio, Y. Tamari, R. Kawasaki, N. Xu, J. Uewaki, S. Tate

Royal Hawaiian
Regency I

Bioorganic Reaction Mechanisms (#224)

Organized by: J. Richard, M. Tanner, C. Easton
Presiding: M.E. Tanner

13:00 – 935. Structural and mechanistic basis of capsular polysaccharide-synthesizing enzymes CapE/F, and the route to discovery novel inhibitors with antibacterial properties. **J.M. Caaveiro**, T. Miyafusa, T. Chigira, K. Nakano, S. Nagatoishi, K. Tsumoto*
13:20 – 936. Ring strain and mechanism-based inactivators. **A. Bennet**, M. Farren-Dai, N. Sannikova, T. Gloster
13:50 – 937. Inhibitors of enolase superfamily enzymes: Insights into evolution and active site architecture. **S. Bearne***, M. Nagar, B. Wyatt, M. St. Maurice, S. Aboushawareb
14:20 – 938. Getting bacteria to generate resistance inhibitors that lead to their own demise in the presence of antibiotics. **K. Auclair**
14:55 – 939. Inhibition of resistance enzymes to rescue legacy antibiotics. **G. Wright***
15:30 – 940. Biomimetic approach to understanding inhibition of dihydrodipicolinate synthase. **D.R. Palmer***, D.A. Sanders, L. Konermann, Y. Skovpen, C. Conly, M. Sowole
16:00 – 941. Inhibition studies on cell shape-determining proteases and prenyltransferases. Y. Liu, W. Abdelmagid, N. Mahmoodi, J. morrision, **M.E. Tanner***
16:30 – 942. Site-specific covalent post-translational modification of mRNA-displayed libraries for selection of peptide inhibitors. **S.A. Jongkees**, H. Suga

Sheraton Waikiki
Molokai

Bio/chemical Approaches for Single Cell Biosensing Technologies (#257)

Organized by: E. Tamiya, K. Kerman, D. Chiu, G. Zhou

13:00 – 943. Modified surfaces for capturing, monitoring the release of enzymes upon stimuli, and releasing cells down to the single cell level. **J. Gooding**, S.G. Parker, Y. Yang, Y. Zhu, B. Gupta, R. Piya, P.J. Reece, K. Gaus
13:20 – 944. High-resolution bioelectrochemical imaging and sensing for single cells. **T. Matsue**
13:35 – 945. NMR study on neurotransmitter diffusion in synaptic cleft using biomimetic extended-nanospaces. **Y. Kazoe***, Y. Tsuchiya, K. Mawatari, T. Kitamori
13:50 – 946. Molecular sensor to quantify the internalisation of nanoparticles and proteins. **A.P. Johnston***
14:05 – 947. High-resolution, quantitative analysis for measuring heterogeneities of G-protein signaling at single-cell levels in yeast. **J. Ishii***, A. Kondo
14:20 – 948. Nanoneedle technology for single cell biosensing and cell sorting. **C. Nakamura**
14:35 – 949. Rapid and highly-effective formation of precise single-cell pairing based on dielectrophoresis. **T. YASUKAWA***, Y. Yoshimura, M. Tomita, F. Mizutani
14:50 Coffee break
14:57 – 950. Dual selection assay using circulating tumor cell subpopulations for precision medicine in cancer-related diseases. **S.A. Soper***
15:12 – 951. Integrated Smartphone quantum dot barcode device for diagnosing infected patients. **W.C. Chan***
15:27 – 952. In vitro sensing of cancer metastasis behaviors using 3D-vascular tissue models. **M. Matsusaki***, A. Nishiguchi, M. Akashi
15:42 – 953. In vitro 3D co-culture patterning model for evaluation of tumor cell malignancy. **M. OKOCHI***, Y. Shuhei, H. Honda
15:57 – 954. Development of neuron network high throughput screening device measuring single cell ionchannel current by planar patch clamp. Z. Wang, H. Uno, **T. Urisu***
16:12 – 955. Analysis of the intercellular communication in a pancreatic β cell cluster by microfluidic stimulation to single cell. **K. Terao***, K. Imai, T. Suzuki, H. Takao, F. Shimokawa, S. Matsuoka, H. Kotera
16:27 – 956. Oligonucleotide synthesis on PDMS chip using mild reagents aiming to tag molecules in single cell analysis. **R. Bhardwaj**, Y. Takamura*
16:42 – 957. Exploration of protein-ligand interactions by nm-ordered molecularly imprinted polymer thin layers containing specific ligands as interaction sites within the binding cavities. **Y. Kamon**, Y. Kitayama, T. Takeuchi*
16:57 Closing remark

Sheraton Waikiki
Kahuku

Bioorthogonal Chemistry: Tools and Applications in Chemical Biology (#343)

Organized by: J. Pezacki, Q. Lin, M. Finn, I. Hamachi, P. Chen
Presiding: P. Chen, I. Hamachi, Q. Lin, J. Pezacki

13:00 Introduction
13:05 – 958. Bioorthogonal modification of protein cages: From changing their biological function to applications in bionanotechnology. **J.J. Cornelissen**
13:45 – 959. Fluorogenic protein labellng. **J.W. Keillor***, Y. Chen, M. Strmiskova, C. Clouthier, K. Tsao
14:15 – 960. Toolbox of clickable and bioorthogonal gold nanoparticles: From synthesis to application. **P. Gobbo***, W. Luo, P. Gunawardene, S. Ghiassian, M. Workentin*
14:35 – 961. Systematic comparison of bioorthogonal reactions enables site-specific fluorescence labeling and imaging of intracellular proteins in live cells. **T. Peng***, H. Hang
14:55 Coffee break
15:10 – 962. Advancing bioorthogonal tetrazine reactions for applications in cellular imaging. **N.K. Devaraj**
15:50 – 963. Development of a cyanobenzothiazole-binding peptide tag for protein labeling. **S.G. Keyser**, C.R. Bertozzi*
16:10 – 964. SNAP-tag reactive lipid anchors enable targeted and spatiotemporally controlled localization of proteins to phospholipid membranes. **A. Rudd***, N.K. Devaraj
16:30 – 965. Photo-click chemistry tools for spatiotemporal control of reagentless ligation, labeling, immobilization, and cross-linking. **V. Popik**

Sheraton Waikiki
Honolulu

Chemistry and Applications of Retinal Proteins: From Microbes to Humans (#395)

Organized by: L. Brown, H. Kandori, M. Olivucci
Presiding: H. Kandori

13:00 Introduction
13:05 – 966. Microbial rhodopsins as multi-talented fluorescent reporters. **A.E. Cohen**
13:35 – 967. Rhodopsin guanylyl cyclase of the aquatic fungus Blastocladiella emersonii enables fast optical control of cGMP signaling. **U. Scheib**, K. Stehfest, C.E. Gee, H.G. Koerschen, R. Fudim, T. Oertner*, P. Hegemann*
13:50 – 968. Optogenetic silencing of neuronal activity using a light-driven sodium ion pump in marine bacteria. **T. Ishizuka**, S. Hososhima, M.R. Hoque, K. Yoshida, K. Inoue, H. Kandori, H. Yawo*
14:05 – 969. Mechanism diversity in microbial rhodopsins. **J.L. Spudich***
14:35 – 970. Characterization of new light-driven cation pumping rhodopsins and optogenetic application. **K. Jung**
14:50 – 971. Spectroscopic investigation of the red-activatable channelrhodopsin ReaChR. **B.S. Krause***, J. Kaufmann, F. Bartl, P. Hegemann
15:05 Break
15:15 – 972. From the structure of vertebrate and invertebrate rhodopsins to new applications in optogenetics. **G.F. Schertler***, E. Lesca, V. Panneels, X. Deupi, R. Kammerer, R.J. Lucas, A. Terakita
15:45 – 973. Diverse animal bistable pigments and their optogenetic potential. **A. Terakita***
16:15 – 974. Evaluation of the spatial resolution and efficacy of a protein-based retinal implant. **N. Wagner***, J. Greco, R. Birge
16:30 – 975. Rhodopsin benchmarks novel chemical biology methods for single-molecule fluorescence imaging of GPCRs. **T. Huber***, T.P. Sakmar
16:45 – 976. Photochemical reaction cycle of *Ps*ChR2 and its relationship to channel currents. **I. Szundi***, H. Li, E. Chen, R. Bogomolni, J.L. Spudich, D.S. Kliger*

Friday Evening

Hawaii Convention Center
Halls I, II, III

Advances in Peptide and Protein Chemistry (#6)

Organized by: W. Lubell, J. Kelly, A. Smith, H. Suga, V. Nanda, J. Huang, K. Kudo, R. Cheng, P. Lyu

Poster Session
19:00 – 21:00

977. Environmentally-responsive cyclic α,α-disubstituted α-amino acids for controlling peptide secondary structures. **M. Oba***, H. Nounaka, K. Furukawa, K. Toyama, M. Tanaka
978. Correlation and prognostic significance of mgmt promoter methylation and mgmt protein in glioblastomas. **T.V. Cao**
979. Artificial division of codon boxes to encode nonproteinogenic amino acids along with 20 proteinogenic ones. **Y. Iwane**, A. Hitomi, H. Murakami, T. Katoh, Y. Goto, H. Suga*
980. High-speed in vitro display method for selection of functional peptides and proteins. T. Ishizawa, S. Nakayama, **H. Murakami***
981. Molecular simulation of short selenopeptides by application of the SAAP force field. **N. Babe**, T. Suzuki, T. Shimosato, T. Minezaki, M. Iwaoka
982. Rapid purification of peptides and small proteins. **B. Kachel***, S. Jayanthi, T. Kumar

*** Principle Author**

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983. Optical use of light for re-engineering protein function. **J. Lee***, J. Moon, J. Gam
984. Antioxidant activity of short selenopeptides designed as glutathione peroxidase active-center models. **S. Shimodaira**, T. Takei, H. Hojo, M. Iwaoka
985. Photoinduced growth system of peptide nanofibers addressed by DNA hybridization photoinduced growth system of peptide nanofibers addressed by DNA hybridization. **A. Uemura**, M. Furutani, K. MATSUURA, A. Shigenaga, C. Komiya, A. Otaka
986. Global substrate specificity of serine hydrolases in *Mycobacterium smegmatis*. **B. Bassett***, R.J. Johnson
987. Anti-aggregation effects on proteins during desiccation by model peptides of group-3 LEA proteins. **T. Furuki**, T. Shimizu, K. Yamakawa, R. Hatanaka, T. Takahashi, T. Kikawada, T. Okuda, H. Mihara, A. Tunnacliffe, M. Sakurai*
988. Effective synthesis and influenza virus inhibitory activities of carbosilane dendrimers peripherally functionalized with influenza hemagglutinin-binding peptide. **Y. Sato**, Y. Muramatsu, T. KOYAMA, K. MATSUOKA, R. Kuriyama, H. Kori, T. Matsubara, T. Sato, K. Hatano
989. High cell penetrating ability and inducing apoptosis by conformationally constrained dimeric peptide at low concentration. **S. LEE**, S. Hyun, S. Kim, S. Jang, J. Yu*, Y. Lee*
990. Parallel synthesis to construct a metal-chelating library as artificial metalloprotease candidates. **T. Midorikawa**, M. Taki*
991. Antifusion effects on liposomes during desiccation by model peptides of group-3 LEA proteins. **T. Furuki**, M. Sakurai*
992. Reinvestigation of oxidative folding pathways of bovine α-lactalbumin by using water-soluble selenium oxidant DH-S^{ox}. **R. Shinozaki***, M. Iwaoka
993. Protein conformational analysis by fluorescence-detected circular dichroism (FDCD). T. Nehira*, **H. Ito**, K. Ishihara, K. Matsuo, S. Izumi, K. Ukena, K. Masuda, T. Yamazaki, A. Ishida
994. Studies on lactam formation of arginine derivative using fluorous protecting group. **R. Akashi***
995. Mechanistic investigations into the asymmetric epoxidation of enones catalyzed by 2,5-diketopiperazines. **C. Bérubé***, X. Barbeau, P. Lagüe, N. Voyer
996. Role of the constant region of human antibody light chain for the structural diversity. **S. Itonaga**, T. Uda, E. Hifumi
997. Thioester bond formation by ribosome and its application. **R. Takatsuji**, T. Katoh, H. Suga*
998. Comparative atomic force microscopy (AFM) and field emission scanning electron microscopy (FE-SEM) studies of mixed phospholipid monolayers. **A. Sunda-Meya***, N. Phambu
999. Efficient synthesis of hemoglobin-albumin cluster. **R. Funaki**, T. Komatsu*
1000. Selective enrichment for hydroxytyrosine-containing proteins toward proteomics. **M. Yanase**, G. Hayashi, A. Okamoto*
1001. ScFv-ferritin as a novel targeted nanocage with high antigen-binding affinity. **H. Kang**, G. Go, S. Chung
1002. Site-selective cleavage of target RNA by artificial RNA nucleases. **T. Mori**, K. Masaoka, Y. Fujita, R. Morisada, K. Sakabayashi, K. Mori, T. Tobimatsu, T. Sera*
1003. Development of post-translational modification reactions for the synthesis of peptides with $\Psi(CH_2NH)$ structures. **Y. Kato**, Y. Goto, H. Suga*
1004. Three-days rapid construction of artificial antibody libraries on T7 bacteriophages. **Y. Saigusa**, M. Taki*
1005. Enhanced function control of a multimeric protein by chemically designing one of its interfaces. **D. Sawada***, S. Sakurai, A. Tsuneshige
1006. Optimization of surroundings of a solvatochromic fluorophore via the $10BASE_d$-T for specific detection of a target protein. **H. Inoue**, M. Kazuto, Y. Arai, M. Taki*
1007. Effects of calcium and lipids on recoverin, a neuronal calcium sensor (NCS) protein: Evidences from FTIR and solid-state NMR spectroscopy. **K. Potvin-Fournier**, A. Picard-Lafond, C. Marcotte, G. Valois-Paillard, T. Lefèvre, L. Cantin, C. Salesse, M. Auger
1008. Synthesis and property of recombinant canine serum albumin. **K. Yamada***, R. Yoneyama, M. Akiyama, T. Komatsu*
1009. Substrate multispecificity of a proton-coupled oligopeptide transporter, *Saccharomyces cerevisiae* Ptr2p. **K. Ito***, S. Kawai, T. Motoyama, Y. Yoshikawa, R. Kato, Y. Kawarasaki
1010. Peptide-membrane interaction studies applied to Combi-2: effect of metal ions. **B. Almarwani**, A. Sunda-Meya, N. Phambu*
1011. Recombinant production and purification of Interleukin-1α using novel soluble affinity tag. **M.H. Al-Ameer***, S. Jayanthi, T. Kumar
1012. Effects of an antimicrobial peptide on the biophysical properties of model membranes. **A.T. Alshammari**, A. Sunda-Meya, N. Phambu
1013. Consensus-based approach to protein structure prediction. **B.E. Husic***, J. Ponder
1014. Control of site-specific silica and calcium precipitation on DNA using a designed peptide. M. Ozaki, N. Endo, T. Imai, **K. Tomizaki**, K. Usui*
1015. Fluorescence ratiometric detection of antigen using double fluorescent-labeled scFv based on FRET and fluorescence quenching. **K. Yoshikoshi***, T. Hohsaka
1016. Novel IgG-based fluorescent biosensor that shows antigen-dependent fluorescence enhancement. **K. Fukunaga**, T. Watanabe, D. Novitasari, T. Hohsaka*
1017. Incorporation of a photoisomerizable non-natural amino acid into proteins through in vitro and in vivo protein expression. **R. Shiba**, T. Watanabe, T. Hohsaka*
1018. Improvement of biological activities of syringolin A. **T. Chiba**, A. Matsuda, S. Ichikawa
1019. Novel α helical peptide with membrane-disruptive properties for endosomal escape. **S. Nam**
1020. Theoretical study on potency and selectivity of dipeptidyl peptidase IV inhibitors using the first-principles calculation. **S. Okazaki**, E. Ishitsubo, Y. Nakano, H. Shimano, H. TOKIWA*
1021. Preparation of BSA-based hybrid enzyme containing multiple functions. **K. Hanaya***, S. Yamazawa, M. Shoji, T. Sugai
1022. Genome editing in *Escherichia coli* by sandwiched zinc-finger nuclease. **T. Kai**, K. Shimizu, S. Ohno, T. Mori, K. Mori, T. Tobimatsu, T. Sera*
1023. Structural analysis of RNA-binding protein to generate artificial RNA-binding proteins. **T. Nakao**, K. Nakamura, Y. Fujita, K. Masaoka, T. Mori, K. Mori, T. Tobimatsu, T. Sera*
1024. Peptide-based tunable molecular wires. **G.M. Sylvia***, J. Horsley, J. Yu, A. Abell
1025. Zinc-finger-based artificial transcription factors and their applications. **K. Ofuji**, N. Nishida, T. Mori, K. Mori, T. Tobimatsu, T. Sera*
1026. Construction of self-assembled artificial viral capsid decorated with fab fragment. **Y. Shiomi**, T. Honjo, K. MATSUURA*
1027. Immunoglobulin Fc-fused, neuropilin-1-specific peptide penetrates tumor tissue efficiently and inhibits tumor growth via anti-angiogenesis. **Y. Kim**, J. Bae, J. Kim, Y. Kim*
1028. Photo-triggered fluorescent labeling of recombinant proteins in live cells. **Y. Kwon***
1029. Quantification of proteins by selected reaction monitoring mass spectrometry. **S. Niwayama***, S. Kurono
1030. Evaluation of cell-penetrating helical peptides having five-membered ring disubstituted amino acids. **T. Kato**, M. Oba, M. Tanaka
1031. Thermodynamic analysis for the interaction between sugar-mimic peptide and hemagglutinin. **S. Yoshikawa***, T. Matsubara, T. Sato
1032. Affinity selection of hemagglutinin-binding heptapeptide and *in silico* docking simulation. **T. Matsubara**, A. Onishi, D. Yamaguchi, T. Sato*
1033. Design and construction of a novel heparin-binding peptide for the purification of recombinant proteins. **J.A. Morris**, S. Jayanthi, T. Kumar*
1034. Development of FcBP-ferritin nanocage as a novel targeted delivery platform. **H. Kang**, G. Go, S. Chung
1035. Protective effects on enzymes during desiccation by model peptides of group-3 LEA proteins. **T. Furuki**, M. Sakurai*
1036. Chemical and biochemical features of human catalytic antibody light chain, #7 clone. **H. NAKASHIMA**, T. Uda, E. Hifumi
1037. Synthesis of D, L-amino acid derivatives bearing thiol at the β -position and its enzymatic optical resolution. **Y. Morishita***
1038. Peptide-based supramolecular structures. **B.R. Linton***
1039. Selection and engineering design of short molecular binders recognizing biomarker proteins. **H. Hwang**, M. Ryu, J. Park*
1040. Catalytic and anticancer functions of human super catalytic antibody (antigenase). **T. NONAKA**, T. Uda, E. Hifumi
1041. Expression and refolding of the taste modifying plant protein, Miraculin. **S. Yamaguchi**, M. Namba, N. Hashikawa
1042. O_2-affinity and safety of hemoglobin-albumin cluster. **H. Iwasaki**, R. Haruki, T. Komatsu*
1043. Inclusion behavior of fluorescent molecules into artificial viral capsids self-assembled from β-annulus peptide. **S. Fujita**, K. MATSUURA*
1044. Creation of artificial viral capsid modified oligohistidine chain. **T. Sakata**, T. Iwasaki, K. MATSUURA*

Sheraton Waikiki
Molokai

Functional Nucleic Acids: Chemistry, Biology, and Materials Applications (#10)

Organized by: S. Silverman, Z. Huang, Y. Li, Y. Lu, H. Suga
Presiding: H. Suga

19:00 – 1045. Triazole-linked analogs of DNA and RNA (^{TL}DNA and ^{TL}RNA): Synthesis and functions. **T. Fujino**, N. Yamazaki, K. Yasumoto, K. Endo, K. Okada, N. Tsunaka, A. Hasome, K. Sogawa, H. Isobe*
19:15 – 1046. RNA-aptamer probes for in vivo single virus assembly studies. **I.B. Tsvetkova***, G. Yi, C. . Kao, B. Dragnea
19:30 – 1047. Site-specific regulation and maintenance of an expanded genetic alphabet. **B.M. Lamb**
19:45 – 1048. Synthesis of novel pseudocytidine derivatives for the selective recognition of CG base pairs in triple-helix DNA. **H. Okamura**, Y. Taniguchi, S. Sasaki*
20:00 – 1049. Improvements to prediction of RNA secondary structure from sequence. **B.M. Znosko***
20:15 – 1050. In vitro selection of new RNA-cleaving DNAzymes, biochemical studies and analytical applications. **J. Liu***
20:30 – 1051. Synthesis and hybridization property of a boat-shaped pyranosyl nucleic acid analog whose nucleobase orientation is similar to that of natural RNA. **T. Kanagawa**, K. Mori, T. Kodama, S. Obika

Sheraton Waikiki
Kauai

Biosynthesis of Natural Products (#27)

Organized by: I. Abe, B. Moore, D. Ro
Presiding: C.A. Townsend

19:00 – 1052. Biosynthesis of macrolactam antibiotics. **T. Eguchi***
19:30 – 1053. Engineered biosynthesis of glycosylated natural products. **Y. Yoon***
19:50 – 1054. Orthogonal mechanism to link sugars in the biosynthesis of antibiotic polysaccharides. **B.O. Bachmann***
20:10 – 1055. Biosynthesis and physiological function of a moss-specific diterpenoid hormone. **H. Kawaide***, S. Miyazaki, M. Nakajima
20:30 – 1056. Creating the Facebook for natural product analysis. **P. Dorrestein**

Hawaii Convention Center
Halls I, II, III

Heat Shock Proteins: The Next Target in the Disease Frontier (#91)

Organized by: P. Wipf, S. McAlpine, P. Pan

Poster Session
19:00 – 21:00

1057. Role of heat shock proteins in the protective effect of raloxifene in endotoxemic rats. **H.H. Shen**, Y. Lee
1058. 17-DMAG, an Hsp90 inhibitor, improves ovariectomy-induced obesity in female rats. **s. Leu***, Y. Tsai, P. Cheng
1059. Role of heat shock proteins on depression-like behavior in mice. **M. Ogawa***, T. Ogawa, Y. Utaka, N. Hashikawa-Hobara, N. Hashikawa
1060. The forgotten heat shock protein, HSP27: The design and synthesis of molecules targeting HSP27 as chemotherapies. **J. Kho**, R. Mehmood, H. Ecroyd, s.r. mcalpine*
1061. Crystal structure of a symmetric football-shaped GroEL:$GroES_2$-ATP_{14} complex reveals rearrangement between two GroEL rings. **A. Koike-Takeshita***, T. Arakawa, H. Taguchi, T. Shimamura

Sheraton Waikiki
Waialua

Biomolecular Structure and Dynamics: Recent Advances in NMR (#181)

Organized by: M. Tsai, A. Gronenborn, M. Ikura, W. Lee, G. Otting, I. Shimada
Presiding: A.M. Gronenborn

19:00 – 1062. Ingenious cloak for subterfuge – the HIV capsid structure. **A.M. Gronenborn***
19:30 – 1063. In situ structural biology by NMR. **Y. Ito***
19:45 – 1064. Probing the structural effects of neo-glycosylation on STIM1 EF-SAM by solution NMR. Y. Choi, **P.B. Stathopulos***
20:00 – 1065. Interaction of ras GTPases with cell signaling phospholipids: Identification of binding sites using NMR, biophysical assays and computational modeling. **M. Buck***

*** Principle Author**

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20:15 – 1066. Substrate-bound form of heat shock 70 kDa protein (HSP70) maintains the open lid structure in contrast to the X-ray structure. **N. Tochio**, M. Hoshikawa, S. Tate*
20:30 – 1067. Revised structures of halogenated sucrose prepared using Appel reactions by one- and 2D magnetic resonance spectroscopy. **Z.P. Tachrim**, L. Wang, Y. Hashidoko, M. Hashimoto
20:45 – 1068. NMR approach for biomedical application. **H. Takahashi***

Sheraton Waikiki
Waianae

Bioorganic Reaction Mechanisms (#224)

Organized by: J. Richard, M. Tanner, C. Easton
Presiding: J. Richard

19:00 – 1069. Six to five membered rings: Structural, mechanistic, and inhibition studies of novel sugar biosynthetic enzymes in pathogenic microorganisms. **D.A. Sanders**
19:20 – 1070. Enzyme architecture: Optimization of transition state stabilization from a cation-phosphodianion pair. **J. Richard***, T.L. Amyes, A.C. Reyes
19:45 – 1071. Unraveling the novel deoxynucleoside triphosphate triphosphohydrolase activity of the HIV restriction factor SAMHD1. **M. Webb**, I. Taylor, K. Bishop, D. Schwefel, V. Ennis Adeniran, G. Kelly, L. Arnold, D. Goldstone , H. Groom, S. Kunzelmann, J. Stoye
20:10 – 1072. Theoretical study on a missing piece in understanding of biosynthesis of anthocyanin. **H. Sato***, C. WANG, K. Saito, M. Uchiyama
20:35 – 1073. Toward isoform-specific lipoxygenase inhibitors: Acetaminophen-inspired compounds. **R. Shah**, M. Haycock, D. Pratt*

Hawaii Convention Center
Halls I, II, III

Bio/chemical Approaches for Single Cell Biosensing Technologies (#257)

Organized by: E. Tamiya, K. Kerman, D. Chiu, G. Zhou

Poster Session
19:00 – 21:00

1074. New assay method of nephrotoxic chemicals using transparent transgenic zebrafish. **S. Akiyama***
1075. Integrating reductive and synthetic approaches in biology using man-made cell-like compartments. **W. Aoki***, M. Saito, E. Tamiya*
1076. Fabrication of single neural stem cell chip to detect cellular redox state based on spectroelectrochemical method. **J. Choi***, W. El-Said, T. Kim, Y. Chung
1077. Cytogenetic effects of low-dose tritiated water in human peripheral blood lymphocytes. **B. Deng***, y. quan, z. tan
1078. Isothermal and visual RNA detection system using enzymatic signal amplification and specific emission of thioflavin-T analog. **H. Fujita**, Y. Kataoka, M. Kuwahara*
1079. Imaging analysis of specific mRNA expression based on the FRET-based DNA nano-tweezers technique. **H. Funabashi***, H. Shigeto, K. Nakatsuka, A. Kuroda
1080. Development of rapid reciprocal-flow polymerase chain reaction system for quantitative analysis. **S. Furutani**, N. Naruishi, Y. Hagihara, H. Nagai*
1081. Titin-based fluorescent tension sensors reveal the mechanochemistry of focal adhesions. **K. Galior***, Y. Liu, K. Yehl, K. salaita
1082. Preparation of ruthenium complexes bearing a coumarin unit enables intracellular oxygen imaging. **D. Hara**, A. Son, K. Tanabe*, T. Kondo*
1083. Raman imaging of ex vivo bone formation during osteoblast differentiation. **A. Hashimoto***, L. Chiu, C. Morimoto, K. Fujita, M. Takedachi, Y. Yamaguchi*, S. Kawata, S. Murakami, E. Tamiya*
1084. Detection of circulating tumor cells in peripheral blood of lung cancer patients by use of a cell microarray chip. **Y. Hashimoto**, S. Yamamura, Y. Aoki, T. Hase, M. Kondo, Y. Hasegawa, Y. Baba, M. Kataoka*
1085. Neuronal growth control using SAM modified nanopillars as scaffolds. **N. Kasai***, A. Watanabe, R. Filip, A. Tanaka, T. Goto, Y. Kashimura, J. Brown, D. Sharp, S. Tsukada, J.F. Ryan, K. Sumitomo, H. Nakashima
1086. Analysis of molecular mechanisms underlying ultraviolet-C induced circadian clock synchronization using luciferase probes. **G. Kawamura***, M. Hattori, T. Tamaru, T. Ozawa
1087. Peptide nucleic acid that conjugates with a cell-penetrating peptide via a disulfide bond for detecting a specific small RNA inside cells. **M. Kitamatsu***, T. Ohtsuki
1088. Graphical user interface, DeCon, for "in silico decontamination" of whole genome amplified bacterial single-cells. **T. Maruyama**, T. Mori, K. Yamagishi, H. Takeyama
1089. Oscillation-assisted controlled release of biomolecules for high-efficient delivery to living cells using silicon nanoneedle array. **D. Matsumoto**, Y. Kato, R. Kawamura, T. Kobayashi, F. Iwata, C. Nakamura*
1090. Identification of the producers of bioactive compounds from marine sponge by using Raman microspectroscopy. **R. Miyaoka**, M. Hosokawa, M. Ando, T. Mori, H. Hamaguchi, J. Piel, H. Takeyama
1091. Concentration and purification by magnetic separation of cell or DNA using biochip. **N. Nagatani**
1092. Single cancer cell isolation on the microcavity array platform using photopolymerizable hydrogel. **R. Negishi**, S. Nakamura, T. Saeki, M. Hosokawa, T. Tanaka, T. Matsunaga, T. Yoshino*
1093. Picoliter-sized droplets for low bias whole genome amplification of single cell genome. **Y. Nishikawa**, M. Hosokawa, H. Takeyama
1094. Construction of high-throughput inhibitor screening system for frequently mutated proteins of influenza virus. **R. Nishioka***
1095. Development of antibody production system using goldfish toward single-cell analysis. **N. Nukada***, E. Avsar-Ban, Y. Tamaru
1096. Microfluidic parallel extraction of chromosomal DNA molecules from single cells. **T. Oda**, T. Suzuki, H. Takao, F. Shimokawa, K. Terao*
1097. Mass spectrometry for discovery and validation of neuropeptide genes in single neurons. **E. Romanova**, J.V. Sweedler*
1098. 2D array multi-ion image sensor to individually and comprehensively analyze active response of stimulated cell. **H. Sato**, F. Dasai, R. Kato, K. Sawada, T. Hattori*
1099. Superfine electrostatic inkjetting of monodisperse sub-femtoliter droplets for ultrarapid single-molecule in vitro compartmentalization. **B. Sharma**, T. Shimoda, Y. Takamura*, M. Biyani*
1100. mRNA analysis of living cells after capturing SICM topography of the living cell membrane. **H. Shiku***, Y. Nashimoto, Y. Zhou, H. Ito, Y. Takahashi, K. Ino, T. Matsue
1101. Detection of vimentin using antibody-modified nanoneedle and AFM to eliminate undifferentiated iPS cells. **K. Shimizu***, R. Kawamura, T. Kobayashi, M. Iijima, S. Kuroda, F. Iwata, K. Fukazawa, K. Ishihara, C. Nakamura
1102. Development of thin-film lead zirconium titanate actuator using solution process for highly integrated biochip. **R. Shimura***, P. Trong Tue*, Y. Tagashira, Y. Ukita, T. Shimoda, Y. Takamura*
1103. 3D microchamber with reagent reservoir for the single-cell analysis. **H. Suzuki***, K. Mitsuno, M. Tsugane, T. Okano, K. Shiroguchi
1104. Solid-phase synthesis of gold nanoantenna as a nano-scale fluorescent light source. **S. Suzuki***, M. Yokokawa, H. Suzuki
1105. Acceleration of on-chip immunoassays assisted by centrifugal thermal convection. **T. Tadokoro**, M. Saito, M. Murahashi, E. Tamiya*
1106. Development of a bench-top extra-cleanroom for single cell genomics. **H. Takahashi**, T. Satoh*, H. Kanahara*, Y. Kubota*, T. Suzuki*, T. Kobori*, Y. Okamura*
1107. Improving the electrochemical Imaging sensitivity of SECM-SICM by using size controllable Pt electrodeposited carbon nanoelectrode. **Y. Takahashi***, S. Mustafa, Y. Matsumae, Y. Nashimoto, H. Ida, K. Ino, H. Shiku, T. Matsue
1108. Rapid circulating tumor cell detection based on wide-field fluorescent imaging system using 2D photosensor. **K. Takai**, R. Negishi, T. Saeki, Y. Maeda, T. Tanaka, T. Matsunaga, T. Yoshino*
1109. Development of pipette tip-type biosensor for automated bioluminescence detection of target genes in pathogens-Development of pipette tip-type biosensor for automated bioluminescence detection of target genes in pathogens. **E. Takano***, N. Shimura, K. Ikebukuro, T. Takeuchi
1110. Live cell imaging and membrane protein mapping with atomic force microscope. **M. Takenaka***, T. Kobayashi, Y. Miyachi, K. Inokuma, J. Ishii, T. Hasunuma, C. Ogino, A. Kondo
1111. Development of fish biotechnology for recombinant proteins and their antibodies toward single cell biosensing. **Y. Tamaru***
1112. Electrochemical luminescent imaging of immunological cells inducing defense reactions with integrated microelctrode chamber array. **E. Tamiya**
1113. Development of the image cytometry method to analyze g-protein coupled receptor kinetics in the cell. **M. Tan**, S. Yamahira, S. Yamaguchi, M. Nakamura, T. Nagamune
1114. Label-free viable cells separation technique using deterministic lateral displacement microfluidic device. **N. Tottori**, J. Park, Y. Yanagida, T. Hatsuzawa
1115. Solution-processed active matrix thin-film transistor for highly integrated biochip. **P. Trong Tue***, S. Inoue, T. Shimoda, Y. Takamura*
1116. Development of a microfluidic s chip for exosome study in single-cell analysis of exosome level. **K. Tsutsui**, W. Aoki, E. Wilfred, A. Hashimoto, M. Saito, E. Tamiya
1117. Design of chemilumiminsecence system by combination of vinylphenols and naphthalene endoperoxide. **Y. Umehara**, K. Tanabe*, T. Kondo*
1118. Extraction of the cytoplasm from single cell using planar patch clamp arrangement. **H. Uno**, Z. Wang, S. Ishigaki, T. Ishizuka, Y. Takamura, T. Urisu
1119. Single cell genomic analysis of coral-associated uncultivable bacteria. **K. Yamagishi**, T. Mori, T. Maruyama, M. Ito, H. Takeyama
1120. Collagen surfaces modified with photocleavable polyethylene glycol-lipid for versatile single-cell array available for both non-adherent and adherent cells. **S. Yamahira**, S. Yamaguchi*, M. Kawahara, T. Nagamune*
1121. Development of on-site fluorescent measurement chip using photonic crystal. **Y. Yanagida***, Y. Imai, J. Park, T. Endo, T. Hatsuzawa
1122. Development of cell microarrayl chip for rapid and high sensitive malaria diagnosis. **S. YATSUSHIRO**, S. Yamamura, M. SAKURAI, K. Abe, T. MITA, T. HORII, M. Kataoka
1123. Rapid and selective detection of cysteine in living cells using a luciferin-inspired fluorogenic probe. **D. Ye***, M. Zheng, Y. Zhang
1124. Single-cell transcriptome analysis of beating cardiomyocytes derived from human induced pluripotent stem cell. **T. Yoda**, M. Hosokawa, Y. Haraguchi, K. Matsuura, T. Shimizu, H. Kambara, H. Takeyama
1125. Self-stretchable micromotors powered by electrochemical reactions. **Y. Yoshizumi**, M. Yokokawa, H. Suzuki*
1126. Evaluation of senescence-associated β-galactosidase activity in single cell using scanning electrochemical microscope. **Y. Zhou***, K. Ino, H. Shiku, T. Matsue

Sheraton Waikiki
Honolulu

Chemistry and Applications of Retinal Proteins: From Microbes to Humans (#395)

Organized by: L. Brown, H. Kandori, M. Olivucci
Presiding: M. Olivucci

19:00 – 1127. Toward quantitative folding studies of complex membrane proteins. **J.U. Bowie***
19:30 – 1128. First principles excited state dynamics of retinal protonated Schiff base in gas phase, solution, and protein environments. **T.J. Martinez***
20:00 – 1129. Coherent multidimensional studies of rhodopsin and bacteriorhodopsin – strong vibrational nonadiabatic coupling "sees" the light. **R. Miller***
20:30 – 1130. Hydrogen isotope effect in the primary event in vision: Does vibrational phase play a key role in photoisomerization?. **R.A. Mathies***, C. Schnedermann, M. Liebel, K. Spillane, P. Kukura, I. Fernandez, J. Lugtenburg
20:45 – 1131. New fluorescence based tools for the analysis of retinal protein function. **U. Alexiev***, A. Wolf, J. Balke, P. Volz, T. Kim

Saturday Morning

Sheraton Waikiki
Kohala/Kona

Advances in Peptide and Protein Chemistry (#6)

Organized by: W. Lubell, J. Kelly, A. Smith, H. Suga, V. Nanda, J. Huang, K. Kudo, R. Cheng, P. Lyu
Presiding: V. Nanda

8:00 – 1132. Folding and self-assembly of collagen-related peptides via noncovalent interactions. **J. Horng**, C. Chiang*, W. Hsu*, C. Chen*, T. Kao, Y. Chen
8:30 – 1133. Diastereomeric control of helical peptide stability. **V. Nanda***
9:00 – 1134. Photoswitching of protein conformation. **M. Lipfert**, H. Kobarg, R. Eick, A. Mueller, M. Schulz-Senft, T.K. Lindhorst, A. Staubitz, F.D. Soennichsen*
9:20 – 1135. Foldamers containing β-peptoid residues. **C.A. Olsen***
9:40 Coffee Break
9:50 – 1136. Solid-phase synthesis of multimetallated peptide arrays and their applications for biomedical issues. **K. Tashiro***

*** Principle Author**

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10:10 – 1137. ALS and FTLD-related protein aggregation induced by amyloidogenic peptides. **J. Huang***
10:40 – 1138. Studies of protein misfolding diseases: Misfolding mechanism of prion protein and peptide therapy Alzheimer's disease. **R.P. Chen***, Y. Chiang, C. Yang

Sheraton Waikiki
Molokai

Functional Nucleic Acids: Chemistry, Biology, and Materials Applications (#10)

Organized by: S. Silverman, Z. Huang, Y. Li, Y. Lu, H. Suga
Presiding: Z. Huang

8:00 – 1139. RNA-catalyzed synthesis of RNA enzymes. **G. Joyce***, D. Horning, J. Sczepanski
8:25 – 1140. DNA as a catalyst for biochemically relevant reactions in vitro and in vivo. **S.K. Silverman***
8:50 – 1141. Small-molecule detection and enantiopurity measurement using DNA-based sensors. **J. Heemstra***
9:15 – 1142. DNA-based asymmetric catalysis: Novel reactivity and DNA-induced rate acceleration. A. García Fernández, A. Draksharapu, A. Rioz Martinez, R.P. Megens, **G. Roelfes***
9:40 Break
9:55 – 1143. Genomic aptamers and ribozymes: From discovery to biological functions. **A. Luptak**
10:20 – 1144. Deoxyribosensors: the de novo creation of chip-based electronic sensors made entirely out of DNA, for sensitive detection of disease biomarkers. **D. Sen***, J. Thomas, Y. Huang, H. Yu
10:45 – 1145. Nearly two-decade pursuit of sequence specific RNase A mimics: Mission accomplished. **Y. Wang**, E. Liu , C.H. Lam, D. Perrin*
11:05 – 1146. Genome-wide profiling of RNA folding in vivo. **P.C. Bevilacqua***

Sheraton Waikiki
Kauai

Biosynthesis of Natural Products (#27)

Organized by: I. Abe, B. Moore, D. Ro
Presiding: D. Ro

8:00 – 1147. Enzyme-catalyzed [4+2]-cycloaddition required for macrocyclization of spirotetronate-containing polyketides. **T. Kuzuyama***
8:30 – 1148. Biosynthetic engineering to access altered thiostrepton scaffolds. **W.L. Kelly**
8:50 – 1149. From amide forming enzymes to discovery and engineering of bioactive molecules. **B. Li***, Z. Dunn, E. O'Neill, W. Wever
9:10 – 1150. Hybrid RiPP pathways to create new bioactive scaffolds. **E.W. Schmidt**
9:40 – 1151. In vitro biosynthetic system for peptides with diverse backbone heterocycles toward development of peudonatural products. **Y. Goto***, Y. Kato, S. Tsunoda, H. Suga
10:00 – 1152. Reinventing natural product discovery. **D.A. Mitchell***
10:20 – 1153. Peptide synthesis cooperatively achieved by peptide ligase and ribosomes. **T. Dairi**
10:50 – 1154. Mechanistic studies on oxidative enzymes involved in the biosynthesis of peptidyl nucleoside antibiotics. **S.G. Van Lanen***, A. Goswami
11:10 – 1155. Biosynthesis of streptothricin and its related antibiotics. **Y. Hamano***
11:30 – 1156. How does one enzyme make and break 32 chemical bonds?. **W.A. van der Donk**

Sheraton Waikiki
Ewa

Homeostasis of Transition Metal Ions in Biological Systems (#47)

Organized by: S. Aono, D. Giedroc, J. Roe
Presiding: S. Aono, D.P. Giedroc

8:00 – 1157. Spatio-temporal fluorescence analysis at the single cell level reveals zinc fluxes controlling the mammalian cell cyle. **T.V. O'Halloran**
8:30 – 1158. Iron homeostasis in Saccharomyces cerevisiae. **P.A. Lindahl***, M.J. Moore, J.D. Wofford, S.P. McCormick
9:00 – 1159. Organoferrous agents for spatiotemporal disruption of iron homeostasis in cells. **J.M. OConnor***, M.C. Aubrey, M. Proetto, C. Hoong
9:15 – 1160. Iron-sulfur cluster assembly in bacteria. **D.R. Dean***
9:45 – 1161. Cross-talk in metal homeostasis: Involvement of zinc in Fe-S cluster biogenesis in Bacillus subtilis. **P.C. Dos Santos***
10:15 – 1162. Iron mobilization for metallocofactor biogenesis: Not all iron pools are equal. **F. Outten***, N. Bolaji
10:45 – 1163. Iron-sparing response and iron uptake by Staphylococcus aureus. S.A. Loutet, M.J. Kobylarz, J.C. Grigg, M. Ikehata, **M.E. Murphy***
11:15 – 1164. Unusual oxygenation mechanism of MhuD, a heme degrading enzyme from *Mycobacterium tuberculosis*. **T. Matsui**, S. Nambu, S. Takahashi, H. Fujii, M. Ikeda-Saito

Sheraton Waikiki
Kahuku

Life at Small Copy Numbers (#137)

Organized by: S. Yoshimura, J. Xiao, P. Chen
Presiding: T. Nagai

8:00 – 1165. Prospect of minority biology. **T. Nagai***
8:30 – 1166. Bacterial hunger games: How bacteria ensure smooth gene expression during starvation. **M. Kim***
9:00 – 1167. Gene expression in the low copy number limit. **R. Phillips***
9:30 break
9:40 – 1168. Application of photoactive yellow protein as a photoresponsive module for controlling enzymatic activity. **M. Ui***, Y. Arai, M. Murakami, Y. Araki, T. Wada, H. Takahashi, K. Kinbara
10:00 – 1169. Probing single-molecule mRNA and protein expression dynamics in *Saccharomyces cerevisiae*. **Y. Taniguchi***
10:20 break
10:30 – 1170. Reaction networks with small copy numbers of molecules: Fluctuations and beyond. **Y. Togashi***
11:00 – 1171. Noises and dynamics in cells: The fluctuation-dissipation theorem and the burst gene production model. **C. Hsu***, C. Yan

Hawaii Convention Center
Halls I, II, III

Biomolecular Structure and Dynamics: Recent Advances in NMR (#181)

Organized by: M. Tsai, A. Gronenborn, M. Ikura, W. Lee, G. Otting, I. Shimada

Poster Session
10:00 – 12:00

1172. Solution structure of PKZ from Carassius auratus and its interaction with Z-DNA. **A. Lee**, J. Lee, J. Lee*
1173. NMR study of various type III antifreeze proteins explains their antifreezing activities. **s. Choi**, J. Lee, Y. Choi, J. Lee*
1174. Structure and molecular mechanism of the microtubule severing enzyme using NMR. **N. Iwaya***, S. Noda, N. Goda, T. Tenno, H. Hiroaki
1175. Triphosphate reorientation is a checkpoint in the fidelity mechanism of viral RNA-dependent RNA polymerase. X. Liu, X. Yang, D.M. Musser, **A.K. Boehr**, D.D. Boehr*

Royal Hawaiian
Regency I

Bioorganic Reaction Mechanisms (#224)

Organized by: J. Richard, M. Tanner, C. Easton
Presiding: J.W. Keillor

8:00 – 1176. Novel enzymatic reaction mechanism found in biosynthesis of natural products. **H. Oikawa***, A. Minami
8:30 – 1177. Mechanism of enzyme-catalyzed retro-aldolizations in *Mycobacterium tuberculosis*. **A.S. Murkin***, K.A. Manning, M.M. Moynihan
9:00 – 1178. Regulation of human peptide hormone levels. **C.J. Easton***
9:30 – 1179. Twisting tails and curious channels - the phosphoribosyltransferases. **E. Parker**, G. Mittelstaedt, T.V. Cookson
10:05 – 1180. Transglutaminase conformation and function. **J.W. Keillor***, C. Clouthier, I. Roy
10:40 – 1181. Multifunctional oxygenases in the biosynthesis of fungal meroterpenoids. **I. Abe***
11:10 – 1182. Reaction mechanisms of radical SAM enzymes involved in the biosynthesis of aminoglycoside antibiotics. **F. Kudo***, S. Hoshi, T. Eguchi

Royal Hawaiian
Regency III

Function, Chemistry, and Signaling of Glycolipids and Phospholipids (#273)

Organized by: C. Cairo, M. Best, W. Cheng
Presiding: w. cheng

8:00 Opening remarks
8:05 – 1183. Chemical approaches to the discovery and characterization of protein-membrane binding interactions using synthetic lipid probes. **M. Best***, M. Rowland, S. Eni Eni, S. Mattern-Schain
8:45 – 1184. Probing intracellular signalling with inositol polyphosphates. **A.B. Holmes***, A.W. Burgess, B. Catimel, M.A. Gregory, M. Yin
9:25 – 1185. Isotope-labeled phospholipids for examining domain-specific order profiles and compositional distributionby by solid state NMR. **M. Murata***, T. Yasuda, J. Cui, M. Kinoshita, S. Matsuoka, N. Matsumori
10:05 Break
10:20 – 1186. Diverse synthesis of glycophospholipids and their use in a study of bacterial cell wall assembly. **w. cheng***
11:00 – 1187. Synthesis and evaluation of potential vaccines against Lyme disease based on the glycolipid BbGL1. B.S. Huchenski, M. Hagar, S. Lee, **T. Grindley***
11:20 – 1188. Synthesis and biological studies of GPI anchors and GPI-anchored proteins. **Z. Guo**

Sheraton Waikiki
Honolulu

Chemistry and Applications of Retinal Proteins: From Microbes to Humans (#395)

Organized by: L. Brown, H. Kandori, M. Olivucci
Presiding: M. Olivucci

8:00 Introduction
8:05 – 1189. Human infrared vision triggered by two-photon chromophore isomerization. **K. Palczewski***
8:35 – 1190. Rhodopsin conformational dynamics in health and disease. **O.P. Ernst***, L.N. Caro, N. Van Eps, T. Morizumi
9:05 – 1191. Role of water and membrane lipids in rhodopsin activation. U. Chawla, S.M. Perera, B. Mertz, A.V. Struts, H. Liang, M.C. Pitman, **M.F. Brown***
9:20 – 1192. Mechanism of rhodopsin activation by light-induced retinal isomerization. N. Kimata, M. Sheves, P. Reeves, **S.O. Smith***
9:50 – 1193. Activation pathway of human rhodopsin in comparison to bovine rhodopsin. **F. Bartl***, R. Kazmin, S. Patrick, P. Hildebrand, E. Ritter
10:05 Break
10:15 – 1194. Structural changes of squid rhodopsin during the thermal relaxation process in the P62 crystal. **M. Murakami***, T. Kouyama
10:30 – 1195. Thermal isomerization of chromophore in rod and cone visual pigments. **Y. Shichida**
11:00 – 1196. Studies of spectral tuning and thermal decay of retinal photoreceptors. **V. Batista***
11:30 – 1197. Role of rhodopsin's unusual kinetics of thermal reactions in dim-light vision. Y. Guo, S. Sekharan, V. Batista, J. Tully, **E. Yan***

Saturday Afternoon

Sheraton Waikiki
Kohala/Kona

Advances in Peptide and Protein Chemistry (#6)

Organized by: W. Lubell, J. Kelly, A. Smith, H. Suga, V. Nanda, J. Huang, K. Kudo, R. Cheng, P. Lyu
Presiding: R. Cheng

13:00 – 1198. Structures, syntheses, and functions of antimicrobial peptides from gram positive bacteria. **J.C. Vederas**
13:30 – 1199. Effect of membrane curvature on membrane translocation of arginine-rich peptides. **S. Futaki**
14:00 – 1200. De novo-designed cationic foldamers from an unnatural δ-amino acid possess remarkable permeability to HeLa and primary neuronal cells. I. Monreal, E. Contreras, E. Paragas, G. Wayman, H. Aguilar, **J.P. Saludes***
14:20 – 1201. Building protein mimics with robust cellular delivery activity. **G. Tew**
14:50 – 1202. Effect of arginine modifications on structure and function. **R. Cheng**
15:20 – 1203. Peptide nanostructures as molecular transporters of therapeutic agents. **K. Parang**, A. Nasrolahi Shirazi, R.K. Tiwari
15:40 – 1204. Enzyme-mediated assembly of biomolecules on a designer scaffold based on self-assembled peptides. **R. Wakabayashi***, A. Suehiro, M. Goto, N. Kamiya*
16:00 – 1205. Synthesis of protein-based biomaterials by genetically encoded SpyTag-SpyCatcher chemistry. **Y. Lu**, K. Minamihata, T. Nagamune
16:20 – 1206. Racemic hydrogels from self-assembling enantiomeric peptides: Predictions from Linus Pauling. **J.P. Schneider**

Sheraton Waikiki
Molokai

Functional Nucleic Acids: Chemistry, Biology, and Materials Applications (#10)

Organized by: S. Silverman, Z. Huang, Y. Li, Y. Lu, H. Suga
Presiding: Y. Lu

13:00 – 1207. Biomarker discovery using DNA aptamers. **W. Tan**

*** Principle Author**

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13:25 – 1208. Structure and metal ion binding properties of the mammalian CPEB3 ribozyme. **R.K. Sigel***
13:50 – 1209. RNA aptamer-conjugated liposome as an efficient anticancer drug delivery vehicle targeting cancer cells in vivo. **D. Kim***, H. Park
14:10 – 1210. Targeting polymorphic DNA and their applications in disease diagnosis and treatment. J. Wang, W. Li, P. Shi, Z. Zhang, J. Ren, **X. QU***
14:35 Break
14:50 – 1211. Developing DNA-based sensors for small molecule pollutant detection. **D.A. Baum***
15:15 – 1212. Turning the action of ligand-responsive functional DNAs into long-chain DNA amplicons via rolling circle amplification. **Y. Li**
15:40 – 1213. Development of various types of protein adaptors to locate a single molecule of functional protein on molecular switchboard. **T.A. Ngo***, E. Nakata, H.T. Dinh, T.M. Nguyen, M. Saimura, T. Morii
16:00 – 1214. Highly selective fluorogenic probes for accurate and sensitive quantitation of nucleic acids. **J.A. Dallwig***, N. Ahnert, T. Huang, K. Gee, D. Gale, A. Dix
16:25 – 1215. Optical control of oligonucleotide function in cells and animals. **A. Deiters**

Sheraton Waikiki
Kauai

Biosynthesis of Natural Products (#27)

Organized by: I. Abe, B. Moore, D. Ro
Presiding: T. Mahmud

13:00 – 1216. Genetic strategies for molecular diversity. **J. Clardy***, C. Currie, A. Ruzzini, E. Van Arnam, C. Sit
13:30 – 1217. Combined-culture: The new method for secondary metabolism activation in actinomycetes. **H. Onaka***
13:50 – 1218. Chemical discovery in the microbial world. **E.P. Balskus***
14:10 – 1219. Insights from a global view of secondary metabolism: Small molecules from the human microbiota. **M. Fischbach**
14:40 – 1220. Probing the biosynthetic capabilities of a marine *Nocardiopsis* sp. **A.L. Lane**
15:00 – 1221. Uncovering new molecules and biosynthetic pathways from marine bacteria. **A. Ross***
15:20 – 1222. Culture independent approaches for the discovery of new bacterial metabolites. **S. Brady**
15:50 – 1223. Development of the heterologous expression technology applicable for huge biosynthetic gene clusters. **K. Shin-ya***
16:10 – 1224. Natural products library initiative (NPLI) at TSRI – reflections and prospective. **B. Shen***
16:40 – 1225. Novel alkaloidal phytoalexins and their biosynthetic pathways. **M.c. Pedras***, Q. To

Sheraton Waikiki
Ewa

Homeostasis of Transition Metal Ions in Biological Systems (#47)

Organized by: S. Aono, D. Giedroc, J. Roe
Presiding: K. Ishimori, J. Roe

13:00 – 1226. Mechanistic insights into iron regulation in yeast. **C.E. Outten***
13:15 – 1227. Structural basis of the bacterial heme transporter. **H. Sugimoto***
13:45 – 1228. From the cytoplasm to the periplasm and beyond, passing the Cu^{+} along. **J.M. Arguello***
14:15 – 1229. Metal trafficking in cells through a cellular structural biology approach. **L. Banci***
14:45 – 1230. Determinants of nickel site selectivity and sensitivity in transport, trafficking, and regulation. **P. Chivers***
15:15 – 1231. On the pathways adopted by metallothionein in binding, sequestering, and finally donating zinc to zinc-dependent enzymes. **M. Stillman***
15:45 – 1232. Is copper involved in the function of the amyloid precursor protein?. **A.G. Wedd***, Z. Xiao, T. Young
16:15 – 1233. Lost in metallation: The disaster on a protein structure leading to neurodegeneration. **Y. Furukawa***, I. Anzai, K. Nagasawa, S. Akiyama, M. Imai, K. Ishimori
16:30 – 1234. Is the mycobacterial protein nanocage involved in oxidative stress response?. H. Contreras, S. Dixon, **C. Goulding***

Sheraton Waikiki
Kahuku

Life at Small Copy Numbers (#137)

Organized by: S. Yoshimura, J. Xiao, P. Chen
Presiding: H.R. Ueda

13:00 opening remark
13:05 – 1235. Toward organisms-level systems biology. **H.R. Ueda**
13:35 – 1236. Cell size control and homeostasis of individual cells. **S. Jun***
14:05 – 1237. How is a long strand of genomic DNA organized in the cell?. **K. Maeshima**
14:25 break
14:35 – 1238. Harnessing 'noise' for cell-fate manipulation and therapy. **L. Weinberger***
15:05 – 1239. Adiabatic and non-adiabatic nonequilibrium stochastic dynamics of single regulating genes. **J. Wang***
15:35 – 1240. Structure and dynamics of protein complex in macromolecular crowding. **S. Yoshimura**, H.A. Konishi, S. Asai, M. Kumeta
15:55 break
16:05 – 1241. Combinatorial gene regulation by pulse timing modulation. **Y. Lin**
16:35 – 1242. Distribution of genome-size DNA in the dividing model cell membrane. **H. Suzuki***
16:55 closing remark

Royal Hawaiian
Regency I

Bioorganic Reaction Mechanisms (#224)

Organized by: J. Richard, M. Tanner, C. Easton
Presiding: J. Pelletier

13:00 – 1243. Discovery, evolution, and mechanism of a new family of nonheme iron halogenases that act on free substrates Independent of carrier protein. **X. Liu**
13:20 – 1244. Extended network of proximal and distal hydrogen bonds delivers RhoA catalyzed GTP hydrolysis via a strain-free transition state. **N. Richards**, R. Molt, Y. Jin, E. Pellegrini, M. Bowler, J. Waltho, M. Blackburn
13:45 – 1245. Energetics of the proton-transfer mechanism in aspartate aminotransferase. **H. Hayashi***, T. Murakawa, M. Shoji, Y. Shigeta
14:20 – 1246. Design and optimization of artificial enzymes: Nearer to nature. **D. Hilvert***
15:00 – 1247. Discovery and improvement of novel glycosidases through metagenomics and directed evolution. **S.G. Withers**, S. Hallam, z. Armstrong, K. Mewis, F. Liu, T. Duo
15:40 – 1248. Engineering biocatalysts: Exploring and exploiting flavoenzymes. **S. Lutz**
16:20 – 1249. Does engineering functional enzymes require preserving protein dynamics?. **J. Pelletier***, S. Gobeil, C. Clouthier, J. Park, D. Gagné, A. Berghuis, N. Doucet

Royal Hawaiian
Regency III

Function, Chemistry, and Signaling of Glycolipids and Phospholipids (#273)

Organized by: C. Cairo, M. Best, W. Cheng
Presiding: C. Cairo

13:00 Opening remarks
13:05 – 1250. Investigation of the assembly and budding of *filoviruses* from the host cell plasma membrane. **R.V. Stahelin***
13:45 – 1251. Lipidomic profile of gut commensal bacteroidales and identification of immunomodulatory glycosphingolipids. **S.F. Oh***, W. Zheng, H. Song, h. kim, S. Park, D.L. Kasper
14:05 – 1252. Detection of lipid-linked peptidoglycan precursors by exploiting an unexpected transpeptidase reaction. **Y. Qiao**, M. Lebar, K. Schirner, K. Schaefer, H. Tsukamoto, D. Kahne*, S. Walker*
14:25 – 1253. Fluorescence- and Raman-based spectroscopies for cell membrane measurements. **E.A. Smith**, A. Syed, Q. Zhu, C. Wijesooriya
15:05 Break
15:20 – 1254. Ganglioside probes for exploring functional molecular complexes in the cell membrane. **H. Ando***
16:00 – 1255. Cationic glycolipids as potent antitumor agents. M. Ogunsina, T. Idowu, P. Samadder, G. Arthur, **F. Schweizer***
16:20 – 1256. Monitoring enzymatic cleavage of phospholipids in symmetric lipid bilayers with vibrational sum frequency generation. **J. Gibbs-Davis**

Saturday Evening

Sheraton Waikiki
Kohala/Kona

Advances in Peptide and Protein Chemistry (#6)

Organized by: W. Lubell, J. Kelly, A. Smith, H. Suga, V. Nanda, J. Huang, K. Kudo, R. Cheng, P. Lyu
Presiding: K. Kudo

19:00 – 1257. Orthogonal protection strategies of Schollkopf's *bis*-lactim ether for the synthesis of non-proteinogenic dipeptides and α-amino acids. **M. Hutchby***, S.D. Bull
19:20 – 1258. Use of cyclic dipeptides as receptors and chiral catalysts. **C. Bérubé***, C. Bouchard, S. Cardinal, N. Voyer
19:40 – 1259. Dual functionalization and glycosylation of native amino acids. **D. Skropeta**, C.J. Cara
20:00 – 1260. Lipid-modified peptides: New synthetic strategies, protecting groups, and combinatorial methods. **M. Distefano***, V. Diaz-Rodriguez, M. Mahmoodi
20:20 – 1261. Covalent molecular recognition: Iminoboronate chemistry in water. **J. Gao***
20:40 – 1262. Different CMT disease-causing mutations promote the same neomorphic conformation of human GlyRS. **W. He**

Hawaii Convention Center
Halls I, II, III

Functional Nucleic Acids: Chemistry, Biology, and Materials Applications (#10)

Organized by: S. Silverman, Z. Huang, Y. Li, Y. Lu, H. Suga
Presiding: S.K. Silverman

Poster Session
19:00 – 21:00

1263. Structural stability and metal ion selectivity of the *yybP-ykoY* riboswitch. **L. Cavallo***, M. Chawla, R. Credendino, R. Oliva
1264. Functional and structural analyses of a c-di-GMP responsive riboswitch. **S. Inuzuka**, K. Nishimura, H. Kakizawa, H. Furuta, S. Matsumura, Y. Ikawa*
1265. Rational engineering of ribosomal shunt-modulating eukaryotic ON-riboswitches. **A. Ogawa***
1266. Construction and screening of the RNP library with catalytic functional group. **T. Tamura**, K. Ariyama, S. Nakano, T. Morii
1267. DNA-catalyzed conjugation of nucleic acids and tyrosine side chains. **C. Chu**, S.K. Silverman*
1268. Phosphorylation of protein side chains by DNA catalysts. **S.M. Walsh**, S.K. Silverman*
1269. DNA catalysts with chemically modified nucleotides to hydrolyze amide bonds. **C. Zhou**, S.K. Silverman*
1270. Selection of catalytic DNA with *O*-glycosidase activity. **C. Yeh**, J. Chandrasekar, S.K. Silverman*
1271. DNA-catalyzed PEGylation of peptides and proteins. **P. Wang**, S.K. Silverman*
1272. Selection and characterization of X-aptamers for small molecules. **P.K. Tsae**, M.C. DeRosa*
1273. Dopamine-binding DNA aptamer therapeutics for the treatment of schizophrenia and addiction. **E.M. McConnell***, M.R. Holahan, M.C. DeRosa
1274. Application of oligonucleotide-templated chemical reactions to DNA aptamers. **C.M. Mattice**, J. Manthorpe, M.C. DeRosa*
1275. Development of novel DNA aptamers for the detection of circulating tumor cells using terahertz chemicalmicroscopy. **E.M. Hassan**
1276. Design and evaluation of the specific ligand for CTG repeat sequence. **J. MATSUMOTO**, J. Li, K. NAKATANI*
1277. Small-molecule inhibitor of pre-miR-29 maturation. **A. Murata**, T. Otabe, J. Zhang, K. NAKATANI*
1278. SPR-based in vitro selection of pre-miRNA loop mutant molecules that bind to the restrained naphthyridine dimer. **Y. Mori***, Y. Di, A. Sugai, A. Murata, K. NAKATANI
1279. Analysis of binding of naphthyridine-azaquinolone derivatives to CAG repeats RNA. **A. Sakata**, J. Li, H. He, A. Murata, C. Dohno, S. Obika, K. NAKATANI*
1280. Integrated biophysical approaches to determine structures of the steroid receptor activator lncRNA ribonucleoprotein complexes. **T.C. Leeper***, S. Bilinovich, C. Davis, J. Caporoso, D.L. Morris
1281. Synthesis and properties of functional trinucleotide repeat-binding molecules to induce chemical transformation of trinucleotide repeats. **T. Yamada***, K. NAKATANI, A. Michikawa
1282. Design of triplex-forming BNA transcription factor. **M. Noda**, T. Yamamoto, S. Hori, Y. Hari, S. Obika*
1283. Selection of modified DNA aptamers: Comparison of capillary electrophoresis and biolayer interferometry. **Y. Kasahara***, K. Hagiwara, M. Kuwahara, S. Obika
1284. Development of high sensitivity aptamer based diagnostic kit for aminoglycoside antibiotics. **M. Yoon***
1285. Screening method to obtain aptamers binding different sites of the target molecule. **Y. Yamamoto**, K. Abe, N. Savory, K. Ikebukuro*

*** Principle Author**

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1286. Investigation of the effects of G-quadruplex ligand (7OTD) on the expression of cell transcriptome. **T. Saito**, T. Yokoyama, K. Teramoto, W. Yoshida, K. Abe, K. Iida, K. Nagasawa, K. Ikebukuro*

1287. Characterization of aptamer forming G-quadruplex structure and its binding to target molecules in hydrated ionic liquid. **T. Honda**, K. Abe, K. Fujita, H. Ohno, K. Ikebukuro*

1288. Abridged pathway for modification of 2-thiouridine tRNA in *Bacillus subtilis* . **P.C. Dos Santos***, K. Black

1289. Construction of metallo-DNA duplexes using 5-hydroxyuracil nucleobases as metal coordination sites. **K. Nishiyama**, Y. Takezawa, T. Mashima, M. Katahira, M. Shionoya

1290. Artificial metallo-DNA three-way junction: Metal-mediated stabilization and structural induction. **Y. Takezawa**, S. Yoneda, J. Duprey, M. Shionoya*

1291. DNA-binding studies of pyrrole-imidazole polyamides with anti-HPV activity. **M.J. Scuderi**, K.J. Koeller, T.G. Edwards, C. Fisher*, G. He, G.D. Harris, C.M. Dupureur, J.K. Bashkin*

1292. Intrinsically fluorescent nucleoside analogs: Synthesis, properties, and applications. **R. Hudson***

1293. Submolecular dissection reveals loop interaction is stronger than π-π stacking for G-quadruplex stability. **C. Ghimire**, S. Park, K. Nagasawa, H. Sugiyama, **H. Mao***

1294. Locating the uracil-5-yl radical formed in DNA containing 5-bromouracil. **F. Hashiya***, H. Sugiyama

1295. Design and photophysical properties of an environmentally sensitive fluorescent nucleoside, 3-deaza-2'-deoxyadenosine derivative: Distinguishing thymine by probing the DNA minor groove. **Y. Saito***, A. Suzuki

1296. 7-deaza-8-azaadenine and its 7-substituted derivatives: Structural and energetic impact on H-bonding potential with uracil in RNA molecules. **R. Oliva**, M. Chawla, R. Credendino, L. Cavallo

1297. Base-ribose stacking in functional RNAs: Bioinformatics and quantum mechanics characterization. **R. Oliva**, M. Chawla, E. Chermak, J. Bujnicki, L. Cavallo

1298. Screening method for RNA G-quadruplex stabilizers. **Y. Katsuda**, S. Sato, M. Uesugi*

1299. Construction of homo- and hetero-oligomers of perylenediimide derivatives in a DNA duplex by using abasic sites as binding and reactive sites. **T. Takada***, K. Yamana

1300. Synthesis and applications of new fluorescent deoxyribonucleoside analogs. **S. Yamamoto**, S. Park, H. Sugiyama*

1301. Live-cell imaging of endogenous mRNAs with a small molecule. **S. Sato***, Y. Katsuda, M. Watanabe, M. Uesugi*

1302. Development of environmentally sensitive fluorescent 8-aza-7-deazapurine nucleosides forming stable Watson-Crick base pairs. **A. Suzuki**, Y. Saito*

1303. Water-soluble nucleotide analog with a flexible backbone and positive charges. **Y. Watanabe**, M. Kuwahara*

1304. Regulation of translational activity of EGFP mRNA using photoresponsive α-haloaldehyde-conjugated ORNs. **Y. Nakata**, Y. Sugihara, A. Kobori, A. Yamayoshi, A. Murakami

1305. Development of novel anti-HIV drugs that mimic functions of non-coding RNA. A. Yamayoshi*, K. Yoshimoto, K. Kishimoto, A. Kobori, A. Murakami, **J. Ariyoshi**

1306. Introducing azaHx, a novel fluorescent, DNA sequence specific, minor groove, and GC recognition element: Expanding the scope of Hx-amide DNA sequence recognition. V. Satam, B. Babu, P. Patil, K. Olson, M. Savagian, M. Lee, A. Mepham, C. Bruce, S. Wang, D. Wilson, K. Kiakos, J. Hartley, **M. Lee***

1307. Efficient covalent capture of 8-nitroguanosine via a multiple hydrogen-bonded complex. **Y. Fuchi**, S. Sasaki

1308. Dynamic and mutual chiral induction system between B-, Z-DNA and the chiral [5]helicene-spermine ligand. **K. Kawara**, S. Sasaki

1309. Selective and cooperative binding of small molecular ligands to a GC repetitive site of DNA mediated by multiple complexation with metal cations. **H. Murase**, S. Sasaki

1310. Recognition and discrimination between 8-oxo-2′-deoxyguanosine and 2′-deoxyguanosine in DNA using the adenosine-1,3-diazaphenoxazine nucleoside derivatives. **Y. Taniguchi***, Y. Kikukawa, S. Sasaki

1311. Sialyllactose-modified 3-way junction DNA as a inhibitor of influenza hemagglutinin. **Y. Ebara***, M. Yamabe, D. Akamatsu, K. Kaihatsu, N. Kato

1312. Novel inhibitors targeting microRNA: Peptide-oligonucleotide conjugates for promotional releasing of microRNA from RISC. **J. Ariyoshi**, N. Eimori, R. Konishi, A. Kobori, A. Murakami, A. Yamayoshi

1313. Development of oligonucleotides having a caged α-haloaldehyde group and their inhibitory effect on translational activity of EGFP mRNA. **Y. Sugihara**, Y. Nakata, A. Yamayoshi, A. Murakami, A. Kobori*

1314. Analysis of alternative splicing by homogeneous fluorescence assay. **K. Nakajima**, A. Nishimura, A. Yamayoshi, A. Murakami, A. Kobori*

1315. Photoresponsive cap for reversible regulation of translation. **S. Ogasawara***

1316. Development of a novel fluorescence in situ hybridization method using photoreactive oligonuculeotide as a fluorescent probe. **K. Toyosato**, T. Sakamoto, S. Nakamura, K. Fujimoto*

1317. 19F NMR-based analysis of the local sequence and structure of DNAs using fluorine-modified bisbenzimide derivative. **D. Hasegawa**, T. Sakamoto, K. Fujimoto*

1318. Partial complementarity guided predictable and reliable synthesis of interstrand crosslinked oligonucleotides. B. Yoo, N. Persky, R. Wang, F. Yannick, C. Martinez, N. Pavletich, **O. Ouerfelli***

1319. Combining structure-switching aptamers with rolling circle amplification for biosensor development. **R.M. Bialy**, Y. Li, J.D. Brennan*

1320. Aptamer immobilization on comb-branched DNA scaffolds for bioanalytical applications. **E.K. TeSelle***, D.A. Baum

1321. Rational design of DNA-based sensing systems with precisely defined operational parameters. **I.V. Nesterova**

1322. Rapid identification of RNA viruses by peptide nucleic acid chromatography. **K. Kaihatsu***, S. Sawada, K. Takagi, T. Hayashi, M. Okazaki, N. Kato

1323. Photoligation-based quantitative technology for transcriptome analysis without reverse transcription. **M. Yokomori**, A. Suyama

1324. Quantitative detection of a single base change in RNA with DNAzyme and graphene oxide. **D. Kim***, C. Hong, A. Baek, D. Kim

1325. Orthogonal assembly of RuBisCO and carbonic anhydrase on a DNA nanoscaffold. **H.T. Dinh**, E. Nakata, T.A. Ngo, H. Ashida, T. Morii

1326. Specific detection of ATP by fluorescent ribonucleopeptide sensors. **S. Nakano**, T. Tamura, T. Morii*

1327. Development of modular adaptors to covalently locate multiple enzymes on DNA nanoscaffold. **T.M. Nguyen***, E. Nakata, H.T. Dinh, T.A. Ngo, M. Saimura, T. Morii

1328. New approach to detection of target DNA or RNA by coloring PALSAR method. **R. Morinaka***, N. Kato, A. Ohno, H. Haraguchi, S. Futo

1329. Detection of *Legionella* in hot spring water using the coloring PALSAR method. **H. Haraguchi**, R. Morinaka*, N. Kato, A. Ohno, S. Futo

1330. Construction of an RNA device based on a splicing ribozyme for amplification of input-signals. **R. Kiyooka**, S. Matsumura, Y. Ikawa*

1331. Programmable formation of catalytic 1D and 2D RNA nanostructures by assembling group I ribozymes. **S. Matsumura**, N. Uehara, D. Fujita, H. Furuta, Y. Ikawa*

1332. Intracellular delivery of impermeable photosensitizer by DNA tetrahedron and its potential for photodynamic therapy. **D. Ahn***

1333. Lipid-bilayer-assisted 2D self-assembly of DNA origami nanostructures. **Y. Suzuki**, M. Endo, H. Sugiyama

1334. Single-molecule manipulation and visualization of multiple DNA structural changes in the DNA nanostructures using high-speed AFM. **M. Endo***, H. Sugiyama

1335. DNA nanotechnology for controlling receptor signaling. **R. Ueki**, N. Kanda, A. Utsumi, S. Sando*

1336. Construction of chromophore arrays using DNA. **M. Nakamura***, T. Takada, K. Yamana

1337. Study of the dynamics of DNA nanotubes. **j. rahbani***, A. Hariri, G. Cosa, H. Sleiman

1338. Development of orientation-dependent FRET system for structural analyses of nucleic acids. **H. Kashida***, A. Kurihara, H. Asanuma*

1339. Combination of histone deacetylase inhibitors and lipofection-mediated INF-β gene therapy. **R. Nishimura**, H. Aihara, M. Katsuragi, Y. Fukushima, S. Uesato, T. Sumiyoshi, Y. Nagaoka*

Sheraton Waikiki
Kauai

Biosynthesis of Natural Products (#27)

Organized by: I. Abe, B. Moore, D. Ro
Presiding: J.C. Vederas

19:00 – 1340. Unlocking the mystery of natural rubber (*cis*-1,4-polyisoprene) biosynthesis in lettuce. **D. Ro***, Y. Qu, C. Romit, M. Kwon, E. Kwon

19:20 – 1341. Dirigent protein structure and function *in planta*: Evolutionary and metabolic ramifications. **N.G. Lewis***, K. Kim , H.K. Seneviratne, C.A. Smith, M. Daily, J.R. Cort, L.B. Davin

19:40 – 1342. Biosynthetic study of plant specialized products by means of genomics and metabolomics. **K. Saito***

20:10 – 1343. Mining the *Cannabis sativa* genome: Identification of *cannabichromenic acid synthase*. **J. Stout**, J. Page

20:30 – 1344. Discovery and assembly of pathways for medicinal monoterpenoid indole alkaloids in plants and microorganisms. **V. De Luca**

Hawaii Convention Center
Halls I, II, III

Homeostasis of Transition Metal Ions in Biological Systems (#47)

Organized by: S. Aono, D. Giedroc, J. Roe

Poster Session
19:00 – 21:00

1345. Spectroscopic properties of heme-binding protein HupD responsible for heme acquisition in *Listeria monocytogenes*. Y. Okamoto, M. Ogura, T. Uchida, K. Ishimori, T. Hayashi, **S. Aono***

1346. Structural basis for heme acquisition in *Corynebacterium glutamicum*. **N. Muraki***, Y. Okamoto, C. Kitatsuji, S. Aono

1347. Small-angle X-ray scattering analysis reveals the overall structure and signal transduction mechanism of a heme-based oxygen sensor protein, FixL. **A. Saeki**, T. Hikima, G.S. Wright, S.V. Antonyuk, S. Hasnain, M. Yamamoto, Y. Shiro, H. Sawai*

1348. Genetic response against removal of CO from the blood of mice by an iron(II-)porphyrin-cyclodextrin supramolecular complex. **S. Minegishi**, H. Kitagishi*, A. Yumura, S. Negi, Y. Sugiura, K. Kano

1349. Structural characterization of metal-binding sites and metal-induced dodecameric assembly of the CutA1 proteins. **B. Bagautdinov***

1350. Investigations into effects of copper ions and iron-containing proteins on tau protein phosphorylation and aggregation. **S. Martic***

1351. Probing the interaction of iron ions with tau and phosphoryled tau by electrochemistry approach. **S. Ahmadi**, K. Amini, Z. She, H. Kraatz*

1352. Small RNAs coordinate the iron and cell density signalings to regulate virulence factors in the human pathogen *Vibrio vulnificus*. Y. Wen*, I. Kim*, **K. Kim***

1353. Stimulation of biotin synthase (BioB) activity and regeneration of the auxiliary [2Fe2S] cluster by the monothiol glutaredoxin (GrxD). A. Saini*, S. Boutigny*, E. Baidoo, V. Trotter, J.D. Keasling, **G. Butland**

Hawaii Convention Center
Halls I, II, III

Life at Small Copy Numbers (#137)

Organized by: S. Yoshimura, J. Xiao, P. Chen

Poster Session
19:00 – 21:00

1354. Cooperative force production by unc104 forced dimers. **Y. Tsuchizawa***, T. Shima, T. Kambara, Y. Okada

1355. Analytical theory of individual diffusion trajectories in living cells. **S. Shinkai***, Y. Togashi

1356. Single particle counting of influenza virus by micro droplet array. **K. Tabata**, S. Kidokoro, H. Noji

1357. Direct measurement of the binding rate constant of kinesin to microtubules in living cells. **T. Kambara**, Y. Okada

1358. Expanded color palette of super-brilliant luminescent proteins for multicolor, real-time bioluminescence imaging. **A. Takai**, M. Nakano, K. Saito, R. Haruno, T.M. Watanabe, T. Ohyanagi, T. Jin, Y. Okada*, T. Nagai*

1359. Development of super-active TALEs for efficient genome visualizing and manipulating tools. **K. Ikeda***, Y. Terahara, K. Sumiyama, Y. Okada

Hawaii Convention Center
Halls I, II, III

Function, Chemistry, and Signaling of Glycolipids and Phospholipids (#273)

Organized by: C. Cairo, M. Best, W. Cheng

Poster Session
19:00 – 21:00

1360. High levels of arachidonic and *n*-3 docosapentaenoic acid in the phospholipids of marine gastropod *Turbo cornutus*. **h. saito***

1361. Novel synthesis of deuterated phosphatidylinositol 4,5-bisphosphate. **A.M. Saunders***, H. Sanganee, V. Flemington, S.J. Conway

1362. Ergosterylglucoside catabolism by ergosteryl-β-glucosidase (Egh1) is associated with vacuole formation in *Saccharomyces cerevisiae*. **T. Watanabe**, M. Tani, Y. Ishibashi, N. Okino, M. Ito

*** Principle Author**

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1363. Theoretical interaction analysis between hemaggultinin of influenza A virus and sulfatide. **Y. Fujita**, S. Okazaki, T. Takahashi, K. Ikeda, T. Suzuki, H. TOKIWA*
1364. Development of detection system of amyloid β peptide from Alzheimer's disease using lipid membranes: A quartz crystal microbalance method. **T. Shimanouchi**, M. Iwamura, Y. Sano, Y. Kimura
1365. In vivo clearance of secreted phospholipase A2 from extracellular medium by the M-type receptor. **H.N. Ewing***, G. Naika, F. Ghomashchi, M.H. Gelb
1366. Development of a new approach to prepare structurally diverse peptidoglycan intermediates: Synthesis and functional study of *N*-substituted lipid II analogs. **C. Guo**, C. Lin*, w. cheng*
1367. S-linked sialyloligosaccharides bearing lipid for influenza virus inhibition. **P. Liang**, Y. Lee

Hawaii Convention Center
Halls I, II, III

Chemistry and Applications of Retinal Proteins: From Microbes to Humans (#395)

Organized by: L. Brown, H. Kandori, M. Olivucci
Presiding: L. Brown

Poster Session
19:00 – 21:00

1368. Mechanism of ion-conducting pore formation and gating in Channelrhodopsin-2. **F. Bartl***
1369. Novel group of eubacterial proton pumps with the unique proton-donating complex. **L. Brown***, A. Harris, M. Ljumovic, S. Ito, K. Inoue, H. Kandori, A. Bondar
1370. Reversible hydration-volume fluctuations in rhodopsin activation: Scattering and NMR methods confirm molecular dynamics predictions. X. Xu, S.M. Perera, U. Chawla, U. Shrestha, T.R. Molugu, A.V. Struts, D. Bhowmik, J. Feng, N. Nesnas, B. Mertz, M.C. Pitman, X. Chu, **M.F. Brown***
1371. Light-driven sodium ion pumping activity is controlled by positive and negative charged residues in new type of microbial rhodopsin. **A. Choi***, S. Kim, K. Lee, S. Kim, S. Bae, K. Koo, H. Shin, K. Jung
1372. Arrestin splice-variant p44 delays retinal release from photoactivated rhodopsin via meta III. **C.E. Eckert***, D. Chatterjee, C. Slavov, K. Saxena, C. Sanders, V.V. Gurevich, J. Wachtveitl, H. Schwalbe
1373. Comparison of bovine and human rhodopsin photoactivation kinetics. **C. Funatogawa**, I. Szundi, D.S. Kliger*, J. Lewis
1374. FTIR spectroscopy of animal and microbial rhodopsins. **H. Kandori**
1375. Photochemical characterization of flavobacterial rhodopsin: The importance of the helix E region for heat stability. **S. Kim***, S. Han*, J. Cho, K. Lee, K. Shin, G. Lee, K. Jung
1376. Function and photochemical properties of actinorhodopsins. **S. Kim***, K. Jung, J. Park
1377. Electronic progression during the photoisomerization of microbial and animal light-sensing rhodopsins. **M. Olivucci***, H. Luk, F. Melaccio, S. Rinaldi, S. Gozem
1378. Tracking folding events during cell-free expression of bacteriorhodopsin into nanodiscs by SEIRAS. **R. Schlesinger***, K. Ataka
1379. Inversion of sequence and direction of the proton transfer in proteorhodopsin at high pH. **J. Tamogami***, T. Kikukawa, T. Nara, M. Demura, E. Muneyuki, N. Kamo

Sunday Morning

Sheraton Waikiki
Kohala/Kona

Advances in Peptide and Protein Chemistry (#6)

Organized by: W. Lubell, J. Kelly, A. Smith, H. Suga, V. Nanda, J. Huang, K. Kudo, R. Cheng, P. Lyu
Presiding: P. Lyu

8:00 – 1380. Protein-based hybrid catalysts for hydrogen production. **G. Ghirlanda***
8:30 – 1381. Dressed up artificial viral capsids self-assembled from β-annulus peptides. **K. MATSUURA***, T. Honjo, T. Iwasaki
8:50 – 1382. Construction of a bispecific antibody via protein trans-splicing. Y. Shibuya, R. Asano, H. Nakazawa, M. Umetsu, **K. makabe***
9:10 – 1383. Chemical synthesis of homogeneous glycoprotein and an insight into the relationship between glycosylation pattern and biological activity. **Y. Kajihara**
9:30 – 1384. RE3Volutionary computational design of symmetric proteins. **A.R. Voet**
9:50 – 1385. Single mutations in a non-enzymatic protein give rise to various catalytic activities. Y. Moroz, T. Dunston, O. Moroz, O. Makhlynets, Y. Wu, P. Gosavi, J. Yoon, N. van Nuland, **I. Korendovych***
10:10 – 1386. Site-specific protein PEGylation through incorporation of aromatic amine-containing non-natural amino acid. **T. Watanabe**, R. Shiba, T. Hohsaka*
10:30 – 1387. Organometallic palladium complexes as chemoselective bioconjugation reagents. **E.V. Vinogradova**, C. Zhang, A. Spokoyny, B. Pentelute, S. Buchwald, B.F. Cravatt
10:50 – 1388. Posttranslationally modified tau proteins accessed by a novel purification tag. **O. Reimann**, C. Smet-Nocca, C.P. Hackenberger*
11:10 – 1389. Effect of chemical modifications of amino acids as point mutations in protein function. S. Sakurai, **A. Tsuneshige***
11:30 – 1390. ME47, a minimalist protein designed to target the Myc/Max:E-box DNA network, decreases cancer cell growth. **J. Shin***

Sheraton Waikiki
Molokai

Functional Nucleic Acids: Chemistry, Biology, and Materials Applications (#10)

Organized by: S. Silverman, Z. Huang, Y. Li, Y. Lu, H. Suga
Presiding: S.K. Silverman

8:00 – 1391. Crystal structure of an RNA mimic of GFP reveals a G-quadruplex core. **A.R. Ferre-D'Amare***
8:25 – 1392. Development of aptasensors for the detection of organic compounds contaminated in foods. **Y. Morita**, Y. Tomita, D. Fujiwara, H. Suga*
8:50 – 1393. Responsive aptamer-based materials and nanoswitches. **M.C. DeRosa***
9:10 – 1394. Conserved ligand-responsive RNA switches regulating viral translation. **T. Hermann***, M.A. Boerneke
9:35 Break
9:50 – 1395. Platinum biomolecule target analysis using click chemistry. J.D. White, A. Moghaddam, R. Cunningham, K. Plakos, E. Reister, M.M. Haley, **V. DeRose***
10:15 – 1396. DNA nanowire field-effect transistor. **K. Yamana***, **T. Takada**, **N. Matsuo**
10:35 – 1397. Artificially expanded genetic information systems (AEGIS) for creating receptors, ligands, and catalysts on demand. **S. Benner***, R.W. Shaw, M. Matsuura
11:00 – 1398. Creation of high affinity DNA aptamers using a genetic alphabet expansion toward diagnostic and therapeutic applications. **I. Hirao***
11:25 – 1399. Semi-synthetic organism with an expanded genetic alphabet. **F. Romesberg**
11:50 Closing remarks

Sheraton Waikiki
Kauai

Biosynthesis of Natural Products (#27)

Organized by: I. Abe, B. Moore, D. Ro
Presiding: I. Abe

8:00 – 1400. Novel terpenes generated by awakening of genes encoding bacterial terpene synthase. **H. Ikeda**
8:30 – 1401. Tools to investigate carrier protein biosythesis. **M. Burkart**
9:00 – 1402. Biosynthesis of a diazo-containing natural product from *Streptomyces*. **Y. Katsuyama**, Y. Ohnishi
9:20 – 1403. Azinomycin biosynthesis: probing the mechanism of azabicycle biosynthesis. **C. Watanabe***, K. Nepal, S. Mori, D. Simkhada, V. Sharma, G. Kelly, D. Delgado
9:40 – 1404. Posttranslational isoprenylation of tryptophan. **M. Okada**
9:55 – 1405. Lincomycin biosynthesis: a tale of two small-molecule thiols. Q. Zhao , M. Wang, **W. Liu***
10:25 – 1406. Mechanistic studies on a new menaquinone biosynthetic pathway. **T.P. Begley***
10:55 – 1407. Biosynthesis and tailoring of marine microbial siderophores. **A. Butler***
11:15 – 1408. Characterization of two novel plant type III polyketide synthases obtained from medicinal plant *Evodia rutaecarpa*. **H. Morita***, T. Kodama, H. Noguchi, I. Abe
11:30 – 1409. Mechanism-based self alkylation in sesquiterpene synthases. **J.P. Noel***, R.D. Kersten

Sheraton Waikiki
Ewa

Homeostasis of Transition Metal Ions in Biological Systems (#47)

Organized by: S. Aono, D. Giedroc, J. Roe
Presiding: P. Chivers, P.A. Lindahl

8:00 – 1410. Molecular mechanisms of heme homeostasis in Gram-positive bacteria. **S. Aono***
8:30 – 1411. Specific heme binding in iron regulatory proteins and its functional significance. **K. Ishimori**
9:00 – 1412. CCCH 'zinc finger' proteins that regulate RNA processing: Metal ion switching and RNA recognition. **S. Michel***
9:30 – 1413. Bacterial riboswitches cooperatively bind Ni(II) or Co(II) and control expression of heavy metal transporters. **W. Winkler**
10:00 – 1414. Regulation of metal homeostasis by metal-sensing transcription factors in bacteria. **J. Roe***
10:30 – 1415. Activity of the nickel-responsive transcription factor NikR. **D.B. Zamble**
11:00 – 1416. Creation of a metal-sensor. **N.J. Robinson***
11:30 – 1417. Exploring protein allostery and dynamics in metalloregulatory proteins. **D.P. Giedroc***, J. Braymer

Sheraton Waikiki
Kahuku

Life at Small Copy Numbers (#137)

Organized by: S. Yoshimura, J. Xiao, P. Chen
Presiding: T. Komatsuzaki

8:00 opening remark
8:05 – 1418. Toward deciphering molecular individuality in systems biology. **T. Komatsuzaki***
8:35 – 1419. Modeling timing phenomena in single-cells: From phage-induced lysis to cell-division events. **A. Singh**, K. Ghusinga, J. Dennehy
9:05 – 1420. Conformational motions in protein machines and motors from coarse-grained modeling. **H. Flechsig***
9:25 break
9:35 – 1421. Regulation of the rotational switching of bacterial flagellar motor by binding of an intracellular signaling protein Che. **A. Ishijima**
10:05 – 1422. Directional accuracy in a model of gradient signaling during yeast mating. **E. Roberts**
10:35 – 1423. Cooperative conformational changes of microtubule by kinesin as the mechanism for the spontaneous polarization of intracellular transport in neurons. **Y. Okada***
10:55 break
11:05 – 1424. Lhx2 regulates the timing of b-catenin-dependent cortical neurogenesis. **S. Chou**
11:35 – 1425. Mechanism of influenza virus entry into host cells via calcium signaling-mediated endocytosis. **Y. Fujioka**, A. Nanbo, S. Nishide, Y. Ohba*
11:55 closing remark

Royal Hawaiian
Regency I

Bioorganic Reaction Mechanisms (#224)

Organized by: J. Richard, M. Tanner, C. Easton
Presiding: C.J. Easton

8:00 – 1426. Synthesis and application of cyclic selenides having high-polar functional groups as ER-resident oxidoreductase models. **K. Arai***, M. Iwaoka
8:20 – 1427. Structure function studies on matrix metalloproteinases (MMPs). **M.W. Crowder***, K. Makaroff, F. Meng, N. Pas, G. Kuznieski, H. Yang, D. Tierney
8:40 – 1428. Dissecting the mechanisms of endo-acting mannosidases. Z. Hakki, G. Speciale, T. Belz, C. Rovira, G.J. Davies, **S.J. Williams**
9:15 – 1429. Covalent and noncovalent approaches to promote PNA linvasion for In vivo applications. **M. Komiyama***
9:50 – 1430. Bifunctional molecules containing [12]aneN_3 and fluorescent moieties as effective nonviral gene vectors and transfection mechanism study tool. **Z. Lu**, Y. Gao, Y. Zhang, K. Zhang
10:20 – 1431. Asymmetry of hydrogen bonds in solution. **C.L. Perrin**
10:50 – 1432. Molecular mechanisms of the medicinal thiosulfinates from garlic and petiveria: They are not antioxidants, but lipophilic analogs are. **D. Pratt**
11:25 – 1433. Deciphering and engineering the chemical complexity of cellular microtubules: Insights from structural studies of tubulin modification enzymes. **A. Roll-Mecak***

Royal Hawaiian
Regency III

Function, Chemistry, and Signaling of Glycolipids and Phospholipids (#273)

Organized by: C. Cairo, M. Best, W. Cheng
Presiding: M. Best

*** Principle Author**

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8:00 Opening remarks
8:00 – 1434. Remodeling of membrane glycolipids by the human neuraminidase enzymes alters cell migration. **C. Cairo***
8:40 – 1435. Highly efficient preparation of sphingoid bases from glucocerebrosides toward construction of lipids and glycolipids chemical library. **K. Monde***, S.B. Gowda, K. Yamane, A. Nakahashi, M.A. Hammam, T. Taniguchi, A.C. Kumar, S. Usuki, Y. Igarashi
9:00 – 1436. Design of long-lasting peptide anchors for cell surface engineering inspired from natural membrane proteins. **W. Hatanaka***, M. Takeo, R. Tokunaga, M. Kawaguchi, A. Kishimura, T. Mori, Y. Katayama
9:20 – 1437. Cell surface engineering via bioorthogonal liposome fusion. **M.N. Yousaf**
10:00 Break
10:15 – 1438. Metabolic production of photocrosslinking gangliosides to capture ganglioside-protein interactions. A.M. Wands, A. Fujita, **J. Kohler***
10:55 – 1439. Spontaneous phospholipid membrane formation by native chemical ligation. **R.J. Brea***, C.M. Cole, N.K. Devaraj
11:15 – 1440. Protein-glycolipid interactions studied in vitro using ESI-MS and nanodiscs: Insights into the mechanisms and energetics of binding. L. Han, E. Kitova, J. Li, S. Nikjah, **J. Klassen***

MTLS

Area 8 – Materials & Nanoscience

Tuesday Morning

Hawaii Convention Center
318B

Nanocrystal Synthesis, Characterization, Assembly and Applications (#34)

Organized by: R. Tilley, S. Skrabalak, T. Hyeon, T. Nann, T. Adshiri

8:00 – 1. Some biological applications of nanomaterials, from quantum dots, through polymers, to biosynthesis. **M.A. Green**
8:20 – 2. Facet-dependent properties of inorganic nanocrystals. **M.H. Huang**
8:40 – 3. NMR techniques for characterization of Au nanoparticle surface chemistry. **J.E. Millstone***, L. Marbella
9:00 – 4. Synthesis of biocompatible fluorescent metal nanoclusters and biomedical imaging. **S. Tanaka***
9:20 – 5. TEM investigations of particle-mediated crystal growth. **D. Li**, K. Rosso, J.J. De Yoreo
9:40 – 6. In situ liquid cell STEM of seeded metal nanostructure growth. **R.G. Weiner**, D.P. Chen, R.R. Unocic, S.E. Skrabalak*
10:00 – 7. Self-assembly of gold nanoparticles with a fluorinated surface. **K. Niikura***, J. Wei, N. Sugimura, H. Mitomo, K. Ijiro
10:20 – 8. Microwave-assisted continuous flow synthesis of $CuInS_2$ quantum dots. R. Fitzmorris, M. Ahmadi, B. Mangum, J. Kurtin, **G. Herman***
10:40 – 9. Formation mechanism of Ag@FeCo@Ag core@shell@shell nanoparticles. **M. Takahashi**, K. Higashimine, P. Mohan, D.M. Mott, S. Maenosono*
11:00 – 10. Novel route for surface modification of superparamagnetic nanoparticles in suspension for biomedical applications. **D.E. Jaskólska***, C. Meledandri
11:20 – 11. Hybrid $NiFe_2O_4$ / (Ni,Fe)O particles produced by induction plasma. S. Bastien*, C. Ricolleau, **N. Braidy**

Hawaii Convention Center
318A

Conjugated Polymers for Biological Applications (#43)

Organized by: H. Yu, S. Wang, J. Tovar
Presiding: J.D. Tovar, H. Yu

8:00 Opening Address
8:10 – 12. Applications of conjugated polyelectrolytes in biosensing and disinfection. **K. Schanze**
8:50 – 13. Amphiphilic conjugated block copolymers for single- and two-photon fluorescence imaging. **Y. Tian***
9:10 – 14. Electropolymerization of functionalized 3,4-ethylenedioxythiohene: Methods, properties, and applications. **S. Luo**
9:40 – 15. Functional conjugated polymers for self-signaling and signal-amplifying biosensors and sensor arrays. **J. Kim***
10:00 – 16. Optical functional conjugated polymer materials for biomedical applications. **S. Wang***
10:30 – 17. Preparation of fluorescent conjugated polymer microspheres with monodispersity, bioconjugatablity or tunable emission. **L. Fan***
10:50 – 18. Triscyclometalated iridium-functionalized conjugated oligomers with nonlinear optical properties and bio-applications. **D. Zhao***
11:20 – 19. Oligofluorene for rapid and specific identification of antibiotics with membrane-disrupting ability. **F. Lu***

Hawaii Convention Center
321B

Molecular Adsorption on Metallic Interfaces: Beyond the Cartoons (#102)

Organized by: D. Bizzotto, I. Burgess, H. Yu, T. Sagara, H. Yang
Presiding: I.J. Burgess, H. Yu

8:00 Introduction. Optical methods
8:10 – 20. Super-resolution fluorescence microscopy for understanding and characterising biointerfaces. **J. Gooding**, X. Lu, T. Tabarin, P. Nicovich, V.S. Chand, K. Gaus
8:40 – 21. Optical and electrochemical methods to probe structure and organization in short chain SAMs. **A.G. Brolo**
9:00 – 22. Exploring the non-homogeneities of DNA mixed self-assembled monolayers by coupling electrochemistry and fluorescence microscopy. **T. Doneux***, A. Meunier, E. Triffaux, C. Buess-Herman
9:30 – 23. Electrochemically controlled oil droplet reshaping on Au electrode surface in aqueous solution. **T. Sagara***, T. Morooka, Y. Yoshinaga, H. Tahara
9:50 – 24. Studying the influence of surface crystallography on long and short range organization of DNA self assembled monolayers prepared by thiol exchange on a single crystal gold bead. Z.L. Yu*, J. Casanova-Moreno, **D. Bizzotto**
10:10 Break. Probe Microscopy
10:20 – 25. Thiolated DNA on gold: Single molecule insights enabled by high resolution microscopy. **T. Ye***
10:50 – 26. Isolation of thiol at electrochemically-controlled ovalene adlayer on Au(111). **S. Yoshimoto***
11:10 – 27. Multiplicity in adsorption states of self-assembled monolayers on Au(111). **M. Hara***
11:40 – 28. Interfacial structure and function of nanostructured membranes of newly synthesized phosphorylcholine derivatives. **T. Sawaguchi**

Hawaii Convention Center
317A

Design, Synthesis and Applications of Advanced Porous Materials (#111)

Organized by: C. Doonan, M. Dinca, S. Telfer, S. Furukawa, Q. Li

8:00 – 29. Dimensional crossover in coordination frameworks. **H. Kitagawa***
8:30 – 30. Versatile approach to MOF-polymer mixed-matrix membranes. **S. Cohen**, M. Denny
9:00 – 31. Catalytic metal-organic frameworks (MOFs): Design and preparation. **O.K. Farha**
9:20 – 32. Photoinduced postsynthetic polymerization of metal-organic framework for the flexible stand-alone membrane. **B. Wang**
9:40 – 33. Following catalytic transformations in MOFs. **C. Doonan***, C. Sumby, A. Burgun
10:00 – 34. Metal organic frameworks as catalyst and catalyst precursors for C1 chemistry. **A. Olivos** , T. Wezendonk, D. Osadchii , F. Kapteijn, J. Gascon
10:20 – 35. Functional organic frameworks as platforms for light-driven hydrogen evolution. **B.V. Lotsch***
10:40 – 36. Metal-organic frameworks as supporting macromolecular ligands for small molecule reactivity. **M. Dinca**
11:00 – 37. Synthesis, characterization, and catalytic applications of functionalized porous coordination polymers. **H. Choudhary**, S. Nishimura, K. Ebitani*
11:15 – 38. Photoswitching in thin films of metal-organic frameworks: Optically triggered release of guest molecules. **L. Heinke**
11:30 – 39. Radially expandable metal-organic frameworks. **W. Choe**
11:45 – 40. MOFs as a crystallisation matrix: Structural insights into metal-centred reactions. W. Bloch, A. Burgun, C. Coghlan, C. Doonan, **C. Sumby**

Hawaii Convention Center
316A

Frontier and Perspectives in Molecular Spintronics (#127)

Organized by: M. Yamashita, B. Zhang, H. Tajima, B. Hu, P. Lahti, J. Gao
Presiding: M. Ruben, H. Tada

8:00 – 41. Frontier of quantum molecular spintronics based on single-molecule magnets: Giant and tunneling magnetoresistances. **M. Yamashita***
8:30 – 42. Sandwich-type lanthanide single-molecule magnets with tetrathiafulvalene unit: Synthesis, properties, and surface assembly. **J. Zuo**
9:00 – 43. Revealing atomic site-dependent g-factor within a single magnetic molecule via extended Kondo effect. **S. Du**
9:30 – 44. Molecular spins in a quantum box. **M. Affronte***
10:00 Break
10:15 – 45. Single magnetic molecules studied by LT STM. **Y. Wang**
10:45 – 46. Organometallic spin crossover and single-molecule magnetism. **J. Tao***, C. Wang, X. Yang, F. Liu, L. Zheng
11:15 – 47. Toward quGates: Switching of a coupled spin pair in a binuclear $Co(II)_2$-complex. **M. Ruben**

Hawaii Convention Center
319A

Specific Effect(s) in Chemical Reactions by Innovative Technologies (#157)

Organized by: S. Horikoshi, N. Serpone, R. Gupta, Y. Hayashi, M. Ashokkumar, M. Watanabe
Presiding: M. Ashokkumar, D. Carnaroglio, A.E. Stiegman, K. Suslick

8:00 Opening remarks
8:05 Muthupandian Ashokkumar
8:05 – 48. Ultrasound driven assembly of biopolymers into microcapsules for storage and delivery of hydrophobic molecules. **F. Cavalieri**
8:30 – 49. Synthesis of silicone microspheres using ultrasonic spray pyrolysis. **K. Suslick***, J. Rankin, S. Fuchs, N. Neelakantan, K. Lundberg
8:45 – 50. Modifications of crystalline structures of electrodeposited coatings of silver under ultrasound irradiation. A. Nevers, L. Hallez, F. Touyeras, **J. Hihn**
9:00 – 51. Improvement in the gelation properties of fat containing dairy systems through the application of power ultrasound. **J. Chandrapala**, L. Ong, B. Zisu, S. Gras, S. Kentish, M. Ashokkumar
9:15 Ken Suslick
9:15 – 52. Waste oils treatment in a new ultrasound-assisted mixing device. **D. Boffito***, P. Ruiz Martinez, G.S. Patience
9:30 – 53. Effect of air sparging on acoustic cavitation oxidation. **Y. Son***, W. Lee, S. Kim
9:45 – 54. Cavitation in aqueous systems: Exactly what is sonochemistry?. **G.J. Price***
10:00 Brack
10:15 Diego Carnaroglio
10:15 – 55. Microwave-specific effects on the rates and product distribution of gas-carbon reactions. **A.E. Stiegman**, T. Ferrari
10:30 – 56. Heterogeneous reactions induced by microwave irradiation: Significant MW effects in catalysis on carbon supported polyoxometalate cluster catalysts and core shell zeolite. **S. Tsubaki**, A. Onda, T. Ueda, E. Suzuki, D. Mochizuki, M. Maitani, Y. Wada
10:45 – 57. Managing microwave-induced hot spots in heterogeneous catalytic systems. **S. Horikoshi**, N. Serpone
11:00 – 58. Microwave-solvothermal conversion of glycerin to GTBE using carbon-based catalyst. **S. Uchikado**, Y. Sumigawa, A.T. Quitain, M. Sasaki, T. Kida
11:15 Albert Stiegman
11:15 – 59. Development of a novel microwave-assisted synthesizer for non-thermal reactions. I. Nagashima, T. Sakuta, **H. Shimizu***, Y. Oki, N. Takahashi
11:30 – 60. Microwave heating for liquid samples using single-mode microwave resonator. **T. Sumi**, S. Horikoshi

Hawaii Convention Center
322AB

Electrochemistry on Boron-doped Diamond (BDD) Electrodes (#162)

Organized by: Y. Einaga, S. Park, O. Chailapakul, J. Zhi, T. Kondo
Presiding: O. Chailapukul, Y. Einaga

8:00 Opening Remarks
8:05 – 61. Electrochemical oxidation and production of oxidant species using boron doped diamond films. E. Vieira dos Santos, M. Rodrigo, D. Ribeiro da Silva, **C. Martinez-Huitle***
8:30 – 62. Photocatalytic activity of sputtered TiO_2 on lightly boron-doped diamond film. **C. Terashima***, R. Hishinuma, Y. Sugiyama, K. Nakata, T. Kondo, M. Yuasa, A. Fujishima
8:50 – 63. Proposal of various application of boron doped diamond electrode. **S. Yoshihara***
9:15 – 64. Investigation of electrochemical corrosion mechanism in boron-doped diamond electrode. **T. Kashiwada**, T. Watanabe, Y. Einaga
9:30 – 65. Stability of BDD electrodes in biological conditions. **R. Trouillon***
9:55 Break

*** Principle Author**

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10:05 – 66. Development of electrochemical sensor based on boron-doped diamond electrode coupled with paper-based analytical devices. **O. Chailapakul**, W. Siangproh
10:30 – 67. Effects of nanodiamonds' modification with different targeting molecules on cellular uptake profile and consequent impact on cancer cells. **j.F. ZHI***, d. Li, x. Chen, H. Wang
10:55 – 68. Gold modified-boron doped diamond electrode for electrochemical detection of neuraminidase. **T.A. Ivandini***
11:15 – 69. Electrochemical detection of influenza virus using hemagglutinin-binding peptide-modified diamond electrode. **M. Ujie***, M. Akahori, T. Matsubara, T. Yamamoto, Y. Einaga, T. Sato
11:30 – 70. Fabrication of boron-doped diamond microelectrodes for local electroanalysis. **D. Kusaka**, T. Kondo, T. Aikawa, M. Yuasa
11:45 – 71. Fabrication of micro flow device using boron-doped diamond for electrochemical analysis. **S. Shibano***, H. Maeda, T. Watanabe, Y. Matsumoto, Y. Einaga

Hawaii Convention Center
320 Theatre

Frontiers of Organic Porous Materials: Structures, Properties and Applications (#223)

Organized by: D. Jiang, W. Wang, W. Zhang
Presiding: D. Jiang, W. Zhang

8:00 Opening remark
8:05 – 72. Recent advances in covalent organic frameworks. **O.M. Yaghi***
8:30 – 73. Amine-tethered porous polymer networks (aPPNs) for carbon capture. **H. Zhou***
8:55 – 74. Porosity of nonporous organic materials. **J.L. Atwood***, H. Kumari, L. Barbour
9:20 – 75. Direct on-surface patterning of a crystalline imine-based covalent organic framework. **F. Zamora***, D. Rodríguez-San-Miguel, A. de la Peña Ruigómez, J. Segura, D. Maspoch, F. Liscio, M. Cavallini , R. Mas-Ballesté, D. Gentili
9:35 – 76. Some new metal-organic frameworks with multiple functions. **X. Bu**
9:50 Coffee Break
10:05 – 77. Separation science with cyclodextrin metal-organic frameworks. **J.F. Stoddart***, K.J. Hartlieb, J.M. Holcroft
10:30 – 78. Crystalline, oriented thin films of redox-active covalent organic frameworks for efficient energy storage. **W. Dichtel**
10:55 – 79. Kintting hypercrosslinked microporous organic polymer. **B. Tan**
11:20 – 80. Targeted design and applications of porous polymers. **S. Qiu**
11:45 – 81. Effective CO_2 capture by covalent organic polymers through amine binding and N_2 rejection. H. Patel, J. Byun, D. Thirion, S. Subramanian, E. Ozdemir, **C.T. Yavuz**

Hawaii Convention Center
321A

Nanomaterials for Nanomedicine (#289)

Organized by: A. Maruyama, D. Lee, R. Narain
Presiding: C. Ahn, M. Ebara, S.K. Hahn

8:00 opening remark
8:05 – 82. Injectable polymeric hydrogels for sustained delivery of proteins. **D. Lee***
8:30 – 83. Smart nanofibers for stick-on anticancer treatment. **M. Ebara**
8:55 – 84. Fabrication of water-repellent nanosheets to provide abilities of water retentivity and fixation for tissue imaging. **Y. Okamura***, A. Masuda, K. Okuyama, A. Kotani, Y. Nagase
9:10 – 85. Construction of polymer co-delivery micro- and nanocarriers for pulmonary delivery. **H. Tian***, C. Xu*, X. Chen*
9:25 – 86. Injectable hydrogel system for the delivery of bioactive agents. S. Lee, Y. Byun, **C. Ahn***
9:50 – 87. Ureido-functionalized polymers exhibiting UCST-type phase separation under physiological conditions. **N. Shimada***, M. Saito, A. Maruyama*
10:15 – 88. Stem cell/nanoparticle hybrids for targeted cancer therapy. **J. Berlin**
10:30 – 89. Design of dendrimer-gold nanohybrids for biomedical applications. **K. Kono***, T. Hashimoto, X. Li, E. Yuba, A. Harada
10:45 Break
10:55 – 90. Redox injectable gels for local inflammation treatments. **Y. Nagasaki**
11:20 – 91. Multistimuli-responsive nanoparticles for anticancer and antiinflammation therapy. **S. Jon**
11:45 – 92. Preparation of thermoresponsive nanoparticles as biomaterials. **A. Kikuchi***, T. Matsuyama, T. ASOH, T. Suzuki, R. ISHIHARA

Hawaii Convention Center
316B

The Physical Structure, Function of Biological and Bioinspired Soft Matter (#347)

Organized by: M. Srinivasarao, A. rey, H. Jung

8:00 – 93. Chiro-optical materials inspired by the handed single gyroid structure in green butterflies. **G.E. Schröder-Turk***
8:35 – 94. Self-assembly and function of butterfly proboscis. **K. Kornev***
9:10 – 95. Nanoscale surface wrinkling in plant-based plywoods with hydration-induced chiral gradients. **P. Rofouie***, D. Pasini, A. Rey
9:35 – 96. Giant spiral structure formed by microtubules through their partial depolymerization and subsequent dynamic ordering. **K. Shikinaka***, H. Kudoh, S. Mori, A. Kakugo, R. Kawamura, J. Gong, H. Masunaga, K. Shigehara
10:00 Session Break
10:20 – 97. Polymer microparticles with biomimetic pollen-like surface structures. **O. Karthaus***, P. Polzin, P. Acker
10:45 – 98. Dynamics of active colloids in confined systems. **J. Molina***, J. Delfau*, R. Yamamoto, M. Sano
11:10 – 99. Biophysical characterization of reflectin isoforms from squid and cuttlefish. **L. Phan**, W.G. Walkup IV, D.D. Ordinario, **A.A. Gorodetsky***
11:35 – 100. Self-healing films with deliquescent salt via Layer-by-Layer self-assembly method and controlling their functional properties. **S. Shiratori**, T. Taniguchi

Hawaii Convention Center
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Safety and Sustainability of Nanotechnology (#404)

Organized by: Y. Zuo, J. Ferri, C. Chen, J. Loo, S. Mylon
Presiding: C. Chen, D.T. Leong, A. Nel, Y. Zuo

8:00 Welcome
8:05 – 101. Use of alternative test strategies, predictive toxicological approaches, and categorization to expedite decision analysis of nanomaterial safety. **A. Nel***
8:35 – 102. Nanotechnology and sustainability: Making the connection. **B.P. Karn***
9:00 – 103. Elucidation of immunotoxicity of nanoparticles for developing the sustainable nanotechnology. **Y. Yoshioka***, k. Higashisaka, Y. Tsutsumi
9:25 Coffee Break
9:35 – 104. Endoplasmic reticulum stress is an earlier biomarker for nanotoxicological evaluation. **C. Chen***
10:00 – 105. Unexpected noncytotoxic nanoparticles effects on endothelial and epithelial cells. **D.T. Leong***
10:25 – 106. Public safety perception and sustainability of nanotechnology. **G. Wang***
10:50 – 107. Interaction of nanoparticles with cells: The Importance of the physicochemical properties and dose-metrics as a basis for nanotoxicology assessment. **N. Feliu***, R. Alvarez-Puebla, W. Parak
11:10 – 108. Effect of polyethylene glycol on the in-situ adsorption of human serum albumin on nanoparticles surface. **B. Pelaz**, P. del Pino, R. Hartmann, W. Parak

Hawaii Convention Center
316C

Single-Molecule Function and Measurements (#408)

Organized by: T. Ogawa, H. Tada, S. Park, P. Weiss
Presiding: T. Ogawa, H. Tada

8:00 Break
8:10 Remarks
8:15 – 109. Low temperature mechanically controllable break junction of oligothiopene molecular wires. T. Shimomise, F. Jimmy, S. Tanaka, T. Ohto, R. Yamada, **H. Tada**
8:45 – 110. Simulated force-conductance spectroscopy of hydrogen-bonded bimolecular complexes. A. Pirrotta*, G.C. Solomon, **I. Franco**
9:05 – 111. Single molecular devices using supermolecules. **M. Kiguchi**
9:35 – 112. Hybrid density functional study on electron transport though π-stack molecular junctions for high conductance. **T. Tada***
10:05 Break
10:20 – 113. Probing spinterface in single molecular junctions by thermoelectric measurements. **R. Yamada***, S.K. Lee, T. Ohto, H. Tada
10:40 – 114. First-principle study of thermoelectric transport through single molecule junctions. **M. Buerkle**, Y. Asai
11:00 – 115. Quantum transport theory for the current induced local heating and the current noise. **Y. Asai***
11:30 – 116. On the utilization of anti-Stokes/Stokes ratios in single-molecule surface-enhanced Raman spectroscopy for nanoscale thermometry. **E.A. Pozzi***, A.B. Zrimsek, M.C. Hersam, R.P. Van Duyne

Hawaii Convention Center
319B

Self-assembled Biofunctional Nanomaterials (#433)

Organized by: R. Nagarajan, K. Sakurai, H. Chen

8:00 – 117. Characterization of functional nanomaterials for emerging biomedical applications. **D. Tsai**
8:30 – 118. Anisotropic gold nanocrystal growth directed by the interior cavity of a self-assembled peptide nanoarchitecture. **K. Tomizaki***, K. Kishioka, M. Kasuno, T. Imai
8:50 – 119. Controlled assembly of biocompatible metallic nanoaggregates using a small molecule crosslinker. **J. Berlin**
9:10 – 120. Luminescent gold nanoparticles: An antifouling surface ligand for minimizing nonspecific serum protein adsorption. **J. Zheng***
9:30 – 121. Computational approaches to investigating thio- and amino-based adsorbents on a gold surface -- a density functional theory (DFT) study. **C. Ting**
9:50 Break
10:00 – 122. Reaction-based Indicator displacement assay (RIA). **T.D. James**
10:30 – 123. Out-of-equilibrium biomimetic systems by dynamic and dissipative self-assembly. **J. van Esch***, R. Eelkema, G. Koper, W. Hendriksen, J. Boekhoven, J. Poolman, A. Olive, M. Lovrak, C. Maity
11:00 – 124. Supramolecular hydrogels self-assembled from ultrashort tetraphenylethylene-capped peptides. **C. Huang**
11:20 – 125. Self-assembling behavior of tranexamic acid cetyl hydrochloride in aqueous solution. **Y. Yamashita***, T. Ohta, M. Miyamoto, K. Sakamoto
11:40 – 126. Self-assembled glycopolypeptide copolymer nanoparticles: Bioactivity and multivalency. **S. Lecommandoux**

Tuesday Afternoon

Hawaii Convention Center
318B

Nanocrystal Synthesis, Characterization, Assembly and Applications (#34)

Organized by: R. Tilley, S. Skrabalak, T. Hyeon, T. Nann, T. Adshiri

13:00 – 127. Silicon nanocrystal surface chemistry: We all thought we had if figured out. . ..but did we?. **J. Veinot***
13:40 – 128. Supercritical route for functional nanoparticles. **T. Adschiri***
14:00 – 129. Precursors for the deposition of inorganic nanostructures: Adapting design for the technique. **L. McElwee-White***
14:20 – 130. Enhanced nanoparticle size control by extending LaMer's mechanism. **D. Huber***, E. Vreeland, B. Hance, J. Watt, C. Rinaldi
14:40 – 131. Synthesis and characterization of gold-palladium bimetallic nanoparticle catalysts. **S. Cheong***
15:00 – 132. Effect of seed age on gold nanorod formation: A microfluidic, real-time investigation. **J. Watt**, B. Hance, R. Anderson, D. Huber
15:20 – 133. "Living" nanocrystals: Preparation and precise size control of metal oxide nanocrystals via living chain polycondensation. **J. Hutchison***, A.W. Jansons, B.M. Crockett, M.C. Sharps, L.K. Plummer
15:40 – 134. In situ synchrotron X-ray study of the formation mechanism of multicomponent nanoparticles. **S. Kwon**, G. Krylova, P. Philips, R. Klie, S. Chattopadhyay, T. Shibata, E. Bunel, y. Liu, V. Prakapenka, B. Lee, E.V. Shevchenko
16:00 – 135. Palladium-based octopodal nanocrystals formed via copper-assisted growth. **M. Hartley**, R.G. Weiner, S.E. Skrabalak*
16:20 – 136. Site-selective electrochemical fabrication of organic nanocrystals: Electromagnetic device applications and their properties. **H. Hasegawa**
16:40 – 137. Preparation and evaluation of magnetic Co-Ni nanoparticles in recyclic use for selective hydrogenation of CNB. O. Nakagoe, H. Kataoka, Y. Kido, **S. Tanabe***

Hawaii Convention Center
318A

Conjugated Polymers for Biological Applications (#43)

Organized by: H. Yu, S. Wang, J. Tovar
Presiding: J.D. Tovar, S. Wang

13:00 – 138. Interfacing with the brain using organic electronics. **G. Malliaras**
13:40 – 139. Organic conductive nanomaterials: From solar cells to cancer cells. **H. Yu***

*** Principle Author**

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14:10 – 140. Biomolecular interactions at the biomolecule-PEDOT interface: Insights from first-principles calculations. **A.M. Sultan***, Z.E. Hughes, T.R. Walsh
14:30 – 141. Organic bioelectronics for cell sensing sorting and drug release. **P. Chen***
15:00 – 142. Functional conjugated polymers: towards new materials for biomedical applications. **J. Travas-Sejdic**
15:30 – 143. Graphene oxide-conjugated polymer hybrid materials for detection and function regulation of calmodulin. **C. Xing**, H. Yuan, J. Qi, Y. Zhan
15:50 – 144. Organic bioelectronics create ionic microenvironments mimicking inflammation and infection for elucidating activation dynamics of C-reactive protein. **T. Goda***, Y. Miyahara
16:20 – 145. Stimulating regenerative biological processes using organic bionics. **G.G. Wallace***

Hawaii Convention Center
321B

Molecular Adsorption on Metallic Interfaces: Beyond the Cartoons (#102)

Organized by: D. Bizzotto, I. Burgess, H. Yu, T. Sagara, H. Yang
Presiding: D. Bizzotto, T. Sagara, H. Yang

13:00 Introduction. SAM characterization
13:10 – 146. Redox behavior of the $[Fe(CN)_6]^{3-/4-}$ complex entrapped onto ionic liquid-modified electrode as observed by SEIRAS measurement. **T. Kitagawa***, T. Inomata, T. Ozawa, H. Masuda, K. Motobayashi, M. Osawa
13:30 – 147. Manipulation of biomolecular functions at electrode surfaces via surface modification. **X. Xia***
14:00 – 148. Electrochemical heterogeneity in "ideally behaved" redox self-assembled monolayers. **H. Yu**
14:20 Break. Nanoparticles & QDs
14:30 – 149. Exciton transport and dissociation in quantum dots, rods and platelets. **T. Lian***
15:00 – 150. Comparison of silver nanoparticles prepared by physical and chemical synthetic methods using the same protective agents. **T. Ienaga***, Y. Nakahara, K. Kimura
15:20 – 151. Decoration of conductive surfaces with amine-terminated dendrimers encapsulating catalytic nanoparticles. **J. Kim***
15:50 – 152. Homogeneous and heterogeneous formation of anisotropic nanoparticles using pyridine derivatives as stabilizers. B. Danger, S. Simon, B. Unni, **I.J. Burgess***
16:10 – 153. Quinonyl glycosides functionalized quantum dots for sensing. W. Ma, X. He, **Y. Long***

Hawaii Convention Center
317A

Design, Synthesis and Applications of Advanced Porous Materials (#111)

Organized by: C. Doonan, M. Dinca, S. Telfer, S. Furukawa, Q. Li

13:00 – 154. Using efficient computational simulations to accelerate development of diffusion-selective MOFs for chemical separations. **D. Sholl***, J. Camp, D. Nazarian, R. Verploegh, K. Jayachandrababu, S. Nair
13:30 – 155. Flexibility and phase transitions in metal-organic frameworks. **A.K. Cheetham***
14:00 – 156. Structural and dynamical studies of small molecules adsorbed in MOFs. **C. Brown**
14:20 – 157. Carbon dioxide (CO_2) capture in the presence of water vapour in PCPs. **I.A. Ibarra***
14:40 – 158. Porous metal-organic materials for gas storage and selectivity. **S. Yang**
14:55 – 159. Mesoporous metal-organic frameworks: New host for large molecules. **H. Deng***
15:10 – 160. Metal organic frameworks for energy and environmental applications: What we learned from molecular modeling. **R. Babarao**, M.R. Hill, A. Thornton, A.J. Hill, C. Doonan, C. Sumby, D.M. D'Alessandro
15:25 – 161. Assembly of porous MOFs materials for gas storage and separation applications. **y. liu**, Q. Huo
15:40 – 162. Characterization of heat treated *rho*-ZMOF via N_2 adsorption. **A. Sirkecioglu***, C. Oral, G. Isilay Ozturk, B. Tantekin-Ersolmaz
15:55 – 163. Chiral coordination frameworks for enantioselective separations. S.A. Boer, Y. Nolvachai, C. Kulsing, C.S. Hawes, P.J. Marriott, **D. Turner***
16:10 – 164. Water/alcohol vapor separation using flexible 2D Mg(II) coordination polymer with isonicotinic acid *N*-oxide ligand. **R. Ochi***, S. Noro, Y. Kamiya, K. Kubo, T. Nakamura
16:25 – 165. Engineering defects in quaternary metal-organic frameworks. **J.J. Pak***, S. Telfer, S.J. Lee, L. Liu, C. Richardson
16:40 – 166. Freestanding conjugated microporous polymer nanomembranes for gas separation. **M. Tsotsalas***, P. Lindemann, H. Gliemann, C. Woell

Hawaii Convention Center
316A

Frontier and Perspectives in Molecular Spintronics (#127)

Organized by: M. Yamashita, B. Zhang, H. Tajima, B. Hu, P. Lahti, J. Gao
Presiding: K. Awaga, B. Hu

13:00 – 167. Lanthanides-TTF complexes: Correlation between SMM and luminescence. **L. OUAHAB**
13:30 – 168. Molecular magnetic conductor. **B. Zhang***, D. Zhu
14:00 – 169. From magnetic molecules to molecular spintronic devices. **E. Coronado***, J. Baldovi, W. Cañon, A. Gaita, S. Gómez-Miralles, A. Bedoya-Pinto, L. Hueso
14:30 – 170. DFT-D study on geometric and electronic structures of double-decker bis(phthalocyaninato)terbium(III) complex. **Y. Kitagawa***, K. Katoh, M. Asaoka, K. Miyagi, T. Takebayashi, M. Yamashita, M. NAKANO
14:50 Break
15:05 – 171. Switching and sensing spin states of metallo-porphyrin in bimolecular reactions on Au(111) using scanning tunneling microscopy. H. Kim , Y. Chang , S. Lee , Y. Kim , **S. Kahng**
15:25 – 172. Engineering the exchange coupling at the molecule/electrode interface in molecular spintronic devices. **T. Mallah***, V. Campbell
15:55 – 173. Versatile electric and magnetic properties of radical-anion salts with multidimensional crystal structures. **K. Awaga***
16:25 – 174. Electronic transport phenomenon through organic spin-containing molecules. **J. Veciana**

Hawaii Convention Center
319A

Specific Effect(s) in Chemical Reactions by Innovative Technologies (#157)

Organized by: S. Horikoshi, N. Serpone, R. Gupta, Y. Hayashi, M. Ashokkumar, M. Watanabe
Presiding: J. Hihn, S. Horikoshi, G.J. Price

13:00 Jean-Yves Hinh
13:00 – 175. Applications of ultrasound technology in crystallization and atomization. **S. Nii**
13:15 – 176. Shock driven atomic movements in ultrasonically treated metal alloys: Formation of mesoscopic composite metal catalysts. **D.V. Andreeva***
13:30 – 177. Synthesis of metal nanoparticles in aqueous solutions by using sonochemically formed reducing radicals. **K. Okitsu**
13:45 – 178. Ultrasound cavitation based synthesis of doped platinum catalyst for fuel cell application. **S.H. Sonawane***, P.L. Suryawanshi, R. P.
14:00 Gareth Price
14:00 – 179. Comparing lactose nucleation in batch and continuous sonocrystallization for dairy manufacturing. **B. Zisu**
14:15 – 180. Sonochemical synthesis of hollow/porous metal oxide microspheres. **M. Zhou***, S. Tan, M. Ashokkumar
14:30 – 181. Development of anodic substitution reaction system using tandem acoustic emulsification. **Y. Ogawa**, H. Tateno, K. Nakabayashi, M. Atobe
14:45 – 182. Ultrasonic technology for food processing applications. **M. Ashokkumar**
15:00 Brack
15:15 Satoshi Horikoshi
15:15 – 183. Microwave accelerated steam distillation from peel and flowers of *Citrus natsudaidai Hayata*. **A. Kurano***, M. Sasaki, A.T. Quitain, T. Kida
15:30 – 184. Sustainable and highly competitive chemical processes under microwave irradiation. **D. Carnaroglio***, L. Rotolo, E. Calcio Gaudino, G. Cravotto
15:45 – 185. Materials processing under microwave non-equilibrium reaction field. **H. Takizawa***, J. Fukushima, Y. Hayashi

Hawaii Convention Center
322AB

Electrochemistry on Boron-doped Diamond (BDD) Electrodes (#162)

Organized by: Y. Einaga, S. Park, O. Chailapakul, J. Zhi, T. Kondo
Presiding: T. Kondo, j.F. ZHI

13:00 – 186. Anodic treatment of aryls using BDD electrodes. **S.R. Waldvogel***
13:30 – 187. Electrochemical reduction by means of boron-doped diamond electrode. **T. Saitoh***, T. Kojima, R. Obata, Y. Einaga, S. Nishiyama
13:55 – 188. Reduction of carbon dioxide at boron-doped diamond. **K. Nakata***
14:20 – 189. Sensitive electrochemical detection at screen-printed diamond electrode by microelectrode effect. **T. Kondo***, I. Udagwa, T. Aikawa, I. Shitanda, Y. Hoshi, M. Itagaki, M. Yuasa
14:40 – 190. Novel boron-doped diamond electrode on paper-based analytical device (bPAD) for adsorptive stripping voltammetric determination of trace copper. **W. Siangproh**, S. Chaiyo, O. Chailapakul
15:00 – 191. Application of Pt/boron-doped diamond powder prepared by the nanocapsule method to fuel cell cathode catalyst support. **M. Kikuchi***, T. Kondo, T. Aikawa, M. Yuasa
15:15 Break
15:25 – 192. Surface chemical modification of nanodiamond by thermal reaction with alkenes. **A. Ito**, T. Kondo, T. Aikawa, M. Yuasa
15:40 – 193. High speed synthesis of boron doped diamond by solution plasma. **R. Hishinuma**, Y. Harada, C. Terashima, H. Uetsuka, T. Kondo, M. Yuasa, A. Fujishima*
15:55 – 194. Influence of sp^2-bonded carbon impurities in moderately and heavily boron-doped diamond for wastewater treatment and ozonized water pruduction. **T. Watanabe***, Y. Einaga*
16:15 – 195. Influence of crystal orientation on the electrochemical properties in boron-doped diamond electrodes. **T. Matsui***, T. Watanabe, Y. Einaga
16:30 – 196. Semiconductor-water interfaces investigated by first principles calculations of boron doped diamond. **Y. Tateyama***, Z. Futera, T. Watanabe, Y. Einaga

Hawaii Convention Center
320 Theatre

Frontiers of Organic Porous Materials: Structures, Properties and Applications (#223)

Organized by: D. Jiang, W. Wang, W. Zhang
Presiding: J.J. Lavigne, W. Wang

13:00 – 197. Boronic ester-based porous materials: Chemical approaches to control ester stability and guest recognition properties. **J.J. Lavigne***
13:25 – 198. Functional microporous polymer networks for catalysis and energy applications. **A. Thomas**
13:50 – 199. Covalent organic frameworks as a materail platform for challenging energy issues. **D. Jiang***
14:15 – 200. Preparation and application of functional conjugated microporous polymers. **S. Ren***
14:30 – 201. Exploration of synthetic tricks for conjugated microporous polymers (CMPs): Controllable preparation of CMP-based microspheres, fibers, films, and organogels. **J. Guo**
14:45 Coffee Break
15:05 – 202. Functional porous organic polymers and related materials. **J. Hupp***
15:30 – 203. Constructing covalent organic frameworks for catalysis. **W. Wang**, Z. Li, H. Xu, W. An
15:55 – 204. Novel porous molecular solids. **C. Doonan***, A. Burgun
16:20 – 205. Pillar[n]arene-based supramolecular organic frameworks for highly selective sorption and separation of CO_2 and C_2H_2. **L. Tan**, W. Zhang*, **Y. Yang***
16:45 – 206. Reactive interface-assisted coassembly to monodisperse hollow ordered mesoporous polymeric nanospheres and their functional derivatives. Y. Liang, R. Fu, M. Zhang, **D. Wu**

Hawaii Convention Center
321A

Nanomaterials for Nanomedicine (#289)

Organized by: A. Maruyama, D. Lee, R. Narain
Presiding: Y. Byun, X. Chen, J. Kizhakkedathu

13:00 – 207. Intelligent and integrated nanosystems for antitumor drug delivery. **X. Chen**, Z. Tang, C. Xiao, J. Ding
13:25 – 208. Light mediated use of copper(II) and disproportionation of copper(I) to achieve excellent living polymerisation of acrylamides and acrylates for nanomedicine. **D. Haddleton**
13:50 – 209. Rational design of latent ratiometric fluorescent pH probes based on self-assembled SNARF derivatives. **E. Nakata***, T. Morii
14:05 – 210. Theranostic glycol chitosan nanoparticles for heterogeneous tumors. **K. Kim**
14:30 – 211. Design and development of multifunctional polyether dendritic polymer based long acting polymeric therapeutics. **J. Kizhakkedathu***, R. Shenoi, M. Imran ul-haq, J.L. Hamilton, B. Lai, S. Abbina

*** Principle Author**

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14:55 – 212. Biodegradable polymeric micelles stabilized and functionalized by coating with polyion complex. **Y. Ohya***, Y. Morimoto, A. Takahashi, A. Kuzuya
15:10 Break
15:25 – 213. Nanoshielding of pancreatic islets for the prevention of immune reactions in allo-transplantation. **Y. Byun**
15:50 – 214. Synthetic polymeric biomaterials to undertake siRNA delivery to leukemic cells. **H. Uludag***
16:15 – 215. Immune-complement-mimicking anticancer therapeutic design: Self-illuminative light-driven therapeutic cassette for solid tumour regression. **S. Um***, S. Shin
16:30 – 216. Cyclodextrin-threaded biocleavable polyrotaxanes for the therapy of lysosomal storage disorders. **A. Tamura**, N. Yui*

Hawaii Convention Center
317B

Data Mining and Machine Learning Meets Experiment and First-Principles Simulation for Materials Discovery (#314)

Organized by: J. Schrier, C. Amador-Bedolla, S. Iwata, T. Woo
Presiding: C. Amador-Bedolla, S. Iwata, J. Schrier, T. Woo

13:00 Introductory Remarks
13:05 – 217. On lesson from material databases. **Y. Shikano***
13:45 – 218. Materials informatics for materials design. **A. Tropsha***
14:15 – 219. Data and knowledge structure for materials integration. **T. Ashino***
14:45 Break
15:00 – 220. Discovery of optimal zeolites and metal-organic frameworks for challenging separations and chemical conversions through predictive materials modeling. **J.I. Siepmann**, P. Bai, M.W. Deem, E. Haldoupis, K. Vogiatzis, L. Gagliardi
15:30 – 221. Accurate machine learning recognition of high performing materials for CO_2 capture. **T. Woo**
16:00 – 222. CheML - a machine learning and informatics toolbox for the chemical and materials sciences. **J. Hachmann***

Hawaii Convention Center
316B

The Physical Structure, Function of Biological and Bioinspired Soft Matter (#347)

Organized by: M. Srinivasarao, A. rey, H. Jung

13:00 – 223. Bio-nspired multimodal tactile electronics using hierarchically engineeredcarbon nanotube microfabrics. S. Kim, S. Park, H. Lee, M. Kang, **D. Kim***
13:25 – 224. Rheological anf flow modeling of nanocrystalline cellulose aqueous suspensions. **D. Grecov***, N. Noroozi
14:00 – 225. Hydrogel actuator based on mussel adhesive protein chemistry. **B.P. Lee***
14:25 Session Break
14:45 – 226. Modeling cell motility and mitosis using complex fluids models involving active matter. **Q. Wang***, j. zhao, X. yang
15:20 – 227. Nanoparticle-induced cellular aggregates. G. Beaune, B. Brunel, F. Brochard-Wyart, **F. Winnik***
15:45 – 228. Mixed mode interactions in hydrogels tune hydrophobic crosslinking and selective transport. **W.G. Chen**, S. Grindy, N. Holten-Andersen, K. Ribbeck*

Hawaii Convention Center
314

Safety and Sustainability of Nanotechnology (#404)

Organized by: Y. Zuo, J. Ferri, C. Chen, J. Loo, S. Mylon
Presiding: T. Liedl, S. Liu, J. Yang, Y. Zhao

13:00 – 229. Chemical mechanisms of inorganic nanomaterials toxicity. **Y. Zhao**
13:30 – 230. NLRP3 inflammasome activation induced by engineered nanomaterials: The critical role of lysosomes. **T. Xia**
13:55 – 231. Silver nanoparticles repress hemoglobin transcription through an epigenetic mechanism: Altering the methylation status of histone 3. **S. Liu**
14:20 – 232. Physicochemical properties of PEGylated gold nanoparticles: Impact on cell fitness. **P. del Pino***, W. Parak
14:40 Coffee Break
14:50 – 233. Selective release system based on mesoporous silica nanoparticle. W. Wang, Y. Wen, Y. Li, X. Jiao, W. Gui, **X. Zhang***
15:15 – 234. Nanomechanical mapping of cellular migration. **X. Chen***
15:40 – 235. DNA self-assembly for biomedical applications. **T. Liedl**
16:05 – 236. Conductive bacterial nanowires: Fundamentals and applications for environmental and energy sustainability. **J. Yang***
16:30 – 237. Assessing nanomaterial safety at the benchtop. **B.D. Gates***, S. Rubino, K. Cadieux, M.T. Paul, B. Lute, F. Orfino, J. Zhou

Hawaii Convention Center
316C

Single-Molecule Function and Measurements (#408)

Organized by: T. Ogawa, H. Tada, S. Park, P. Weiss
Presiding: T. Asai, S. Kasai

13:00 – 238. Fluctuation-induced dynamics and information transfer in nonlinear nanodevices and molecular devices. **S. Kasai***, Y. Abe, S. Inoue, K. Shiata, M. Sato
13:30 – 239. Molecular characterization using current noise measurement of carbon nanotubes device. **A. Setiadi**, H. Fujii, M. Akai-Kasaya*, S. Kasai, Y. Kanai, K. Matsumoto, Y. Kuwahara
13:50 – 240. Stochastic resonance in molecular network systems. **T. Matsumoto***
14:10 – 241. Neuron-like signal generation and its chaotic analysis of single-walled carbon nanotube and redox nanoparticle complex. **H. Tanaka***
14:40 – 242. Cooperative functions in engineered nanosystems: From supramolecules to metamaterials. **Y. Zheng**
15:10 Break
15:25 – 243. Molecules in circuits: New electronics for audio processing. **R.L. McCreery***, A. Bergren, N. Pekas, B. Szeto, L. Zeer-Wanklyn, M. Semple
15:55 – 244. Effect of metal work function on large-area molecular junctions with single-layer graphene top contacts. **M. Yamaguchi**, T. Ikuta, Y. Kanai, T. Ohto, R. Yamada, Y. Ohno, K. Maehashi, K. Matsumoto, H. Tada
16:15 – 245. Coulomb-blockade transport in low-dimensional conjugated conductive polymers. **M. Akai-Kasaya***, S. Nagano, T. Mitani, Y. Kuwahara
16:35 – 246. High yield fabrication of gold nanoparticle assemblies on DNA origami templates. **R. Pandey***, T. Ye, G.R. Abel, H. Tanaka

Hawaii Convention Center
319B

Self-assembled Biofunctional Nanomaterials (#433)

Organized by: R. Nagarajan, K. Sakurai, H. Chen

13:00 – 247. Surface functionalized polymer vesicles: Toward new properties and functions. **E.R. Gillies***, A. Nazemi, J.T. McIntosh
13:20 – 248. Anion transport across varying lipid membranes. **P. Gale**
13:50 – 249. Water-soluble polyion complex (PIC) micelles covered with phosphorylcholine and galactose shells. **S. Yusa***, R. Enomoto, O. Yukie , K. Ishihara
14:20 – 250. Self-assembling and micellization characteristics of well-defined lipid-mimic brush polymers. **M. Ree***, J. Kim, K. Kown, J. Lee, Y. Kim, B. Ree, K. Jin, Y. Sanada, K. Sakurai
14:50 – 251. In situ block copolymer self-assemblies via RAFT aqueous dispersion polymerization of MEA using PEO-macro CTA. **A. Bin Ma Radzi**, S. Sugihara, S. Ida, t. kikukawa, Y. Maeda
15:10 – 252. Self-assembly of biological lipids and liquid crystalline droplets. **N. Abbott**
15:40 – 253. Rational design of naphthalimide-capped peptides with aggregation-induced emission characteristics. **Y. Huang***
16:00 – 254. Surfactant-like peptides leading to self-assembled structures. **T. Imura***
16:20 – 255. Protein-shell and polymer-core nanoball. **H. Paik**
16:40 – 256. Solution self-assembly of protein-polymer conjugates. **R. Nagarajan**

Wednesday Morning

Hawaii Convention Center
318A

Conjugated Polymers for Biological Applications (#43)

Organized by: H. Yu, S. Wang, J. Tovar
Presiding: S. Wang, H. Yu

8:00 – 257. Dendritic polyglycerols as dual modal imaging agent for EGF-receptor mediated tumor targeting. **K. Pant***, K. Zarschler, R. Bergmann, J. Pietzsch, H. Stephan
8:20 – 258. π-Conjugated systems based on small molecules and polydiacetylenes for their sensing and antibacterial activity. **J. Yoon***
8:50 – 259. Chemo-/biosensing and imaging based on luminogens with aggregation induced emission. **D. Zhang***
9:30 – 260. Carving supramolecular conjugated pi-ways into biomaterials via peptide self-assembly. **J.D. Tovar***
10:00 – 261. Fluorescent conjugated polymers as sensors, therapeutics, and biocatalysis. **P.K. Iyer***, B. Muthuraj, S. Hussain, A. Hussain Malik, A. Tanvar, S. Chowdhury
10:20 – 262. Bioinspired synthesis and characterization of organic nanowires. **A.A. Gorodetsky**
10:50 – 263. Comparing sol-gel entrapped structure-switching DNA and RNA aptamers as biosensing materials. **C.Y. Hui**, P. Lau, Y. Li, J.D. Brennan*
11:10 – 264. Engineering biointerface with controlled cell adhesion towards cancer detection. **S. Wang***

Hawaii Convention Center
321B

Molecular Adsorption on Metallic Interfaces: Beyond the Cartoons (#102)

Organized by: D. Bizzotto, I. Burgess, H. Yu, T. Sagara, H. Yang
Presiding: D. Bizzotto, H. Yu

8:00 introduction
8:10 – 265. DNA nanotechnology-based approach for the development of electrochemical DNA sensors. **C. Fan**
8:40 – 266. Indium-tin oxide electrodes for sensitive and reproducible electrochemical biosensors. **H. Yang**
9:00 – 267. Enzyme adsorbed nanostructure ITO electrode for developing drug metabolism biosensing devices. **O. Niwa***, K. Yoshioka , S. Shiba, S. Ishihara, T. Kamata, D. Kato
9:30 – 268. Methylsorb: A simple method for quantifying DNA methylation using DNA-gold affinity interaction. **A. Sina***, L.G. Carrascosa, S. Dey, M. Shiddiky, M. Trau
9:50 break
10:00 – 269. Diazonium derived vs. thiol derived molecular layers on gold electrodes: Structure and stability. **M. McDermott***, L. Laurentius, A. Kebede, D. Shewchuk
10:30 – 270. Suppression of bimolecular decay of reactive triplet carbene by immobilization through self-assembled monolayer of tripod-shaped trithiol on gold. **T. Kitagawa***, K. Hirai, K. Nishiwaki, K. Ueda
10:50 – 271. Adsorption energy calculations using long-range corrected density functional theory between CO and metal system. **J. Song***, K. Hirao
11:10 – 272. Strengthening of the copper/epoxy resin interface with an amino-functional polymer. **P. Nothdurft***, S. Feldbacher, W. Kern

Hawaii Convention Center
317A

Design, Synthesis and Applications of Advanced Porous Materials (#111)

Organized by: C. Doonan, M. Dinca, S. Telfer, S. Furukawa, Q. Li

8:00 – 273. Metal-organic frameworks for electronic and photonic device applications. **M.D. Allendorf***, M. Foster, F. Léonard, C. Spataru, V. Stavila, A. Talin, C. Schneider, R. Fischer, H. Mieno, C. Adachi
8:30 – 274. Ordered defects in metal-organic frameworks by crystal engineering. B. Tu, **Q. Li**
8:50 – 275. Melting, and glassy MOFs with porosity and ion conductivity. **S. Horike**
9:10 – 276. Functional nanoporous metal oxides and graphene derived from metal-organic frameworks. **H. Moon***
9:30 – 277. Partially interpenetrated metal-organic frameworks (MOFs). **S. Telfer**
9:50 – 278. Thin films of metal-organic frameworks: The search for new deposition methods. I. Stassen, M. Timmermans, M. Styles, H. Van Gorp, S. De Feyter, P. Falcaro, D. De Vos, P. Vereecken, **R. Ameloot***
10:10 – 279. Engineering pore surface of metal azolate frameworks for efficient gas separation. **J. Zhang***
10:30 – 280. Metal-organic frameworks as platform to arrange and protect single-molecule magnets in multidimensional arrays. **M. Wriedt**, J. Pyser, D. Aulakh, X. Zhang, A. Yakovenko, K. Dunbar
10:45 – 281. Where is the oxygen? Crystalline sponge method applied to the structural analysis of sesquiterpene oxidation products. **N. Zigon***, M. Hoshino, S. Yoshioka, Y. Inokuma, M. Fujita
11:00 – 282. Top-down fabrication of metal-organic frameworks nanoparticles with hollow structure. **M. Hu***
11:15 – 283. Assembly, disassembly, and reassembly as a strategy for the construction of mixed-metal organic frameworks. **S. Baudron***, A. Béziau, M. Hosseini
11:30 – 284. Crystalline sponge method for synthetic organic chemistry. **Y. Inokuma***, M. Fujita
11:45 – 285. Macrostructured quartz films on silicon obtained via processing driven phase separation. **G.L. Drisko***, A. Carretero-Genevrier, M. Gich, J. Gàzquez, D. Grosso, C. Boissière, J. Rodriguez-Carvajal, C. Sanchez

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Hawaii Convention Center
316A

Frontier and Perspectives in Molecular Spintronics (#127)

Organized by: M. Yamashita, B. Zhang, H. Tajima, B. Hu, P. Lahti, J. Gao
Presiding: V.A. DEDIU, I.A. Hümmelgen

8:00 – 286. Enhanced magnetic field effects on an indoletrimer-based spin-polarized donor due to its 3-fold rotational symmetry. **M.M. Matsushita***, Y. Ishii, K. Awaga
8:20 – 287. Magnetoresistance in organic field-effect transistors and diodes. **H. Tada***
8:50 – 288. Magnetoresistance in organic spintronic devices: Real and imaginary effects. **V.A. DEDIU***, A. Riminucci, I. Bergenti, P. Graziosi, M. Calbucci, R. Checchini
9:20 – 289. Annealing effect on tunneling anisotropic magnetoresistance in organic spin valves. **C. Miyahara***, T. Kamiya, H. Tada
9:40 Break
9:55 – 290. Spin current in organic semiconductors. **S. Watanabe**
10:25 – 291. Impurity-band transport in organic spin valves. **Z. Yu***

Hawaii Convention Center
322AB

Mechanically Responsive Materials (#153)

Organized by: P. Naumov, T. White, B. Kahr, Y. Yu
Presiding: C. Barrett, P. Naumov

8:00 – 292. Planar arrays of artificial dipolar molecular rotors. P. Dron, J. Kaleta, E. Kaletová, A. Younes, G. Bastien, J. Wen, M. Cipolloni, M. Mašát, K. Zhao, Y. Shen, R. Shoemaker, T. Magnera, C. Rogers, **J. Michl***
8:30 – 293. Elasticity of crystalline molecular materials. **D. Hooks***, C. Bolme, K. Ramos, M. Cawkwell
9:00 – 294. Optically programmed buckling of polymer films and multilayers. **R. Hayward**
9:30 – 295. Programming mechanical adaptivity in liquid crystal polymer networks. **T.J. White**, T.H. Ware, V.P. Tondiglia, J. Wie, M.E. McConney
10:00 – 296. What directs growth chirality of lamellar crystals of chiral polymers?. **J. Xu***, H. Ye, B. Guo
10:20 – 297. Optomechanical actuators for controlling mechanotransduction in living cells. **K. salaita**
10:40 – 298. Solar-powered nanomechanical molecular transduction in a crystalline rotor. **J. Cole**
11:00 – 299. Photonastic effects in ruthenium sulfoxide polymers. **J. Rack**, M. Livshits
11:20 – 300. Mechanochromic luminescent difluoroboron beta-diketonate materials. T. Butler, W.A. Morris, C.A. DeRosa, M. Kolpaczynska, J. Samonina-Kosicka, A. Mathew, **C.L. Fraser**

Hawaii Convention Center
304A

Specific Effect(s) in Chemical Reactions by Innovative Technologies (#157)

Organized by: S. Horikoshi, N. Serpone, R. Gupta, Y. Hayashi, M. Ashokkumar, M. Watanabe
Presiding: Y. Sakamoto, M. Sato, M. Watanabe

8:00 Opening remarks
8:05 Motoyasu Sato
8:05 – 301. Particle coating using the combination of plasma and spouted bed. **H. Sekiguchi***
8:30 – 302. Preparation of high quality CVD diamond using mode conversion type microwave plasma CVD. **Y. Sakamoto**
8:45 – 303. Chemical reaction induced by discharge plasma at pressurized argon/solution interface. **M. Goto***, Y. Hayashi, K. Mano, N. Takada, H. Kanda
9:00 – 304. Synthesis of carbon supported platinum catalyst produced by microwave induced plasma in liquid. **S. Sato***, H. Tsukamoto, K. Mori, O. Ariyada, T. Yonezawa
9:15 Yukihiro Sakamoto
9:15 – 305. Photodegradation of bromine-containing pollutants using microwave discharged electrodeless lamp (MDEL). **A. Tsuchida**, K. Oshimo, S. Horikoshi
9:30 – 306. TiO_2: From nano to micro size for efficient photocatalysis applications. **E. Colombo**, M. Ashokkumar
9:45 – 307. Femtosecond photon sources and laser driven electron bunches based prethermal reaction processes. **Y. Gauduel***, C. Thaury, A. Doche, E. Chelnokov, V. Malka
10:00 – 308. Pricipal effects of high frequency piezoelectric fields on emerging chemical processing. **M. Sato***
10:15 Brack
10:30 Masaru Watanabe
10:30 – 309. Kinetics of the incorporation of metals for metalloporphyrin synthesis with inorganic metal salts in high temperature water. **T. Sato***, K. Ebisawa, K. Sue, S. Ito, T. Saito, N. Itoh
10:45 – 310. Generation of hydrothermal flames during supercritical water oxidation of organics. S.N. Reddy, **S. Nanda**, J.A. Kozinski*, M.C. Hicks, U.G. Hegde
11:00 – 311. Control of organic reactions in sub- and supercritical water using solid acid catalysts. **M. Akizuki***, Y. Oshima
11:15 – 312. Catalytic dehydrogenation of formic acid at mild temperature less than 100 ^{o}C under high pressure. **M. Iguchi**, Y. Manaka, Y. Himeda, H. Kawanami*

Hawaii Convention Center
Halls I, II, III

Electrochemistry on Boron-doped Diamond (BDD) Electrodes (#162)

Organized by: Y. Einaga, S. Park, O. Chailapakul, J. Zhi, T. Kondo

Poster Session
10:00 – 12:00

313. Diamond synthesis on a centrifuge. **Y. Takagi***, Y. Inatomi, R. Nishimura

Hawaii Convention Center
319A

Natural to Nanosphere Lithographies: Two Decades of Self-assembled Advanced Materials (#177)

Organized by: A. Morfa, M. Giersig, K. Kempa, R. Duyne, L. Zhi
Presiding: E.M. Akinoglu

8:00 – 314. Colloidal crystal based soft lithography nanopatterning and its applications. **O. Park**
8:40 – 315. Latex particle templates guide evaporative lithography. **I. Valarelski***
9:00 – 316. Utilizing nanosphere lithography for the fabrication of nanopatterned aperiodic metal networks for transparent electrodes. **E.M. Akinoglu***, A. Morfa, M. Giersig
9:20 – 317. Copper mask nanosphere template lithography for broadly tunable plasmonic antennas. M. Swartz, M. Rodriguez, S. Blair, **J.S. Shumaker-Parry***
9:40 – 318. Self-optimizing and template-free growth of nanopatterned semiconductor light absorbers in response to spectral illumination. **A. Carim***, N. Batara, A. Premkumar, H. Atwater, N.S. Lewis
10:00 – 319. Self-assembled plasmonic structures. **G.C. Schatz***
10:40 – 320. Atomic layer deposition on heterogeneous nanostructured substrates. **C. Lancaster**, J.S. Shumaker-Parry
11:00 – 321. Home-built sample stage designed for force modulation microscopy using a tip-mounted AFM scanner. **J.C. Garno**, L. Lu
11:20 – 322. Dual-assembled nanotemplates by PS-*b*-PMMA block copolymer lithography. **Y. Choi***, S. Kim

Hawaii Convention Center
320 Theatre

Frontiers of Organic Porous Materials: Structures, Properties and Applications (#223)

Organized by: D. Jiang, W. Wang, W. Zhang
Presiding: R. Banerjee, T. Heine

8:00 – 323. From covalent organic frameworks over novel C_nN_m-species to porous N-doped carbons: New porous materials by polymerization extending the usual range. **M. Antonietti***, N. Fechler, T. Fellinger, M. Shalom
8:25 – 324. Calculation of charge carrier mobility in covalent organic frameworks. **S. Irle***
8:50 – 325. Micropore engineering of carbonized porous aromatic framework (PAF-1) for supercapacitors. **T. Ben***, **S. Qiu***
9:05 – 326. Metallated porous organic polymers: From hydrogen storage to electrocatalysis. **D. Liu***
9:20 Coffee Break
9:35 – 327. Surface confined 2D nanoporous networks: From supramolecular assembly to dynamic covalent chemistry. D. Wang, **I. Wan**
10:00 – 328. Development of functional porous organic polymers through dynamic covalent chemistry. **W. Zhang***, Y. Zhu, H. Yang, Y. Du, G. Lu, Y. Jin
10:25 – 329. Stacking, electronic and phonon confinement of layered covalent-organic frameworks and hybrid materials. **T. Heine***, P. Miro, M.A. Addicoat
10:50 – 330. Toward low-dimension porous nanomaterials through nanocarbon template-directed copolymerization. **F. ZHANG***, X. Zhuang
11:05 – 331. Flowable nanospace in columnar liquid crystal. **K. Tanaka***, S. Kawano, M. Kato
11:20 – 332. Multifunctional organic frameworks for heterogeneous catalysis. **Y. Zhang**

Hawaii Convention Center
321A

Nanomaterials for Nanomedicine (#289)

Organized by: A. Maruyama, D. Lee, R. Narain
Presiding: H. Asanuma, X. Huang, J. Lee

8:00 – 333. Carbohydrate based nanomaterials for gene therapy. **R. Narain**
8:25 – 334. Stemless linear probe for the detection of RNA in living cell. **H. Asanuma***, M. Akahane, R. Niwa, Y. Kamiya, H. Kashida
8:50 – 335. Nanobio imaging of cancer metastasis with X-ray CT and fluorescence. **K. Gonda***, Y. Kubota, Y. Kobayashi, H. Higuchi, N. Ohuchi
9:05 – 336. Understanding endosomal escape using a pH responsive nanoparticle. **G.K. Such**, A.P. Johnston, S.K. Mann, A. Wong, E. Czuba
9:20 – 337. Advanced functional magnetic glyconanoparticles for disease detection. **X. Huang**
9:45 – 338. Noninvasive in-vivo imaging of neutrophil and tumor cells in mouse auricles. **H. Higuchi***
10:10 – 339. Intracellular pathways of peptide-conjugated quantum dots. **V. Biju**, S. Wakida, Y. Suzuki
10:25 Break
10:40 – 340. Engineered proteinticles for targeted cancer therapy. **J. Lee***
11:05 – 341. Nanopharmaceutical evaluation improved with aggregation-induced emission molecules. X. Xue, C. Zhang, G. Zou, **X. Liang***
11:30 – 342. Study on cellular responses of epidermal growth factor immobilized to gold nanoparticles. **J. Nakanishi***, S. Yamamoto, Y. Shimizu, K. Yamaguchi
11:45 – 343. Multifunctional polymeric nanoparticles for cancer imaging and therapy. **M. Wang**

Hawaii Convention Center
318B

Advanced Materials for Photonics and Electronics: Fundamentals and Applications (#308)

Organized by: R. Morandotti, D. Moss, F. Omenetto, N. Tsutsumi, K. Alamgir, K. Char, A. Facchetti
Presiding: N. Tsutsumi

8:00 – 344. Highly efficient dye sensitization of polymer solar cells. **H. Ohkita***, H. Xu, S. Honda, H. Benten, S. Ito
8:30 – 345. Polymers for optical technologies utilizing linear susceptibility. **S.Z. Cheng***
9:00 – 346. Toward the next level of electronics: From implantable to bioinspired devices. **T. Kim**
9:20 – 347. Mechanisms of metal deposition on colloidal gold nanoparticle substrates. **P.J. Straney**, J.E. Millstone*
9:40 – 348. Bench top fabrication of transferrable micro/nanostructured gold electrodes for stretchable sensors and electronics. **Y. Zhu**, J. Moran-Mirabal*
10:00 Break
10:10 – 349. Organic solar cell interfacial science. **T.J. Marks**
10:40 – 350. High-efficiency multijunction polymer solar cells with PBDTTPD and wide-bandgap analogs. **P.M. Beaujuge***
11:00 – 351. Interfaces and nanostructures in organic solar cells. **K. Tajima**
11:20 – 352. Development and surface modification of highly impermeable, smooth, and transparent butyl rubber for stretchable electronics. **A. Vohra**, H. Filiatrault, N. Suhan, C. Siegers, L. Ferrari, G.J. Davidson, T. Carmichael*
11:40 – 353. Approaches to solution processable n-channel π-conjugated donor-acceptor co-polymers and device applications. **Z. Yuan**, B. Fu*, Y. Jiang, M. Chang, P. Chu, D. Collard, E. Reichmanis*

Hawaii Convention Center
317B

Data Mining and Machine Learning Meets Experiment and First-Principles Simulation for Materials Discovery (#314)

Organized by: J. Schrier, C. Amador-Bedolla, S. Iwata, T. Woo
Presiding: C. Amador-Bedolla, S. Iwata, J. Schrier, T. Woo

8:00 Introductory Remarks
8:05 – 354. Machine learning for organic materials design. **A. Aspuru-Guzik***
8:45 – 355. Quantification of the structure-property relationship in polymeric semiconductors: An algorithmic, Big-Data approach. **N. Persson***, D. Nazarian, E. Reichmanis
9:15 – 356. Large-scale data-mining identifies new classes of dyes for dye-sensitized solar cells. **J. Cole**

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9:45 Break
10:00 – 357. Chemoinformatic characterization of databases for drug discovery. **J.L. Medina-Franco***
10:30 – 358. Embedding parameters in ab initio theory to develop flexible models of electronic properties. **D.J. Yaron***, M. Tanha, H. Li, C.R. Collins, S. Kaul, A. Cappiello, G.J. Gordon
11:00 – 359. Machine learning for combinatorial materials science. **I. Takeuchi**

Hawaii Convention Center
316B

The Physical Structure, Function of Biological and Bioinspired Soft Matter (#347)

Organized by: M. Srinivasarao, A. rey, H. Jung

8:00 – 360. Organizing principles of virus assembly. **M. Muthukumar***
8:35 – 361. How does white color vary in birds?. **M. Shawkey***, B. Igic, L. D'Alba
9:10 – 362. Biological plywood structure characterisation method with "Aurigans Scarab" cuticle as example. O. Aguilar Gutierrez*, **A. Rey***
9:35 – 363. Structure and strength in collagen materials. **R.G. Haverkamp**, K.H. Sizeland, H.R. Kayed, H. Wells*, R.L. Edmonds, N. Kirby, A. Hawley, S. Mudie
10:00 Session Break
10:10 – 364. Specific interactions of multivalent carbohydrate surfaces mimicking the cells glycocalyx: Effect of mechanical flexibility, ligand density and molecular multivalency. H. Wang, S. Martin, F. Jacobi, T. Pompe, L. Hartmann, **S. Schmidt**
10:35 – 365. Modeling the physical structure and function of living biological soft matter. **M.G. Forest***
11:10 – 366. Phases and self-assembly of quasicrystalline lipid A-phosphate structures. **H.H. Paradies***
11:35 – 367. Molecular dynamics of π-conjugated polymers and application to bioinspired signal processing devices. **N. Asakawa***

Hawaii Convention Center
Halls I, II, III

Materials for the Mitigation of Chemical Hazards (#388)

Organized by: J. DeCoste, G. Peterson, J. Becker, M. Biggs, L. Croll, K. Walton
Presiding: J. DeCoste

Poster Session
10:00 – 12:00

368. Activated carbon-based gas sensors: Effects of surface features on the sensing mechanism. **N. Travlou**, M. Seredych, E. Rodríguez-Castellón, T.J. Bandosz
369. Poly(ethylene terephthalate) nanofiber sheet prepared by CO_2 laser supersonic continuous multidrawing. **A. Suzuki***, K. Hosoi, K. Miyagi
370. Amidoxime-based carbon-silica composite materials for carbon dioxide sorption. **P. Poudyel Ghimire**, C. Gunathilake, M. Jaroniec*
371. Zirconium (hydr)oxide/graphite oxide/AgNPs composites: Role of surface features in reactive adsorption of mustard gas and organophosphate surrogates' vapors. **D. Giannakoudakis**, T.J. Bandosz*

Hawaii Convention Center
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Safety and Sustainability of Nanotechnology (#404)

Organized by: Y. Zuo, J. Ferri, C. Chen, J. Loo, S. Mylon
Presiding: Z. Liu, J. Loo, W. Parak, X. Shi

8:00 – 372. Quantification of nanoparticle uptake by cells and its correlation to basic physicochemical parameters. **W. Parak**
8:30 – 373. Nanomaterials – exploiting their benefits, while enhancing their safety. **J. Loo**
8:55 – 374. Gd-metallofullerenol nanomaterial Gd@C_{82}(OH)$_{22}$ promotes activation of fibroblasts through up-regulating PDGF receptor protein levels. P. Wang, Y. Zhao, C. Chen*, **Q.R. Miao***
9:20 – 375. "Biodegradable" metallic nanoparticle aggregates. **J. Berlin**
9:45 Coffee break
9:55 – 376. Nanotheranostics for imaging-guided cancer therapy: Fighting cancer metastasis. **Z. Liu***
10:20 – 377. Theranostic nanoprobes for breast cancers. **L. Zeng**, **Z. Shen**, W. Ren, **J. Li**, **Z. Shi**, X. Ma, L. Zhang, **M. Zubair Iqbal**, **T. Chen**, **A. Wu***
10:45 – 378. Tunable rigidity of (polymeric core)-(lipid shell) nanoparticles for regulated cellular uptake. **X. Shi***, J. Sun, L. Zhang, J. Wang, X. Jiang
11:10 – 379. Applicaiton of mass production single-crystalline graphene quantum dots as antitumor drug carrier. C. Li, L. Ding, C. Yao, P. Dong, **M. Wu***, **Y. Wang***
11:30 – 380. Synchrotron-based X-ray microscopic studies for bioeffects of nanomaterials. **Y. Zhu**, X. Cai, J. Zhang, Y. Zhang, L. Wang, C. Fan

Hawaii Convention Center
316C

Single-Molecule Function and Measurements (#408)

Organized by: T. Ogawa, H. Tada, S. Park, P. Weiss
Presiding: S. Park, J. Terao

8:00 Break
8:15 – 381. Synthesis and measurements of molecules bearing nonsymmetric single-molecule electric properties. **T. Ogawa***, M. Handayani, Z. Chen, N. Sakata, S. Lee, F. Miyamoto, T. Inose, R. Yamada, H. Tada, H. Tanaka
8:45 – 382. Molecular conductivity difference in isomeric polycyclic aromatic hydrocarbons. **H. Uno***, S. SATO, T. Tanimoto, M. Handayani, T. TAMAKi, M. Takase, S. Mori, T. Nakae, T. Ogawa
9:15 – 383. Structurally well-defined aminoporphyrin oligomers analogous to polyanilines: Synthesis, properties, and internal electron transfer. **K. YAMASHITA***, S. Takeuchi, K. SUGIURA*
9:35 – 384. Synthesis of insulated molecular wire and development of molecular wiring method by cross-coupling reaction. **J. Terao***
10:05 Break
10:20 – 385. Design, synthesis, and properties of novel units for single-molecular electronics. **Y. Ie***, R. Yamada, H. Tada, Y. Aso
10:40 – 386. Electronic properties of bottom-up synthesized graphene nanoribbons. **T. Nakae**, H. Sakaguchi*
11:00 – 387. Molecular alignment of mixed-valence dinuclear ruthenium complexes on single walled carbon nanotube. **H. Ozawa**, N. Katori, M. Haga
11:20 – 388. Self-aligned formation of sub 1 nm gaps utilizing electromigration during metal deposition. **Y. Naitoh***, r. matsushita, M. Mukaida, M. Kiguchi, K. Tsukagoshi, T. Ishida

Hawaii Convention Center
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Advances in Organic Light-Emitting Diodes (#409)

Organized by: J. Bredas, C. Adachi, K. Wong, V. Yam, P. Burn, J. Kim
Presiding: J. Bredas

8:00 – 389. Efficeint electroluminescence from heavy (Ir) and not so heavy (Cu) metal complexes. **M. Thompson***, R. Hamze, P. Saris, T. Batagoda
8:30 – 390. Development of materials and architectures for light-emitting diodes. **P.L. Burn***, R. Jansen-van Vuuren, F. Maasoumi, P. Meredith, E. Namdas
8:50 – 391. New trends in the design of transition-metal based OLED phosphors. **Y. Chi***
9:10 – 392. Phosphorus-based chromophores: Efficient emitters for OLEDs. **M. Hlssler***
9:30 – 393. Different material concepts for the development of vapor and solution processable OLEDs. **T. Eberle***
10:00 BREAK
10:20 – 394. Vertical organic transistor for OLED driving. **H. Zan***, H. Meng
10:50 – 395. Highly efficient exciplex-based OLEDs. **K. Wong***
11:10 – 396. Microwave synthesis of triscyclometalated iridium complexes and their precise analysis by using a LC-TOF MASS method. **T. Matsumura***, **N. Shimizu**, **H. SAWADA**, **J. KIdo**, **H. Sasabe**
11:30 – 397. RISC from high-lying triplet to singlet: Optical probes and application for OLEDs. **Y. Ma***, B. Yang, D. Hu, L. Yao

Hawaii Convention Center
319B

Self-assembled Biofunctional Nanomaterials (#433)

Organized by: R. Nagarajan, K. Sakurai, H. Chen

8:00 – 398. Shape persistence micelles having the same aggregations with the platonic solids. **K. Sakurai**
8:20 – 399. Self-assembly of lipid-polymer nanodiscs for membrane protein supports. **K. Edler***, I. Idini, C. Tognoloni, T. Dafforn, S. Lee, A. Terry, T. Arnold, D. Barlow, J. Curtis
8:50 – 400. Hydrophobe-uptake micellization of low molar mass and polymer surfactants in aqueous media. K. Morishima, **T. Sato***
9:20 – 401. Entropically-induced phase transition for strongly confined semi-flexible polymers. **Y. Chen**, D. Luzhbin, G. Liao
9:50 Break
10:00 – 402. Molecular mechanism of surface-assisted self-assembly of amyloid-like peptides. **S. Kang***, T. Huynh, R. Zhou
10:20 – 403. Structure of DNA-dendrimer complexes and its implication on DNA-histone interaction in nucleosome. **H. Chen**
10:50 – 404. Stability of aqueous biofilms of the Class II hydrophobin Cerato-ulmin in the presence of gaseous and liquid hydrocarbons: A phenomenological investigation. **X. Zhang**, P.S. Russo, B. Blalock, w. huberty
11:10 – 405. Small-angle scattering of anisotropic nanoparticles and their assemblies. **A.J. Senesi**, B. Lee*
11:30 – 406. Nanostructure and stimuli-responsibiilty of poly(betaine) brushes at the air/water interface. **H. Matsuoka***, A. Sakamoto, Y. Mochizuki

Wednesday Afternoon

Hawaii Convention Center
318A

Two-dimensional Nanosheets and Nanosheet-Based Materials: Synthesis, Characterization, Functionalization and Applications (#95)

Organized by: J. Kawamata, J. Choy, C. Detellier, H. Zhang, J. Huang, L. Wan
Presiding: J. Kawamata, T. Nakato

13:00 Opening remark
13:05 – 407. Synthesis, properties, and applications of Group IV graphane analogs. **J. Goldberger***
13:30 – 408. New strategy for the construction of 2D monolayer. **X. Hou**, C. Ke, J.F. Stoddart*
13:50 – 409. Aerogels based on 2D nanosheets: Graphene, boron nitride, and beyond. **M.A. Worsley***
14:10 – 410. 2D nanosheet architectonics for tailored electronics. **M. Osada***, T. Sasaki
14:30 – 411. Atomtronics: The application of organometallic bis-hexahapto bonding to the electrical interconnection and electronic conjugation of the graphitic surfaces of carbon nanotubes and graphene. **R.C. Haddon**
15:00 Break
15:10 – 412. Crystalline hybrid structures built on semiconductor nanomodules designer materials for general lighting applications. **J. Li***
15:35 – 413. Carbon nanomembranes (CNMs) from molecular monolayers. **A. Goelzhaeuser***
15:55 – 414. Biomass-directed mass production of *h*-BN nanosheets for highly thermoconductive polymeric composites. **X. Jiang***, **X. Wang***
16:15 – 415. Expanding the range of applications of AlN through its scalability at the 2D limit. R. dos Santos, R. Rivelino, F. de Brito Mota, A. Kakanakova-Georgieva, **G. Gueorguiev***
16:35 – 416. Functional 2D crystals: Controlled synthesis and optoelectronic devices. **H. Peng**

Hawaii Convention Center
317A

Design, Synthesis and Applications of Advanced Porous Materials (#111)

Organized by: C. Doonan, M. Dinca, S. Telfer, S. Furukawa, Q. Li

13:00 – 417. Framework dynamics: extreme thermomechanical behaviours through a porous molecular materials approach. **C. Kepert***
13:30 – 418. Metal-organic frameworks with dynamic interlocked components. K. Zhu, V.N. Vukotic, C. O'Keefe, R. Schurko, **S. Loeb***
14:00 – 419. Metal-organic frameworks toward gas biology applications. **S. Furukawa***
14:20 – 420. Near-infrared emitting metal-organic frameworks for biological imaging applications. **N. Rosi**, S. Petoud, C. Liu, K. Gogick, A. Foucault-Collet, S. Villette
14:40 – 421. Engineering metal-organic frameworks. **P. Falcaro***
15:00 – 422. Fast triplet exciton diffusion in metal–organic frameworks for ultralow power photon upconversion. **N. Yanai***, P. Mahato, N. Kimizuka
15:15 – 423. MOFs for use in mixed matrix membranes, produced at scale. **M.R. Hill**
15:30 – 424. Mimicking geological mineralization for the synthesis of porous materials in the solid state. **C. Mottillo**, Y. Lu, P. Minh-Hao, T. Do, T. Friscic
15:45 – 425. Structural diversity of SURGELs for bio-application. **S.K. Schmitt***, M. Tsotsalas, S. Diring, S. Furukawa, H. Gliemann, S. Kitagawa, C. Woell
16:00 – 426. 3D superstructures of metal-organic frameworks synthesized via coordination replication. **K. Sumida***
16:15 – 427. Iodine adsorption in ZIF-8 and related structure: A computational investigation. **B. Chang***, P.D. Bristowe, A.K. Cheetham

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16:30 – 428. Biomimetically mineralized metal-organic frameworks and its potential in biotechnology. **K. Liang**, P. Falcaro, C. Doonan

Hawaii Convention Center
316A

Frontier and Perspectives in Molecular Spintronics (#127)

Organized by: M. Yamashita, B. Zhang, H. Tajima, B. Hu, P. Lahti, J. Gao
Presiding: H. Tajima, M. Yamashita

13:00 – 429. Organic spin-valve based upon the spin state manipulation of paramagnetic tris(8-hydroxyquinoline)iron(III) molecules. **D. Sun***, Z. Vardeny*
13:30 – 430. Carbon electrode-molecule junctions: A reliable platform for molecular electronics. **x. guo**
14:00 – 431. Carbon nanotube based field-effect transistors: Merits and fundamental limits. **L. Peng***
14:30 – 432. Interface-assisted molecular spintronics. **K.V. RAMAN***
15:00 Break
15:15 – 433. Metal-radical materials for tunable spin physics. M. Vaz, M.A. Novak, H. Akpinar, R.A. Cassaro, **P.M. Lahti***
15:45 – 434. Magneto-optical properties in organic-inorganic perovskites. **B. Hu***
16:15 – 435. Photo-CELIV experiments under magnetic field. **H. Tajima***

Hawaii Convention Center
321B

Applications of Ultrasound to Nanoscience (#150)

Organized by: K. Suslick, F. Grieser, M. Atobe, J. Yu, S. Jeong
Presiding: M. Atobe, K. Suslick

13:00 – 436. Temperature non-equilibration during single-bubble sonoluminescence. **D.J. Flannigan***, K.S. Suslick*
13:30 – 437. Influence of short frequency ranges on cavitation activity in HIFU sonoreactors. J.T. Lee, L. Hallez, **J. Hihn**, F. Touyeras, A. Nevers, M. Ashokkumar
14:00 – 438. Continuous industrial-scale processing of liquids by high-amplitude ultrasound. **A.S. Peshkovsky***
14:20 Coffee & Bio Break
14:30 – 439. Application of ultrasound to the formation of amino acids from prebiotic gases. **F. Grieser***, L. Dharmarathne
15:00 – 440. Effects of various parameters on sonochemical degradation of aromatic compounds in water. **K. Okitsu**
15:30 – 441. Determining the mechanism of ultrasonic activation of persulfate. Z. Wei, F.A. Villamena, **L. Weavers**
16:00 – 442. Hot spots in solids created with an ultrasonic hammer. **K. Suslick**, D. Dlott, M. Chen, S. You

Hawaii Convention Center
322AB

Mechanically Responsive Materials (#153)

Organized by: P. Naumov, T. White, B. Kahr, Y. Yu
Presiding: J. Rack, T.J. White

13:00 – 443. Photoinduced bending, twisting, and grabbing in anthracene-based microcrystals. **C. Bardeen***, R. Al-Kaysi, f. tong, t. kim, l. zhu, l. mueller, c. yang
13:30 – 444. Opto-mechanical azo materials: New light on mechanism and optimization. **C. Barrett***, O. Bushuyev, T. Friscic
14:00 – 445. Chemo-mechanoresponsive systems mimicking natural mechano-transduction processes. **P. SCHAAF***
14:20 – 446. Quantification, systematics, and modeling of mechanical effects in molecular crystals. **P. Naumov***
14:40 – 447. Light-induced crawling of crystals of azobenzene derivatives on a glass surface. **Y. Norikane**
15:00 – 448. Photodeformable liquid crystal polymers and bioinspired applications. **Y. Yu***, J. Lv, Y. Liu
15:20 – 449. Stimuli-responsive polymer materials. **A. Schenning**
15:40 – 450. Multiple stimuli responsiveness of spiropyran-incorporating nanoporous frameworks. **R. Klajn***, P. Kundu
16:00 – 451. Mechano and light responsive polymer composites and conducting polymers. **M. Schulz-Senft**, S. Sindushree, R. Adelung, A. Staubitz*
16:20 – 452. Elastic flexibility in molecular crystals of metal complexes. **A. Worthy***, M. Pfrunder, A. Grosjean, J. Clegg, J. McMurtrie
16:40 – 453. Mechanical analysis of soft materials by a surface labeled grating method. **A. Shishido**

Hawaii Convention Center
304A

Specific Effect(s) in Chemical Reactions by Innovative Technologies (#157)

Organized by: S. Horikoshi, N. Serpone, R. Gupta, Y. Hayashi, M. Ashokkumar, M. Watanabe
Presiding: R. Gupta, A.T. Quitain, T. Sato

13:00 Ram Gupta
13:00 – 454. Hydrothermal reduction of CO_2 to formic acid with general Fe powder. **J. Duo***, L. Lyu, G. Yao, Z. Huo, F. Jin*
13:15 – 455. Gasification characteristics of arginine in supercritical water conditions. **T. Samanmulya**, Y. Matsumura*
13:30 – 456. Catalyzed supercritical water gasification of sewage sludge using a bench-scale flow reactor. **O. Sawai***, T. Nunoura
13:45 – 457. Fabrication of chalcogenide semiconductor films using supercritical ethanol dissolving low-cost solid chalcogen sources. **T. Tomai***, Y. Nakayasu, I. Honma
14:00 Takafumi Sato
14:00 – 458. Biodiesel production in supercritical methyl acetate: experimental investigation and kinetic model. **O. Farobie**, Y. Matsumura*
14:15 – 459. Reactive separation employing the synergy of mixed subcritical H_2O/supercritical CO_2 system. **A.T. Quitain***, T. Takayama, M. Sasaki, T. Kida
14:30 – 460. Kinetics of hydrothermal separation of lignin and characteristics of the lignin. **M. Watanabe***, Y. Kanguri, T.M. Aida, R.L. Smith
14:45 – 461. Catalytic conversion of limonene in supercritical carbon dioxide media. **M. Aomatsu***, A.T. Quitain, T. Kida, M. Sasaki, M. Tanaka, M. Hoshino
15:00 Brack
15:15 Armando Quitain
15:15 – 462. Inhibition of char deposition using a particle bed in heating section of supercritical water gasification. **S. Hirota**, S. Inoue, T. Inoue, Y. Kawai, Y. Wada, T. Noguchi, Y. Matsumura*
15:30 – 463. Role of organic acids as intermediates of xylose decomposition in sub- and supercritical water. Y. Matsumura*, **N. Paksung**, R. Nagano

Hawaii Convention Center
320 Theatre

Frontiers of Organic Porous Materials: Structures, Properties and Applications (#223)

Organized by: D. Jiang, W. Wang, W. Zhang
Presiding: L. Chi, N. McKeown

13:00 – 464. Photo-induced charge transfer in covalent organic frameworks. **T. Bein***
13:25 – 465. Conjugated porous organic polymers for gas sorption and separation. **B. Han***
13:50 – 466. 2D molecular covalent networks via surface-assisted reactions. B. Yang, X. Shen, Q. Li, **L. Chi**
14:15 – 467. Breakthrough reusable and porous β-cyclodextrin sorbent for instant water purification. **A. Alsbaiee***, B. Smith, L. Xiao, W. Dichtel
14:30 – 468. Micro vs. macrofluidics: Encapsulation of hydrochloric acid in porous polymer beads. **J. Ferrer***, A. Menner, A. Bismarck
14:45 Coffee Break
15:00 – 469. Porous liquids based on hollow nanostructures. **S. Dai**
15:25 – 470. Fullerene-stabilised phthalocyanine nanoporous crystals. **N. McKeown***, C.G. Bezzu, L. Burt, S. Moggach, B. Kariuchi
15:50 – 471. Supramolecular organic framework: periodic self-assembled structures in water. **Z. Li**
16:15 – 472. Highly microporous free-radically generated polymeric materials using a novel contorted monomer. **M. Wendland***
16:30 – 473. Multifunctional applications of porous covalent-organic materials. **D. Cao**
16:45 – 474. Peptide-MOF chemical motors that sense PbSe nanoparticles. **Y. Ikezoe***, J. Fang, T.L. Wasik, M. Shi, T. Uemura, S. Kitagawa, H. Matsui

Hawaii Convention Center
321A

Nanomaterials for Nanomedicine (#289)

Organized by: A. Maruyama, D. Lee, R. Narain
Presiding: z. Gu, K. Ishihara, M. Winnik

13:00 – 475. Novel polysaccharide carrier for functional oligonucleotides: Immunocyte targeting drug delivery system. **K. Sakurai***, S. Mochizuki
13:25 – 476. Bioinspired design of dynamic macromolecular for gene delivery. **z. Gu***
13:50 – 477. Conformational changes of DNA monitored by fluorescence blinking. **K. Kawai***, A. Maruyama, T. Majima
14:05 – 478. DNA origami nanopores: An emerging tool in bionanotechnology. **S.M. Hernandez Ainsa***, K. Göpfrich, U. Keyser
14:20 Break
14:35 – 479. Hybrid exosomes for new drug delivery system. **K. Akiyoshi***
15:00 – 480. Metal chelating polymer-based radioimmunoconjugates for tumor imaging and cancer therapy. **M. Winnik***, Y. Lu, P. Liu, A.J. Boyle, G. Ngo Ndjock Mbong, R.M. Reilly
15:25 – 481. Photosensitizing peptides and proteins for photochemical internalization. **T. Ohtsuki***, S. Miki, H. Fujiwara, M. Kitamatsu, K. Hirakawa, S. Okazaki, K. Watanabe
15:40 break
15:50 – 482. Self-assembled nano aggregates based on amphiphilic polyaspartamide graft copolymers: Intracellular uptake and pH dependent drug release. **D. Kim**
16:15 – 483. Cytocompatible polymeric nanoparticles for delivery of biomolecules into cells. **K. Ishihara***
16:40 closing remark

Hawaii Convention Center
318B

Advanced Materials for Photonics and Electronics: Recognizing the Research of Tobin J. Marks (#308)

Organized by: R. Morandotti, D. Moss, F. Omenetto, N. Tsutsumi, K. Alamgir, K. Char, A. Facchetti
Presiding: A. Facchetti

13:00 Introductory Remarks
13:05 – 484. Nature inspired conjugated small molecules and polymers as next generation semiconductors. **M. Al-Hashimi***, H. Bronstein*, H.S. Bazzi*, D. Seapy*, T.J. Marks*
13:20 – 485. Stretchable electronics. **Z. Bao***
13:35 – 486. Pyridine coordination chemistry for molecular assemblies. **M.E. van der Boom***
13:50 – 487. Recent fused-thiophenes-based small molecules development for organic thin film transistors (OTFTs). **M. Chen***
14:05 – 488. Theory guided design ofnano-photonic electro-optic materials and devices. **L.R. Dalton***
14:20 – 489. Printing circuits. **D. Frisbie**
14:35 – 490. Materials design for high-performance organic thin-film transistors and polymer solar cells. **X. Guo**
14:50 Break
15:00 – 491. Solution processing and device integration at the 2D limit. **M.C. Hersam***
15:15 – 492. Charge carrier injection into molecular crystals at the contact interfaces. **T. Inabe***
15:30 – 493. Inorganic-organic hybrid perovskites: Chemistry and solar cells. **M. Kanatzidis***
15:45 – 494. Getting new tools for a more sustainable organic electronics. **A. Marrocchi***
16:00 – 495. Materials for soft, bioresorbable optoelectronic interfaces to the brain. **J. Rogers**
16:15 – 496. Stimuli-eesponsive imide-based π-conjugated systems: Structural dynamics and electronic properties. **A. Takai**, M. Takeuchi
16:30 – 497. Aggregation and morphology control enables multiple cases of polymer solar cells with efficiencies near 11%. **H. YAN**
16:45 – 498. Low-temperature sol-gel metal oxide-based flexible electronics. **M. Yoon**

Hawaii Convention Center
317B

Data Mining and Machine Learning Meets Experiment and First-Principles Simulation for Materials Discovery (#314)

Organized by: J. Schrier, C. Amador-Bedolla, S. Iwata, T. Woo
Presiding: C. Amador-Bedolla, S. Iwata, J. Schrier, T. Woo

13:00 Introductory Remarks
13:05 – 499. Developing properties databases for functional materials and devices: A first step towards machine learning. **R. Seshadri**
13:35 – 500. Dark reactions project: A machine learning approach to materials discovery. **A. Norquist**
14:05 – 501. High-throughput ab initio study for 2D electride materials. **T. Tada**, T. Inoshita, H. Hosono*
14:35 – 502. Ferroic materials discovery guided by Bayesian principles. **J. Rondinelli**
15:05 Break
15:20 – 503. Accelerating materials research through machine learning. **T. Mueller***
15:50 – 504. Discovery of nanoporous materials for energy application. **M. Haranczyk***, C. Simon, R.L. Martin, B. Smit
16:20 – 505. Enabling applications of nanoporous materials using first-principles-based screening. **D. Sholl***, D. Nazarian, J. Camp, R. Awati, S. Nair

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Hawaii Convention Center
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Safety and Sustainability of Nanotechnology (#404)

Organized by: Y. Zuo, J. Ferri, C. Chen, J. Loo, S. Mylon
Presiding: J.K. Ferri, H. Galla, S. Mylon, Y. Zuo

13:00 – 506. Interaction of nanoparticles with lipid monolayers and lung surfactant films. **H. Galla***
13:30 – 507. Biophysicochemical interactions between nanoparticles and pulmonary surfactants. **Y. Zuo***
13:50 – 508. Toxicity of nanofilm spray products. The role of lung surfactant function. **S. Larsen***, J.B. Sorli, A.W. Norgaard, Y. Huang, J.S. Hansen
14:10 – 509. Interaction between inhaled graphene oxide nanosheet and pulmonary surfactant monolayer. **G. Hu**, Q. Hu, Y. Zuo
14:30 Coffee break
14:40 – 510. Effects of polymer-coated nanoparticles on the phagocytic capacity and viability of immune cells. **G.G. Goss**, V. Ortega, S. Memon, L. Unsworth, J. Stafford
15:10 – 511. Transformation and hazard potential of copper particles in a septic system using a zebrafish high-throughput screening assay. A.A. Taylor, **S.L. Walker**
15:35 – 512. Fine control of aggregation state of biocompatible polymer functionalized nanoparticles: Theory and experiment. F. Gambinossi, M. Chanana, **S. Mylon***, J.K. Ferri*
16:00 – 513. Interactions of chemical mechanical planarization nanoparticles with model biological membranes. **X. Liu**, K. Chen

Hawaii Convention Center
316C

Single-Molecule Function and Measurements (#408)

Organized by: T. Ogawa, H. Tada, S. Park, P. Weiss
Presiding: T. Ogawa, H. Uno

13:00 – 514. Spin properties of adsorbed magnetic molecule detected by Kondo feature. **T. Komeda***, T. Inose, D. Tanaka, T. Ogawa, F. Wu, Z. Shen
13:30 – 515. Control of single molecular conductance with STM atom manipulation. **T.K. Yamada***, N.K. Nazriq, S. Nakashima, N. Ohta
13:50 – 516. Molecular nanomagnets on graphene: A path towards hybrid molecular spintronics devices. **M. Affronte***
14:10 – 517. Theoretical study of a contact-asymmetry effect on magnetoresistsnce of single molecular spin valves. **T. Ohto***, R. Yamada, H. Tada
14:30 Break
14:45 – 518. Is "luminescent molecular pixel" feasible? Frustrating intermolecular energy transfer in the condensed state. **S. Park***
15:15 – 519. Single molecule control of adhesion and friction by cyclodextrins. **G. Wenz***, M. Albrecht, R. Bennewitz, J. Blass, B. Bozna
15:35 – 520. Carbon nanomaterials-based single-molecule electrical biosensors. **x. guo**

Hawaii Convention Center
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Advances in Organic Light-Emitting Diodes (#409)

Organized by: J. Bredas, C. Adachi, K. Wong, V. Yam, P. Burn, J. Kim
Presiding: K. Wong

13:30 – 521. Controlling and imaging self-assembly for optoelectronic devices. **L. De Cola**, A. Aliprandi, A. Ruiz Carretero, M. Mauro
14:00 – 522. Emitting dipole orientation of phosphorescent dyes in OLEDs. **J. Kim***, C. Moon, K. Kim, J. Lee
14:20 – 523. Magnetic modulation of the light emission in a spin-OLED. J. Prieto-Ruiz, H. Prima-García, A. Riminucci, P. Graziosi, **V.A. DEDIU***, E. Coronado
14:40 – 524. Exciton migration in organic materials with enhanced optical effects. **t. goodson***
15:00 – 525. Novel core chromophores based on specific chemical structures and their effects. J. Lee, S. Kim, H. Shin, H. Lee, H. Jung, **J. Park***
15:30 Break
15:50 – 526. Organic light-emitting diodes: Approaches to facilitating charge-carrier injection and for efficient emissive layers. S. Barlow, D. Cai, C. Fuentes-Hernandez, M.P. Gaj, A.J. Giordano, W. Haske, X. He, D. Kang, T.M. Khan, B. Kippelen, **S.R. Marder***, K. Moudgil, S. Paniagua, F. Pulvirenti, S. Zhang, Y. Zhang, C. Zuniga
16:20 – 527. Molecular design of metal-free purely organic phosphors. **J. Kim***, M. Kwon, J. Jung, D. Lee, O. Bolton
16:40 – 528. Novel approaches to improve charge balance and light management in solution-processed phosphorescent OLEDs. **N. Stingelin**
17:00 – 529. In situ investigations of the solution-to-solid phase transformation of organic semiconductors. **A. Amassian**

Hawaii Convention Center
319B

Self-assembled Biofunctional Nanomaterials (#433)

Organized by: R. Nagarajan, K. Sakurai, H. Chen

13:00 – 530. Small angle X-ray scattering from polypod-shaped DNAs and their activity of cytokine secretion. **Y. Sanada**, T. Shiomi, T. Okobira, M. Nishikawa, Y. Takakura, K. Sakurai
13:20 – 531. Modeling of synthesis of well-defined nanoparticles and nanostructures. **V. Privman***
13:40 – 532. Interpolyelectrolyte nanoassemly to engineer DNA, peptides, and lipids. **A. Maruyama***
14:10 – 533. Exploration of spatial distribution of drug molecules incorporated in polymer micelles with anomalous small-angle X-ray scattering. **I. Akiba***, R. Nakanishi, K. Sakurai
14:30 – 534. Nanoscale protein-polymer interactions and potential contributions to solid-state nanobioarrays. **J. Hahm***
15:00 Break
15:10 – 535. Supramolecular nanoassemblies responsive to biological stimuli. **S. Thayumanavan**
15:40 – 536. Characterization of micelles formed from a model pluronic F127-BSA conjugate. **E. Hirst**, R. Nagarajan
16:00 – 537. Micelle structure and interactions in aqueous solutions: Modulation by polymers, cosolvents, and solutes. A.I. Fajalia, P. Alexandridis, **M. Tsianou***
16:20 – 538. Structural characteristics of DNA-Poly(*N*-isopropylacrylamide) bioconjugate. **M. Fujita**, M. Maeda
16:40 – 539. Dimerization of the type IV pilin from *Pseudomonas aeruginosa* strain K122-4 and its oligomerization into protein nanotubes. **G.F. Audette***, C. Lento

Wednesday Evening

Hawaii Convention Center
318B

Nanocrystal Synthesis, Characterization, Assembly and Applications (#34)

Organized by: R. Tilley, S. Skrabalak, T. Hyeon, T. Nann, T. Adshiri

19:00 – 540. Synthesis and growth mechanism of high-aspect-ratio gold nanorods in a gelled surfactant solution. **Y. Takenaka***, Y. Kawabata, H. Kitahata, M. Yoshida, Y. Matsuzawa, T. Ohzono, N. Yamada, H. Seto
19:15 – 541. From bare metals to metal oxides nanoparticles and hierarchical supramolecular metal oxide nanoparticle network assemblies. **E. Redel**
19:30 – 542. Pasmonic consequences of symmetry breaking in DNA-assembled 1D nanoparticle superlattices. **M.R. Jones**, M. O'Brien, K. Kholstedt, G.C. Schatz, C.A. Mirkin
19:45 – 543. Study of AuFePt ternary alloy nanoparticles as a functional hybrid magneto-plasmonic system. **P. Mohan**, M. Takahashi, K. Higashimine, D. Mott, S. Maenosono*
20:00 – 544. Highly luminescent and transparent silica aerogels containing silicon nanocrystals. **M. Aghajamali***, M. Iqbal, L. Hadidi, T.K. Purkait, J. Veinot
20:15 – 545. Multifunctional engineered nanomaterials: Synthesis, fundamentals, and applications. **S.E. Hunyadi Murph**

Hawaii Convention Center
Halls I, II, III

Conjugated Polymers for Biological Applications (#43)

Organized by: H. Yu, S. Wang, J. Tovar
Presiding: S. Luo, J.D. Tovar, S. Wang, H. Yu

Poster Session
19:00 – 21:00

546. Development of novel polymeric prodrugs synthesized by mechanochemical solid-state polymerization of polysaccharides and vinyl monomers. **N. Doi**, Y. Sasai, Y. Yamauchi, M. Kuzuya, S. Kondo*
547. Synthesis and characterization of cationic polythiophene derivatives (II): DNA sensing. **T. Ishiyama**, Y. Erika, M. Fujita, Y. Takeoka, M. Rikukawa
548. Compendium method for surface modification with zwitterionic polymers and application to biomaterial development. **M. Nishida**, T. Nakaji-Hirabayashi, H. Kitano*
549. Construction of thin gel layer on the material interface using polymer brush and interpenetrating polymer network. **Y. Yamazawa**, T. Nakaji-Hirabayashi, H. Kitano*
550. Development of 2-nitrobenzyl-type photodegradable linker having the various substituent groups in benzyl position and fabrication of photoresponsive substrate towards cell patterning. **H. Ikegami**, J. Nakanishi, K. Yamaguchi
551. Control of conjugated polymer nanoparticle size and emission properties through microfluidics synthesis. **T.F. Abelha***, T.W. Phillips, J.C. de Mello, M.A. Green, L. Dailey
552. Optimization of the formulation of photoluminescent conjugated polymer nanoparticles for diagnostics and bioimaging. **L. Urbano***, H. Ku, K. Vandera, T.F. Abelha, T. Desai, R. Harvey, M.A. Green, L. Dailey
553. Visual biomolecular detection based on dual polymerization-assisted amplification. **J. Yang**
554. Application of photothermal conducting polymer for harvesting of cell sheets. **M. Han**, J. Na, J. Kim, E. Kim*
555. Fabrication of natural material coated on the biodegradable fiber with calcium carbonate for improving hemostatic effect. **J. PARK**, K. Kyung, S. Kim, S. Shiratori*
556. Antimicrobial application of bioluminescence resonance energy transfer (BRET) system. **H. BAI***

Hawaii Convention Center
Halls I, II, III

Molecular Adsorption on Metallic Interfaces: Beyond the Cartoons (#102)

Organized by: D. Bizzotto, I. Burgess, H. Yu, T. Sagara, H. Yang

Poster Session
19:00 – 21:00

557. Quantitative analysis of thiolated ligand exchange on gold nanoparticles monitored by ^{1}H NMR spectroscopy. **A.M. Smith***, K.A. Johnston, L. Marbella, J.E. Millstone
558. Probing plasma protein binding to Au/Ag nanoparticles using FT-IR spectroscopy. **S. Yu**, M. Wang, **C. Fu**
559. Adsorption of cations on gold electrode surface investigated by ATR-SEIRA spectroscopy. **M. Futamata***, F. Watanabe

Hawaii Convention Center
Halls I, II, III

Design, Synthesis and Applications of Advanced Porous Materials (#111)

Organized by: C. Doonan, M. Dinca, S. Telfer, S. Furukawa, Q. Li

Poster Session
19:00 – 21:00

560. Vapochromic luminescence coupled with drastic change of ion-conductivity of ruthenium(II)-metalloligand-based porous coordination polymer. **w. ayako**, A. Kobayashi*, M. Yoshida, M. Kato*
561. Preparation of hollow silica spheres with mesopores using hybrid organic templates method. **H. Shibata**, H. Endo, T. Ogura, K. Hashimoto
562. Flexible solid-state supercapacitor based on a metal-organic framework interwoven by electrochemically-deposited PANI. **L. Wang**, X. Feng, B. Wang*
563. Synthesis of HEU-type zeolites and its application for steam reforming of dimethyl ether. **S. Watabe**, N. Shimoda, S. Satokawa*
564. Preparation of porous solids by acid-treatment of silica-pillared fluorine micas. **T. Yamaguchi**, Y. Soda, S. Taruta
565. Regulation of NO uptake in flexible paddlewheel-type Ru dimer chains with highly electron-donating dopants. **J. Zhang***, W. Kosaka, Y. Sekine, K. Taniguchi, H. Miyasaka
566. Photoinduced postsynthetic polymerization of a metal–organic framework toward a flexible stand-alone membrane. **Y. Zhang***, X. Feng*, H. Li, B. Wang*
567. Water-stable metal-organic framework for CO_2 capture. **R. Zhong***, X. Huang
568. Fluorescent chromophore encapsulated in porous metal-organic frameworks with tunable emission. **M. Song***, D. Yan
569. Carbon dioxide adsorption of MOF-74@PS with high water stability. **H. Kim***, J. Moon, D. Chun, Y. Park
570. Dual stimuli-responsive smart membrane for multiple on-off gates. **B. Lee**, S. Hyun, J. Kim*
571. Metal-organic framework-assisted synthesis of high efficient alcohol oxidation catalyst. B. Kim, H. Kim, **C. Lee***

*** Principle Author**

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572. Novel MV-templated zinc gallophosphate zeolite with dual photo-/thermochromism and tunable photovaltaic activity. **J. Li**
573. Metal-organic frameworks with both [2]rotaxane and porphyrin components: Toward the control of dynamics in solid state materials. **P. Martinez-Bulit***, K. Zhu, S. Loeb
574. Room temperature phosphorescence from Coronene@ZIF-8. **H. Mieno***, R. Kabe, N. Notsuka, C. Adachi
575. Periodic mesoporous boron nitride at high pressure. M. Mandal, C. Liu, Y. Fei, **K. Landskron***
576. Supramolecular assembly of metal orangic nanotubes with unique water transport properties. **T.Z. Forbes**
577. Preparation of Pt-included hollow silica and its activity for CO oxidation. **T. Mori***, N. Ikenaga
578. Porous polymer materials by reactive gelation: From preparation to applications. A. Beltzung, A. Cingolani, H. Wu, **G. Storti**, M. Morbidelli*
579. Electrochemical approaches for precise structural and property control: Porous nanomaterials for energy and environmental applications. **Y. Li***
580. NanoFoams: High purity transition metal, lanthanide nitride, and actinide oxide foams prepared from nitrogen-rich metal precursors. **J.M. Veauthier***, B.C. Tappan, D.E. Chavez, J.L. Kiplinger, K.P. Browne, N. Travia
581. Organic radicals installed metal-organic frameworks. **G. Ning**, K.P. Loh*
582. Chiral dopants and tropos ligands: Toward functional chiral periodic mesoporous organosilica (PMO) materials. **L.M. Reid**, C. Crudden*
583. Enhancement of porosity in NbO type metal-organic framework by post-synthetic reductive elimination. **T. Okamura**, S. Takaishi, M. Yamashita*
584. Designed synthesis of large-pore crystalline polyimide covalent organic frameworks. **Q. Fang**, Y. Yan, S. Qiu
585. Synthesis of Fe@C core-shell particle its applications in water treatment. **Q. Huo**, X. Li, L. Zhang
586. Conformationally flexible metal-organic framework. **R.B. Amador**, **N. Godinez**, C. Gutierrez*
587. Controlling microtube/microrod crystal morphology of metal-organic hexagons with a nanotubular supramolecular packing. **X. Cheng***, X. Chen
588. Synthesis and sorption properties of hollow porous carbon spheres made from a simple pyrolysis of core-shell type metal-organic framework (MOF). **S. Choi***, H. Lee, M. Oh*
589. In situ observation of a reversible Michael adduct by the crystalline sponge method. **V. Duplan**, H. Sato, M. Hoshino, Y. Inokuma, L. Wei, T. Honda, M. Fujita*

Hawaii Convention Center
Halls I, II, III

Frontier and Perspectives in Molecular Spintronics (#127)

Organized by: M. Yamashita, B. Zhang, H. Tajima, B. Hu, P. Lahti, J. Gao

Poster Session
19:00 – 21:00

590. Photostability enhancement of pentacene derivative by introducing radical substituent. **A. Shimizu***, A. Ito, Y. Teki
591. Organic thin film devices of TTF-metal complexes with paramagnetic Cu(II) ion. **A. Wachi**, H. Nishikawa*, M. Chikamatsu, R. AZUMI
592. Giant negative magnetoresistance effect in a moleculer conductor based on iron(III) tetrabenzoporphyrin. **M. Nishi**, M. Matsuda, M. Ikeda, N. Hanasaki, N. Hoshino, T. Akutagawa
593. Organic electroluminescent devices consisting of dye-doped spin crossover complex films. **M. Matsuda**

Hawaii Convention Center
322AB

Mechanically Responsive Materials (#153)

Organized by: P. Naumov, T. White, B. Kahr, Y. Yu
Presiding: C. Bardeen, Y. Yu

19:00 – 594. Understanding mechanically reconfigurable organic single crystals. **C. Malla Reddy**
19:20 – 595. Photosalient behavior of crystals during [2+2] cycloaddition reactions. **J.J. VITTAL***, R. Medishetty, P. Naumov
19:40 – 596. Photosalient effect of gold(I) complex through strengthening metallophilic interactions. **T. Seki**, H. Ito
20:00 – 597. Smart optical windows: Reversibly switching between high transparence, color display, and opaqueness. **S. Yang***
20:20 – 598. Photomechanical motion of crystals. **H. Koshima***
20:40 – 599. Generalized high-accuracy universal polarimeter study on chiral salicylidenephenylethylamine crystals showing photomechanical effect. **T. ASAHI***

Hawaii Convention Center
Halls I, II, III

Specific Effect(s) in Chemical Reactions by Innovative Technologies (#157)

Organized by: S. Horikoshi, N. Serpone, R. Gupta, Y. Hayashi, M. Ashokkumar, M. Watanabe

Poster Session
19:00 – 21:00

600. Synthesis of large scorodite particles using ultrasound irradiation. **Y. Kitamura***, H. Okawa, K. Sugawara
601. Synthesis of calcium carbonate using CO_2 absorbed monoethanolamine and calcium chloride under ultrasonic irradiation. **T. Fujiwara***, H. Okawa, K. Sugawara
602. Hydrogen evolution from organic hydrides through microwave selective heating in heterogeneous catalytic flow systems. **M. Kamata**, S. Horikoshi*
603. Design of the catalyst most suitable for microwave organic hydride method. **Y. Kassai**, M. Kamata, S. Horikoshi*
604. Reply of microwave specific stress in the genetic level of the plant. **Y. Hasegawa**, N. Suzuki, S. Horikoshi
605. Change of chemical structure and activation of metalloenzyme by the microwave specific effect. **K. Nakamura**, M. Kawaguchi, J. Kondo, S. Horikoshi
606. Microwave effect in the intramolecular reaction using Claisen Rearrangement. **T. Watanabe**, Y. Suzuki, S. Horikoshi
607. Photolysis of VOC using microwave discharged electrodeless lamp (MDEL) technic. **K. Oshimo**, A. Tsuchida, S. Horikoshi*
608. Fate of constituents of concern in water reclamation facilities in Korea. S. Park, Y. Son, **W. Lee***
609. Trial for electrodeless of the microwave induced plasma in liquid. **S. Sato***, K. Mori, O. Ariyada, H. Tsukamoto, T. Yonezawa
610. Direct conversion of methane and carbon dioxide by surface discharge non-equilibrium plasma reaction. **T. SUGAWARA***, H. ARITANI, A. OGATA
611. Synthesis of hydroxyapatite utilizing a interface reaction field between solid and liquid phases. **H. Takahari***, Y. Wada, N. Yamamoto, M. Matsumoto, K. Onoe
612. Liquid phase purification by plasma-jet process utilizing activation of water droplets. **H. Nishiyama***, Y. Wada, N. Yamamoto, K. Onoe
613. Synthesis of porous iron oxide and its As adsorption characteristics. **T. Osawa***, H. Okawa, K. Sugawara
614. New synthesis method of hydroxyapatite using a combined system of atmospheric pressure plasma with minute droplets. **K. Kudoh**, Y. Wada, M. Matsumoto, K. Onoe
615. Development of generation technique of active oxygen species for efficient water purification. **R. Hatano**, Y. Wada, K. Onoe
616. Application of microbubble technique to antisolvent crystallization of glycine polymorphs. **M. Matsumoto***, Y. Wada, K. Onoe
617. Novel CO_2-philic catechol derivatives for the Sc-CO_2 metal extraction. h. kim, **X. Yan**, y. oh
618. Solid-supported nanometal catalyzed hydrogenation in supercritical CO_2. h. kim, n. hur, j. yu, b. lee, k. lee, s. ahn, **H. Song**
619. Bottom-up synthesis of mono-layer graphene by hydrothermal electrolysis. **Y. Okamura**, T. Tomai*, I. Honma
620. Selective recovery of magnesium from simulated concentrated sea water with continuous reactive crystallization in supercritical water using micromixer. **T. Sato**, A. Yano, M. Matsumoto, M. Okada, T. Hiaki*
621. Control of morphology and disparsiblity of boehmite nanoparticle modified by carboxylic acid in supercritical water. **T. Fujii***, S. Kawasaki

Hawaii Convention Center
Halls I, II, III

Natural to Nanosphere Lithographies: Two Decades of Self-assembled Advanced Materials (#177)

Organized by: A. Morfa, M. Giersig, K. Kempa, R. Duyne, L. Zhi
Presiding: E.M. Akinoglu

Poster Session
19:00 – 21:00

622. Study on the mechanism of particle nano-indentation and nano-imprinting in terms of the interaction between particles and substrates. **K. Yamamoto**, Y. Fukui, K. Fujimoto*

Hawaii Convention Center
Halls I, II, III

Frontiers of Organic Porous Materials: Structures, Properties and Applications (#223)

Organized by: D. Jiang, W. Wang, W. Zhang
Presiding: D. Jiang, W. Wang, W. Zhang

Poster Session
19:00 – 21:00

623. Toward porous molecular crystals of single molecule magnets based on lanthanide phthalocyanine sandwich complexes. **L. Burt**, C.G. Bezzu, S. Moggach, N. McKeown
624. Covalent organic frameworks as chemosensors. **S. Ding**, M. Dong, Y. Wang, W. Wang
625. Covalent organic polymers (COPs) for energy conversion and storage. **Z. Xiang**
626. Preparation and use of orange and pineapple peels as adsorbents for pollutant removal from water. **L.V. Gonzalez-Gutierrez***, L.A. Romero-Cano, L.A. Baldenegro-Perez
627. Covalent organic frameworks with robust stabilities and tunable pore sizes. **S. Tao**, **H. Xu**, **D. Jiang**
628. New nanoporous aramid fiber aerogel. **K. Hirogaki***, D. Lei, I. Tabata, T. Hori
629. Separation of hydrogen isotopes by MOFs. **M. Hirscher***, I. Weinrauch, H. Oh, D. Denysenko, D. Volkmer, I. Savchenko, T. Heine
630. Porous-aromatic-frameworks (PAFs) for separation and storage applications. **K. Konstas***, C. Lau, A.J. Hill, M.R. Hill
631. Layer-by-layer growth of 3D covalent bonded networks via spontaneous urea coupling reaction. **S. Laokroekkiat**, M. RASHED, M. Hara, S. Nagano, Y. Nagao*
632. Application of electrode interlayers for highly efficient polymer solar cells. **F. Li**
633. Flexible macroporous polymer cages as spacer/spring elements for REWOD energy harvesting devices. **A. Menner**, Q. Jiang, A. Bismarck
634. One-pot Suzuki-Heck reaction to construct luminescent microporous organic polymers based on 4-vinylphenylbororic acid. **Z. Liang***, X. Song, J. Yu
635. Supramolecular imidazolium frameworks: Open analogs of metal azolate frameworks with node-and-linker polarity inversion. **C. Mottillo**, T. Friscic
636. 2D/3D COF nanostructures: From structural design to practical applications. **R. Mas-Balleste***, F. Zamora
637. Design and synthesis of triangular covalent organic frameworks. **P. Wang***, D. Jiang
638. Nano/meso-porous materials from block copolymer template using supercritical carbon dioxide: The relationship between porous structures and swelling in CO_2. **T. Shinkai**, K. Ito, K. Sugiyama, H. Yokoyama*
639. Porous covalent organic materials made from polycyclic aromatic hydrocarbons. **R.A. Smaldone***
640. Facile low-cost strategy towards conjugated microporous hypercrosslinked polymer. **L. Tan***, B. Tan
641. Mechanized metal-organic frameworks. **L. Tan**, **Y. Yang***
642. Click-based porous organic frameworks for heterogeneous catalysis. L. Li , H. Zhong, **R. Wang***
643. Soluble, microporous, shape-persistent ladder polymers: Structure-property relationships and applications. **Y. Xia***
644. Covalent organic frameworks on carbon nanotubes for synergistic lithium-ion battery energy storage. **F. Xu**, D. Wu, R. Fu, D. Jiang*
645. Highly stable covalent organic framework for carbon dioxide capture with controlled loading functional groups via click chemistry. **L. ZHAI**, **N. Huang**, **D. Jiang**
646. Photocatalytic water oxidation by carbon nitride polymers modified with cobalt cocatalysts. **g. zhang**, x. wang
647. High accuracy and high efficiency multi-scale simulations of the gas adsorption in porous molecular materials. **J. Zhang***
648. Ultralight, elastic, cost-effective, and highly recyclable superabsorbent from microfibrillated cellulose fiber for oil spillage cleanup. S. Wang, **L. Zhong***, X. Peng, R. Sun
649. Water sorption hysteresis modeling as a tool to elucidate wood cell-wall architecture. S. Avramidis*, **J. Shi***
650. In vitro hydrolytic degradation of biodegradable poly (L-lactic acid) blend monoliths. **Y. Nakamura***, H.T. Oyama, K. Uetani

Hawaii Convention Center
Halls I, II, III

Nanomaterials for Nanomedicine (#289)

Organized by: A. Maruyama, D. Lee, R. Narain

*** Principle Author**

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Poster Session
19:00 – 21:00

651. Development of enzyme-loaded polyion complex vesicles for in vivo nanoreactor. **Y. Anraku***, M. Kamiya, S. Tanaka, T. Nomoto, K. Toh, Y. Matsumoto, S. Fukushima, D. Sueyoshi, A. Kishimura, M.R. Kano, Y. Urano, N. Nishiyama, K. Kataoka

652. Design of dual stimuli-responsive gel particles as nanotransporters for intracellular delivery. **A. Kawamura**, S. Ueno, T. Miyata*

653. Direct evaluation of cell membrane integrity using ion-sensitive field-effect transistor. **Y. Imaizumi***, T. Goda, A. Matsumoto, Y. Miyahara

654. Enhancement of blood circulation and tumor accumulation of a tumor imaging fluorescent probe by human serum albumin mediation. **e. nakhaei***, C. Kim, D. Funamoto, T. Mori, A. Kishimura, Y. Katayama

655. DNA structures stabilized with poly(ethylene sodium phosphate). **R. Moriyama***, D. Miyoshi, Y. Iwasaki

656. Preparation of polymer nanosheets containing phosphorylcholine group and the application to coating biomaterials. **Y. Nagase***, Y. Okamura, K. Asao, A. Iwano

657. Development of a novel enzymatic nano-reactors as biodetoxification nanomedicine. **H. Tang***, Y. Sakamura, S. Tanaka, T. Mori, Y. Katayama, A. Kishimura

658. Chelator-free radilabeling of gold nanoclusters for accurate cancer diagnosis. Y. Zhao, L. Detering, D. Sultan, H. Luehmann, **Y. Liu***

659. Reversible coating of liposome with serum albumin for improved blood circulation. **H. Sato**, Y. Nakamura, Y. Tahara, Y. Tatsuhiro, A. Kishimura, T. Mori, Y. Katayama

660. Silica and polymer nanocapsules: A route to the stimulus responsive delivery of small molecules, polymers, and gases. **J. Kumar***, C. Liu, Y. Liu

661. Fascinating composites based on bacterial cellulose for nanomedicine. **G. Yang***, Z. Shi, Y. Li

662. Magnetic-plasmonic hybrid Ag@FeCo@Ag core@shell@shell nanoprobes for isolation of intracellular membrane vesicles. **M. Takahashi**, P. Mohan, K. Higashimine, A. Nakade, D.M. Mott, T. Hamada, K. Matsumura, T. Taguchi, S. Maenosono*

663. Surface-initiated atom transfer radical polymerization from various materials reacted with a photoreactive initiator. **K. Fukazawa***, K. Ishihara

664. Development of photothermal cancer therapy using gold nanorods. **T. Oikawa***, K. Gonda, Y. Kubota, Y. Kobayashi, M. Takano, T. Kamei, N. Ohuchi

665. Application of novel hetero-tagged angiogenic factors to in vivo fluorescent imaging with high resolution. **Y. Hamada***, T. Oikawa, K. Gonda, N. Ohuchi

666. Photofunctional nanomodulators for bioexcitation. **E. Miyako**

667. Design of biocompatible polymeric gene carrier utilizing serum albumin. **Y. Nakamura***, H. Sato, T. Yoshikawa, Y. Tatsuhiro, A. Kishimura, T. Mori, Y. Katayama

668. Protein adsorption at well-characterized polymer brush surfaces based on molecular interactions. **Y. Inoue***, S. Sakata, K. Ishihara

669. Design and functions of new immunoliposomes by in vitro protein synthesis/artificial cell system. **M. Ando***, R. Miura, S. Mukai, Y. Akahori, S. Sawada, H. Shiku, Y. Sasaki, K. Akiyoshi

670. Nanoplasmonic microplate based on Au@Ag NPs for multiplex pathogen detection. **H. Gil**, S. Kim, J. Ryu, S. LEE*

671. Immunomodulatory liposomal spherical nucleic acids. **N. Chernyak**, M. Guan, A.J. Sprangers, S. Narajan, C.A. Mirkin*

672. AuNS@Au nanoparticle as SERS nanoprobe for multiplex cancer diagnosis. **J. Ryu**, N. LEE, H. Gil, S. LEE*

673. Novel nanoparticle-mediated combinatorial therapy against triple negative breast cancers. **D. Ho***, A. Sorolla*, C. Ormonde, E. Wang, C.W. Evans, K. Iyer, P. Blancafort

674. Creation of nano-prodrugs and their cytotoxic activities. **H. KASAI***, Y. Koseki, Y. Ikuta, T. Onodera, H. Oikawa

675. Intravenous delivery of albumin-conjugated nanoparticles to the brain following a remote injury in the central nervous system. **n. smith***, I. Gachulincova, D. Ho, C. Bailey, C. Bartlett, M. House, M. Fitzgerald, K. Iyer, S.A. Dunlop

676. Amplifying the effective binding affinity of carbon nanotube biosensors to cancer cells by control over antibody orientation and density. **H. Kim**, D. Hwang, S. Jeon, J. Chung, J. Kim*

677. Upper critical solution temperature (UCST) type thermo-responsive micelles covered with biocompatible shells. **A. Fujihara***, S. Yusa, A. Maruyama, N. Shimada, K. Ishihara

678. Enhanced Immunostimulation for cancer vaccine with crosslinked CpG-ODN/β-1,3-glucan nanogel through hybridization. **N. Miyamoto***, K. Sakurai, S. Mochizuki

679. Preparation of macrophage-specific magnetite nanoparticles by modifying with gelatin. **T. Niidome***, E. Makiyama, J. Matsuyama, T. Kida, Y. Komohara, M. Takeya

680. Enhanced catalytic activity of chemically modified 10-23 DNAzyme by cationic comb-type copolymers. **K. Saito**, N. Shimada, A. Maruyama*

681. Studies on functionalization of Hemagglutinating Virus of Japan Envelope (HVJ-E) with layer-by-layer assembly technique. **T. Okada***, K. Uto, C. Lee, T. Aoyagi, M. Ebara

682. Synthesis of biocompatible polyimide containing PC group and fabrication of nanosheet as a coating agent. **M. Ogino**, K. Asao, Y. Okamura, Y. Nagase*

683. Design of stimulus-sensitive polyrotaxanes exhibiting their supramolecular dissociation in response to metabolic acidosis. **K. Nishida**, A. Tamura, N. Yui*

684. Fabrication of biodegradable spherical particles and fibers by SPG membrane emulsification technique. **A. Nakagawa**, Y. Okamura

685. Intracellular protein delivery using ganglioside GM1-binding peptide. **H. Maeno***, T. Matsubara, T. Sato

686. Hemoglobin-loaded photosensitizer nanoparticles for improved photodynamic therapy. **C. Li**, H. Hao, P. Lai

687. Preparation and characterization of UCST-type thermo-responsive polypeptide as smart biomaterials. **S. kuroyanagi**, N. Shimada, A. Maruyama*

688. Smooth muscle differentiation related transcription factor CRP2 directly regulates strcuture and dynamics of actin filaments. **T. Kihara***, S. Takaoka, S. Shinohara, J. Miyake

689. Multifunctional mesoporous silica nanoparticles for photothermally-triggered doxorubicin release to overcome drug-resistant MCF-7/ADR cells. **Y. Jian**, C. Chen , P. Lai

690. Synthesis of biocompatible polyurethane and fabrication of nanosheet as a coating agent. **A. Iwano**, K. Morita, K. Asao, Y. Okamura, Y. Nagase*

691. Evaluation of PEG-modified β-glucans for efficient delivery to specifically cancer. **D. Ito**, S. Mochizuki, y. maegawa, K. Sakurai*

692. Enhanced photodynamic efficacy by gas/PFD encapsulated nanoparticles. **R. Chen**, C. Liu, P. Lai

693. Development of vascularized iPSC derived 3D-cardiac myoblast tissues by filtration layer-by-layer technique. **Y. Amano**, A. Nishiguchi, M. Matsusaki, M. Akashi*

694. Synthesis of influenza virus-recognizing glycopolymer via RAFT polymerization and copper-catalyzed azide-alkyne cycloaddition. **M. Nagao**, H. Seto, T. Tanaka, Y. Hoshino, Y. Miura*

695. Water-soluble complex with biocompatible polymer and fullerene as photosensitizer. **T. Ohata**, S. Yusa, K. Ishihara

696. Preparation of polysaccharide modified micelles for cell specific gene delivery. **M. Ishida**, S. Mochizuki, I. Fukuda, K. Sakurai*

697. Macrophage targeting gene delivery using micelle composed of mannose and cationic lipids. **I. Fukuda***, S. Mochizuki, K. Sakurai

698. Development of biodegradable multilayered nanosheets as a wound dressing in partial hepatectomy. **T. Komachi**, H. Sumiyoshi, Y. Inagaki, S. Takeoka, Y. Nagase, Y. Okamura*

699. Selenium-platinum complexes selectively kill cancer cells via ROS. **T. Li**, H. Xu*

700. Efficient delivery of nucleic acid medicines using pH responsive pyramidal DNA. **S. Tokunaga***, S. Mochizuki, N. Miyamoto, K. Sakurai

701. Hyaluronic acid-grafted polyamidoamine dendrimers enable active tumor targeting and long circulation in vivo. **X. Qi**

702. Biodegradation of carbon nanohorns. **M. Zhang***, M. Yang, C. Bussy, S. Iijima, K. Kostarelos, M. Yudasaka

703. Activation of the membrane-disrupting peptide by the cationic polymer. **W. Sakamoto**, T. Umegae, N. Kume, N. Shimada, A. Maruyama*

704. Synthesis and biocompatibility of polyurethane containing phosphorylcholine and alkyl groups. **M. Tezuka**, A. Iwano, K. Morita, Y. Okamura, Y. Nagase*

705. Physicochemical characterization of hyaluronan nanoparticles and their interaction with cells. **N. Tsuji***, T. Sato

706. Adsorption mechanism and structure of DNA on graphene oxide nanosurface. **Y. Ueda**, Y. Zouzumi, N. Sugimoto, D. Miyoshi*

707. Molecular mechanism of metallofullerenol Gd@$C_{82}(OH)_{22}$ in anti-metastasis of pancreatic cancer: In silico modeling of nanomedicine. **S. Kang***, T. Huynh, R. Zhou

708. pH-Responsive nanoclusters for magnetic resonance imaging, photothermal therapy and overcomes multiple drug resistance. **C. Lin**, Y. Cheng, M. Huang, P. Lai

709. Preparation of Co-ferrite nanoparticles and effect of hyperthermia treatment. **I. Ohta***, Y. Ichiyanagi

710. Preparation of functional magnetic nanoparticles and mass spectroscopy imaging. **S. Morimoto***, K. Hyodo, T. Yamazaki, T. Ishikawa, Y. Ichiyanagi

711. Antibody-conjugated pluronic nanogel for active targeting diagnosis and therapy of cancer. W. Choi, j. lee, J. Kim, S. Heo, Y. Jeong, Y. Kim, **G. Tae***

712. Bundle assembly of double stranded DNA using β-cyclodextrin-modified naphthalene diimide and bisadamantyl piperazine. **R. Moriyama**, S. Sato, S. Takenaka

713. Development of multifunctional dendrimer-gold nanorod hybrids for photothermal chemotherapy. **T. Hashimoto**, E. Yuba, A. Harada, K. Kono*

714. Quantitative evaluation of intracellular trafficking using pDNA/chitosan/nanoparticles. **A. Shimatani**, T. Sato*

715. Novel mouse xenograft model for in vivo imaging in a nanomedicine field. **S. Kita***, H. Higuchi

716. Enhancement of the adjuvant activity of dsRNAs by conjugation with gold nanoparticles. **T. Tazaki***, K. Niikura, T. Suzuki, Y. Ohara, S. Kobayashi, T. Nakano, Y. Orba, H. Mitomo, H. Sawa, K. Ijiro

717. Cell uptake of liposomes modified with GM3-binding peptide. **M. Fujimoto**, T. Kimura, J. Kim, R. Otani, T. Matsubara, T. Sato

718. Preparation and characterization of thermo-responsive polymer modified liposomes aimed at application to anticancer agent delivery. **R. Nemoto***, J. Wang, Y. Hiruta, A. Eri, Y. Maitani, H. Kanazawa

719. Characterization about thermosensitive liposome and make an effective cellular uptake. **J. Wang***, R. Nemoto, A. Eri, Y. Hiruta, Y. Maitani, H. Kanazawa

720. Hydration structure at molecular hydrophobic interfaces in O/W type surfactant free nano-emulsion. **Y. Yazawa***, M. Kato*, T. Eguchi

721. Physical properties of SPG/ODN complex revealed by gel permeation chromatography and small angle X-ray scattering analyses. **S. Mochidome***, S. Mochizuki, K. Sakurai

722. Solubilization at fullerene in water by thermo-responsive diblock copolymer. **J. Yano***, S. Yusa, T. Ohata, K. Ishihara

723. Spray-nanocoating of fragmented biodegradable nanosheets for biomedical applications. **S. Takano**, H. Sumiyoshi, Y. Inagaki, H. Kimura, Y. Okamura*

724. Fabrication of disk-shaped particles induced by hot-press process and their 2D interactions for biomedical applications. **D. Sogabe**, Y. Nagase, Y. Okamura

725. Platinum based chemotherapeutic agents and holmium containing magnetic nanoparticles for targeted treatment of non-small cell lung cancer. i. munaweera, Y. Shi, B. Koneru , r. saez, A. Ali , A. Di Pasqua, **K. Balkus***

726. Targeted nanoparticles for improved vaccine delivery. **A.P. Johnston***, J.D. Mintern

727. Fat-targerted delivery of thiazolidinediones as antidiabetic drugs. **K. SAATCHI**, E. Dunn, S. Tod, K. Nicholson, D. Leung, I. Andreu, C. Buchwalder, V. Schmitt, U. Hafeli, S. Gray*

Hawaii Convention Center
Halls I, II, III

Advanced Materials for Photonics and Electronics: Fundamentals and Applications (#308)

Organized by: R. Morandotti, D. Moss, F. Omenetto, N. Tsutsumi, K. Alamgir, K. Char, A. Facchetti

Poster Session
19:00 – 21:00

728. Large-area, cost-effective plasmonic nanostructures based on nanotemplates. **D. Choi***, J. Kwon, K. Chung

729. Two-photon polymerization of negative-type photoresist. **T. Miura**, K. Kinashi, W. Sakai, N. Tsutsumi

730. Novel acid amplifiers for UV or EUV lithography with high photosensitivity and resolution. **K. TAKAHASHI**, M. Furutani, K. Arimitsu*

731. Degradation studies of methylammonium lead iodide perovskite solar cells. **E.M. Sanehira***, B.J. Tremolet de Villers, L.Y. Lin, J.J. Berry, J.M. Luther

732. Electroluminescence of $CaTiO_3$:Bi/In_2O_3 multilayer thin films prepared by a sol-gel method. **Y. Hayashi***, T. Kyomen, M. Hanaya, H. Takashima

733. Holographic property of carbazole azobenzene composite films. **Y. Yabuhara***, K. Kinashi, W. Sakai, N. Tsutsumi

734. Synthesis and property of calixarene-containing polymers and their application for photo-resist material. **O. Hiroki***

*** Principle Author**

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735. Synthesis and characterization of fullerene derivatives with carboxylic acid ester in organic photovoltaic devices. **M. Igawa**, K. Abe, H. Lee, J. Lee, J. Jang, C. Pac, H. Moriyama*

736. Holographic property in PMMA composites doped with carbazole azobenzene compound with different electron accepting substituent. **S. Motoishi***, K. Kinashi, W. Sakai, N. Tsutsumi

737. Organic thin film dye laser device with DBR structure. **S. Nagi**, K. Kinashi, W. Sakai, N. Tsutsumi

738. Detecting methylation in arginine using optical microresonators. **A. Rios**, V. Sun, C. Zurita-Lopez, A. Armani

739. Combined total scattering and density functional theory studies of amorphous indium gallium zinc oxide. **D. Fast**, B. Hanken, P.H. Cheong, M. Dolgos

740. Theoretical investigation on the charge transport in high-mobility organic semiconductors. **J. Yuqian**

741. Dry process photopatterning of a conducting polymer using photoinduced acid proliferation reactions. **S. Kubodera**, M. Furutani, K. Arimitsu*

742. Photoreduction of metal ions through two-photon excitation in polymer matrix. **R. Nakamura***, K. Kinashi, W. Sakai, N. Tsutsumi

743. Development of high-response photorefractive device with main-chain triphenylamine polymer. **K. Kono***, S. Tsujimura, K. Kinashi, N. Tsutsumi

744. Synthesis and properties of halogenated subnaphthalocyanines for organic photovoltaic cells. **Y. Takao***, T. Masuoka, K. Yamamoto, T. Mizutani, . Matsumoto, K. Moriwaki, T. Iwai, T. Ito, T. Mizuno, T. Ohno

745. Effect of crystallization of nonlinear optical dye in organic photorefractive composites: Enhanced photoconductivity and change of the density of states. **S. Tsujimura**, T. Fujihara, T. Sassa, K. Kinashi, W. Sakai, K. Ishibashi, N. Tsutsumi*

746. Ferroelectricity of thin film of vinylidene fluoride-trifluoroethylene copolymer doped with nanoparticles. **R. Kosugi***, K. Kinashi, W. Sakai, N. Tsutsumi

747. Video rate response photorefractive devices by changing the plasticizer concentration. **T.V. NGUYEN***, H.N. GIANG, K. Kinashi, W. Sakai, N. Tsutsumi

748. Plasmonic metallic films covered with graphene layers. **J. Park***, H. Hong, K. Shin, S. Lee

749. Development of organic solar cells based on low-bandgap π-conjugated molecules. **Y. Hidaka**, W. Shin, T. Yasuda*

750. Fabrication of centimeter-sized thin-layered colloidal crystals. **K. Ito***

751. Hybrid perovskite solar cells using functional ligand (II): Optical properties of perovskites containing fullerene derivatives. **M. Imada**

752. Synthesis and characterization of self-doped conjugated diblock copolymers (I) Effect of side chain of thiophene. **T. Hazeki**, M. Fujita, Y. Takeoka, M. Rikukawa

753. Patterned taping: A novel and high-efficiency soft lithographic method for organic thin films. **S. Oh**, S. Park, J. Kim, I. Cho, S. Park*

754. Terminal functionalized diketopyrrolopyrrole-based small molecules for organic photovoltaic devices. **S. Furukawa**, H. Komiyama, T. Yasuda*

755. Preparation of highly conductive and flexible graphene hybrid fibers for wearable electronic applications. **J. Lee***

756. Study of bending-resistance for flexible organic solar cell. **D. Kato**, A. Aoki, T. Abe

757. Series of non-fullerene dye-based small molecule acceptors in OPVs showing PCEs over 3%. **E. LIM**

758. Development of efficient blue thermally activated delayed fluorescence emitters and clarification of concentration quenching mechanism. **J. Lee**, M. Numata, W. Shin , Y. Yang , C. Adachi, T. Yasuda*

759. Ultra-conformable polymer nanosheets with inkjet-printed electric circuits. **M. Okamoto**, T. Fujie, M. Kurotobi, K. Yamagishi, A. Murata, E. Iwase, H. Iwata, S. Takeoka

760. Boosting the efficiencies of cost-effective perovskite solar cells by interfacial engineering with rod-liked CuPc. **X. Yang***, X. Yang*, M. Cheng, W. Wang, L. Sun*

761. Fabrication of transparent organic thin film solar cell. **Y. Matsumoto**, A. Aoki, T. Abe

762. Novel and facile fabrication of organic solar cells by incorporating self-organized hole transport layer. **D. Kim**, O. Kwon, S. Park

763. Transient photocurrent of organic photocells assisted by electric double layers in electrolytes. **M. Odaka***, M.M. Matsushita, K. Awaga

764. Emitting materials for thermally activated delayed fluorescent organic light-emitting diodes using benzothiazole and acridine moieties. J. Jun, C. Lee, O. Kim, **S. Hwang***

765. Small bandgap polymer solar cells with unprecedented short-circuit current density maintaing high fill factor. **H. Choi***, S. Ko, P. Morin, M. Leclerc, J. Kim, A.J. Heeger

766. Controllable metal-to-insulator transition in electroless-deposited Au nanofeatures on silicon substrate. **J. Jang**, S. Lee, S. Hwang

767. Preparation and photoconductive properties of Ag nanoparticles grown in TiO_2 nanopores. **K. YAMAZAKI**, T. ISHIDA, T. MUSHA, M. Fujino*, H. KATAGIRI, G. KAWAMURA, A. MATSUDA

768. Asymmetrical squaraines bearing fluorine-substituted indoline moieties for high-performance solution-processed small molecular organic solar cells. D. Yang, **Y. Huang***, Z. Lu, H. Sasabe

769. Control of photothermal effect in metallic nanoparticle-assembled system for detecting biochemical substances. **Y. Nishimura**, Y. Yamamoto, S. Ito, S. Tokonami, T. Iida*

770. Negative resistance of Ag nanoparticles dispersed in quinacridone matrices. **Y. Masuda**, Y. Ishizeki, H. Ivy, M. Fujino*

771. Soft X-ray spectroscopy on insulating rutile phase of niobium doped VO_2 thin films at low temperatures and ambient pressures. **T. Su***, J. Laverock, V. Jovic, K.E. Smith, S. Kittiwatanakul, J. Lu

772. Clarification of Si added a-C characters that contribute high efficiency solar cell and improvement of its semiconductor properties. **Y. Nagata***, M. YAMADA, R. Kobayashi, K. Honda

773. Solution-processed oxide thin film phototransistor by polymer pre-pattern. **J. Choi**, K. Kim, s. park, D. You, Y. Kim*

774. Effects of resonant bonding in $Sn_2Sb_2Se_5$ phase change materials. **M. Ahn**, K. Jeong, S. Park, S. Park, J. Han, W. Yang, M. Jang, H. Jeong, M. Cho*

775. Antiaromatic nororrole batteries. **J. Shin***, T. Yamada, H. Yoshikawa, K. Awaga, H. Shinokubo

776. Solution processed hafnia thin-film as a capping layer for enhanced dehydration of thin-film dielectrics. **C.K. Perkins**, R.H. Mansergh, D. PARK, Y. Huang, S.R. Decker, D.A. Keszler

777. Mechanofluorochromic behaviors of 1-alkanoylaminopyrenes. **E. Nagata***, S. Takeuchi, T. Nakanishi, Y. Hasegawa, Y. Mawatari, H. Nakano

778. Reversible color change of hybrid films composed of azobenzene-based amorphous molecular materials and p-toluene sulfonic acid. **R. Ichikawa**, E. Nagata, H. Nakano*

779. Response change at interdigitated array microelectrodes consist of boron-doped amorphous carbon by varying geometry for high sensitive detection of redox analytes. **K. Honda***, S. Ohtomo, Y. Nagata, M. YAMADA, R. Kobayashi

Hawaii Convention Center
Halls I, II, III

Data Mining and Machine Learning Meets Experiment and First-Principles Simulation for Materials Discovery (#314)

Organized by: J. Schrier, C. Amador-Bedolla, S. Iwata, T. Woo
Presiding: C. Amador-Bedolla, S. Iwata, J. Schrier, T. Woo

Poster Session
19:00 – 21:00

780. In-silico prediction and screening of ABC-6 zeolites: A high-throughput genomic approach. **Y. Li***, J. Yu*

781. Simulation-based data-mining approach for the protein hydration water behavior. **T. Mizukami**, V. Nguyen, T. Ho, H. Dam

782. Prediction of interface structure and energy with an aid of information science. **S. Kiyohara***, T. Mizoguchi

783. Linear representation for calculating atomic forces. **T. Pham***, **H. Dam***

784. Sparse modeling for materials design. **H. Dam***, **T. Pham***, V. Nguyen

Hawaii Convention Center
Halls I, II, III

The Physical Structure, Function of Biological and Bioinspired Soft Matter (#347)

Organized by: M. Srinivasarao, A. rey, H. Jung

Poster Session
19:00 – 21:00

785. Stochastic delay-derivative device elements using binary mixtures containing biobased polymers: Potential application for bioinspired signal processing devices with hierarchical instabilities. **R. Maruyama**, N. Asakawa*

786. Surface observations and friction measurements of *Thermobia domestica*'s scales. **N. Okuda***, Y. Hirai, M. Shimomura

787. Role of cross links on collagen fibril orientation in pericardium. **H.R. Kayed***, N. Kirby, A. Hawley, S. Mudie, R.G. Haverkamp

788. Preparation of artificial plastrons by using self-organized honeycomb-patterned film. **N. Yanagi**, Y. Hirai*, M. Shimomura

789. Fabrication of the durable shark skin mimicking surface by using self-organized structures. **A. Sato***, Y. Hirai, T. Ohzono, K. Suzuki, S. Koike, T. KUROKAWA, M. Shimomura

790. Structure of water and polymer network in poly(vinyl alcohol) hydrogels with repeated freezing-thawing cycles. **Y. Sekine**, N. Ishikawa, T. Ikeda-Fukazawa

791. Preparation of hybrid materials from spider silk and conducting polymers. **K. Miyaura**, O. Karthaus*

Hawaii Convention Center
Halls I, II, III

Safety and Sustainability of Nanotechnology (#404)

Organized by: Y. Zuo, J. Ferri, C. Chen, J. Loo, S. Mylon

Poster Session
19:00 – 21:00

792. Lung surfactant as a target for zinc oxide nanoparticle toxicity. **E. Da Silva***, S. Larsen, J.B. Sorli

793. Probe the interactions between inhaled nanoparticles and model pulmonary surfactant: Insights from molecular dynamics simulation. **X. Lin***, Y. Zuo, N. Gu

794. Response of rat alveolar macrophages upon in vivo exposure to silver nanowires. **E. Ogorodnik***, G. Liu, Y. Liu, A. Karsai, L.M. Franzi, A.K. Pham, I. Espiritu, K.E. Pinkerton

795. Near-infrared light-mediated nanomaterials as a precision nanomedicine. **C. Chen**

796. In vitro simulation of carbon nanotube and graphene impact on lung surfactant. **Y. Zuo***

Hawaii Convention Center
316C

Single-Molecule Function and Measurements (#408)

Organized by: T. Ogawa, H. Tada, S. Park, P. Weiss
Presiding: T. Matsumoto

19:00 – 797. Chirality effects of SWNTs on the supramolecular structures of porphyrin derivatives on the curved surfaces. **A.I. Abd El-Mageed**, **G. Liu**, **N. Komatsu**, **T. Inose**, **T. Ogawa***

19:20 – 798. Structural defects control of multiwall carbon nanotubes using statistical strategies for electrochemical detection of glucose. **A. TermehYousefi**, H. Tanaka

19:40 – 799. Photoelectronic functional DNA nanowires stretched between electrodes toward DNA molecular device. **N. Kobayashi***, T. Kunikyo, K. Nakamura

20:00 – 800. Direct observation of single-molecule adsorption/desorption kinetics on ion-exchange adsorbents. S. Dhamane, L. Kisley, M. Poongavanam, U. Patil, A. Mansur, S. Dominguez-Medina, E. Kulla, W. Chen, J. Chen, K. Kourentzi, C.F. Landes*, **R.C. Willson***

20:20 – 801. Design, synthesis, and characterization of ambipolar organic molecules with cascaded energy level for long-lived charge separated states. **T. Wang***, D. Liu, X. Zhou, W. Li, K. Weerasinghe, L. Wang

Hawaii Convention Center
317B

The Frontiers of Geometrically Frustrated Magnetic Materials (#430)

Organized by: C. Wiebe, C. Ling, J. Gardner, H. Zhou

19:00 Introductory Remarks

19:05 – 802. Crystal chemistry and magnetic interactions in frustrated copper minerals. **Z. Hiroi***, K. Nawa, H. Ishikawa

19:45 – 803. Complex field induced phases in the frustrated quantum spin chain linarite. **K.C. Rule***, B. Willenberg, S. Nishimoto, M. Schäpers, M. Reehuis, A. Wolter-Giraud, S. Drechsler, B. Buchner, A. Studer, B. Ouladdiaf, S. Süllow

20:25 – 804. Short-range magnetic interactions and optical band-edge physics in $SrCu_2(BO_3)_2$. J. Cherian*, T. Tokumoto, h. zhou, **S. McGill**

20:40 – 805. Magnetic frustration in 2D lattices of bow-ties. **R. SIBILLE***, V. Simonet, E. LHOTEL, T. MAZET, B. MALAMAN, M. FRANCOIS

Hawaii Convention Center
319B

Self-assembled Biofunctional Nanomaterials (#433)

Organized by: R. Nagarajan, K. Sakurai, H. Chen

*** Principle Author**

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19:00 – 806. Systematic manipulation of DNA functionality by controlled self-assembly and disassembly. **T. Pfohl**
19:30 – 807. Development of hetero-selective pseudo base pair stabilized by charge-transfer interaction, and its hetero-duplex formation. **T. Doi**, T. Sakakibara, H. Kashida, H. Asanuma
19:50 – 808. Effect of various metal ions on self assembly of tyrosine-rich peptide and its applications as biosensors. **N. LEE**, S. Kim, H. Gil, S. LEE*
20:10 – 809. Fabrication of 3D nanodot array using Dps-DNA self-assembly. **H. Kamitake***, M. Uenuma, N. Okamoto, Y. Ishikawa, I. Yamashita, Y. Uraoka
20:30 – 810. Programmable anisotropic self-assembly of gold nanorods regulated by DNA terminal base pairing. **G. Wang**, Y. Akiyama, S. Shiraishi, T. Takarada, M. Maeda*

Thursday Morning

Hawaii Convention Center
Halls I, II, III

Organic, Inorganic and Hybrid Nanoparticles: Synthesis, Characterization, and Applications (#23)

Organized by: L. Bronstein, F. Winnik, K. Akiyoshi

Poster Session
10:00 – 12:00

811. Colorimetric detection of SQUAMOSA promoter binding protein-like 12 via DNA-modified AuNPs cluster. **J. Ahn**, J. Jung*, A. Lee, J. Lee
812. Fabrication of the hollow polystyrene particles by ultravioret irradiation. **S. Hayakawa**, T. Kawai
813. Heteronuclear organometallic clusters as single-source precursors for the formation of bimetallic nanoparticles: Synthesis, structural characterization, and catalytic application. **B. Chor**, C. Choong, W.O. Mothersole, R. Raja, L. Chen, W. LEONG
814. Preparation and electrochemical performance of $Zn_3V_2O_7(OH)_2(H_2O)_2$ microflower as anode materials for lithium-ion battery. **Y. Jiang***
815. Polydopamine attachment chemistry for fabricating functionalized nanoparticles. **K. Kartub***
816. Synthesis, characterization, and modification of $FeNdO_3$ nanoparticles. **A. Reiber***
817. Combination of thio-click, ROP, and ATRP methods to prepare nano l-lactide-b-n,n-dimethylhydroxyethylacrylamide poss copolymers. **A.M. Haddad***, B. Al-Mayahi, H. Al-Lami
818. Synthesis and magnetic properties of europium chalcogenide nanoparticles. **N. Rosa**, W.L. Boncher, M.A. McNamara, S.L. Stoll
819. Fabrication of hybrid microspherical polymer particle with non-close-packed arrays of colloidal silica on surface. **N. Hano**, N. Ryu, M.A. Alam, S. Nagaoka, M. Takafuji*, H. Ihara*
820. Controlled growth of poly(aniline-co-substituted aniline) nano/microstructures in-situ in the Michael addition reaction system. **J. Li***
821. Development of novel radiosensitizing cancer therapy: Combination of radiotherapy and titanium peroxide nanoparticle. **K. Morita***, T. Suzuki, M. Nakayama, R. Sasaki, K. Sato, C. NUMAKO, C. Ogino, A. Kondo
822. Carbon-coated V_2O_5 nanocrystals synthesized from metal organic framework (MIL-47) as a high performance cathode material for Li-ion batteries. **J. Kim***
823. Preparation and characterization of nonosize polymer sphare. **D. Kim**, M. Song
824. Preparation and characterization of Keratin/poly (vinyl alcohol) blended nanofibers by electrospinning. **T. Kim**, M. Park, H. Kim*
825. Preparation and characterization of graphene via electron beam irradiation. **T. Kim**, M. Park, H. Kim*
826. Preparation and characterization of aminophenol grafted and Ag NPs decorated graphene nanocomposites. **S. Chae**, M. Park, H. Kim*
827. Facile preparation and characterization of human hair-based nanofibers via electrospinning. **S. Chae**, M. Park, H. Kim*
828. Developing tailoredgold nanoarchitecture for imaging application. **Y. Wang**, A. Kakkar, F. Lesage
829. Analysis of surface enrichment of graft copolymer with poly(trimethylene carbonate) and poly(ethylene glycol) oligo segment. **K. Nitta***, K. Atsushi, J. Watanabe, Y. Ikeda
830. Control of nanoparticle dispersion using semi-flexible chains grafted to silica: Role of chain stiffness and grafting density. **K. Bornani**, B. Barkakaty, B. Lokitz, J. Mays, S. Kilbey
831. Ultrashort channel floating gate memory with a nanoparticle array utilizing biomaterial. **T. Ban***, M. Uenuma, S. Migita, N. Okamoto, Y. Ishikawa, i. yamashita, Y. Uraoka
832. Partial surface modification of spherical inorganic oxide particles using a silane coupling agent. **M. Ono**, R. Ai, T. Endo, K. Torigoe, K. Sakai, M. Abe, H. Sakai
833. Amphiphilic glucan nanoball for drug delivery. **S. Takeda**, S. Sawada, Y. Sasaki, K. Akiyoshi
834. Fluorescence dynamics of charge -ransfer complex nanoparticles composed of *N*-ethylcarbazole with tetracyanobenzene. **S. Yasuda**, S. MACHIDA, N. Ikeda
835. Grain size dependence of magnetic properties in $L1_0$-FePd/α-Fe nanocomposite magnets. **K. Matsumoto**, R. Sato, T. Trinh, N. Sakuma, T. Teranishi
836. Hybrids formation from titania nanoparticles and polymers by surface-initiated ATRP with a new organophosphorus surface modifying agent. **R. Mori***, J. MOTOYANAGI, M. MINODA
837. Synthesis of CdSe compound semiconductor nanoparticles using biological templates, apoferritin: The effect of artificial nucleation site. **K. Iwahori***, M. Yamane, I. Yamashita
838. Robust thermal decomposition synthetic route to noble bimetallic alloy nanomaterials. **E. Choi**, S. Lee, Y. Piao*
839. Structural control of porphyrin face-coordinated gold clusters for constructing desired assemblies. **D. Eguchi**, M. Sakamoto, T. Teranishi*
840. Synthesis of core-shell particles containing polyperoxides utilizing oxygen supply from a gas-liquid interface and their application to dismantlable adhesives. **E. Sato***, M. Yuri, S. Fujii, T. Nishiyama, Y. Nakamura, H. Horibe
841. Phase transfer of Au nanoparticles using long chain amide derivatives. **Y. Sou**, M. Nakagawa, Y. IMURA, T. Kawai
842. Development of self-assembled nanohybrid of magnetic nanoparticles cluster accomodated in polysaccharide nanogels. **R. Kawasaki**, Y. Sasaki, K. Katagiri, S. Sawada, K. Akiyoshi
843. Enzyme-magnetic nanoparticle conjugates as rigid biocatalyst for the elimination of toxic aromatic hydrocarbon. **J. Chang***
844. Simple synthesis that is applicable to various metal(oxide) of asymmetric nanoparticles with controllable shape and property. **J. Koo**, I. Lee
845. N-type flexible thermoelectric material: Double-layer structure from Bi_2Se_3 nanoparticles and poly(vinyl alcohol) matrix. **A. Ohnuma***, K. Iwasaki
846. Formation of alkyl polyglycoside vesicles using boric acid-diol complexation. **Y. Asano**, T. Aikawa, T. Kondo, M. Yuasa*
847. Mesoporous silica nanoparticles: Promising theranostic nanocarriers to overcome current limitations in the treatment of cancer and neurodegenerative disease. **M. Bouchoucha***, E. Beliveau, R. C.-Gaudreault, F. Calon, M. Fortin, F. Kleitz
848. Oxygen reduction reaction by iron oxide nanorods coated with N-doped carbon as catalyst. **L. Hadidi***, E. Davari, T.K. Purkait, D. Ivey, J. Veinot
849. Preparation of AuNPs dispersed in various organic solvents using a long-chain amidoamine derivative. **K. Fukuda**, T. Kawai
850. Specific drug delivery for target cancer tumor using affibody-displaying bionanocapsule/liposome complex. **Y. Nishimura**, J. Ishii, C. Ogino, A. Kondo
851. Performance enhancement of organic solar cells with gold nanoparticle clusters. **H. Park**, S. Lee, S. Han, S. Kim
852. Urea biosensor based on NiO decorated cellulose nanocomposite. **N. Nhisa**, T. Tran, G. Das, H. Yoon*
853. Preparation and catalytic oxidation properties of Au nanoparticles catalysts immobilized on thiol functionalized mesoporous materials. **T. Hakeda**, J. Nakazawa, S. Hikichi*
854. Structual and physical properties of the $Ni(dmit)_2$ salts with size valuable dications. **A. Kimura***, H. Kubota, Y. Takahashi, J. Harada, H. Hasegawa, T. Inabe
855. Preparation of pH sensitive liposome and evaluate its functionality. **M. Shinohara**, T. Aikawa, T. Kondo, M. Yuasa*
856. Preparation and surface property of fluoroalkyl end-capped oligomer/talc composites: Application to the separation of oil and water. **Y. Oikawa**, T. Saito, S. Yamada, M. Sugiya, H. Sawada*
857. Preparation and application of fluoroalkyl end-capped vinyltrimethoxysilane oligomer/*N*-(3-triethoxysilylpropyl)gluconamide nanocomposites. **S. Fujii**, T. Saito, H. Sawada*
858. Synthesis of liquid-crystalline organic-inorganic hybrid dendrimers with a magnetite nanocore. **K. Ohsugi**, M. Matsubara, M. Nakaya, A. Muramatsu, K. Kanie*
859. Physical properties of silica nanoparticles coated with mesogenic groups bearing liquid crystallinity and fluorescence. **Y. Ogida***, T. Sanada, K. Kaneko, T. Hanasaki, K. Kojima
860. Development of hydrogel-nanocopper composite and their antibacterial activities against urinary tract infections (UTI) pathogens. **S.M. Alshehri***
861. Highly active and recyclable palladium N-heterocyclic carbene catalyst for Suzuki-Miyaura coupling reaction of unreactive aryl chlorides. **X. Hou***
862. Controllable synthesis of carbon supported metal nanoparticles via ionic liquids-assisted sputtering deposition. **X. GAO**, **C. Liu**, S. Wang
863. Fabrication technique of the hollow polystyrene nanoparticles by ultraviolet irradiation: Effect of incident angle. **T. Kiryu**, T. Kawai
864. Functional 3D hierarchical assemblies by the *Huisgen*-1,3-dipolar cycloaddition of core-shell nano particles. **S.H. Etschel***, L.F. Portilla, M. Halik, R.R. Tykwinski
865. Preparation and structure of calcium hydroxyapatite substituted with light rare earth ions. **A. Yasukawa***, K. Kandori, K. Gotoh
866. Preparation of chitin nanoparticles by regeneration from chitin/ionic liquid solution through high-pressure process. **k. YAMAMOTO**, K. Iimori, J. Kadokawa*
867. Fabrication technique of the hollow nanoparticles by ultraviolet irradiation. **M. TAKAHASHI**, T. Kawai
868. Study on gold nanoparticles-protein interaction by absorbance and fluorescence methods. **X. Qiao**, X. Wu, N. Miyamoto
869. Targeted intracellular protein delivery for cancer therapy. **M. Zhao**, Y. Tang
870. Covalent functionalization of zinc oxide nanoparticles and its photophysical properties. **W. Xiong**, L. Yu, W. Chan, D.L. Phillips
871. Preparation of organic-inorganic hybrid nanoparticles by the miniemulsion system and construction of porous membranes. **H. Takamatsu**, Y. Fukui, K. Fujimoto*
872. Organic-silica hybrid nanomaterials as fluorescent sensors for amines. **D. Sriramulu**, S. Valiyaveettil*
873. Preparation of monolithic fluoroalkyl end-capped oligomer/silica nanocomposites for the separation of oil and water. **S. Sasahara**, Y. Aomi, H. Sawada*
874. Surface functionalization and polymer grafting of colloidal silica nanoparticle sol without aggregation of the particles. **T. Maeta**, S. Tamesue, T. Yamauchi, N. Tsubokawa*
875. Preparation and application of fluoroalkyl end-capped vinyltrimethoxysilane oligomer/acrylonitrile-butadiene rubber nanocomposites. **A. Ratcha**, T. Saito, R. Takahashi, S. Kongparakul, H. Sawada*
876. Preparation of xanthan gum nanoparticles through regeneration from ionic liquid solution. **K. Iimori**, D. Hatanaka, K. Yamamoto, J. Kadokawa*
877. Synthesis and characterization of a hybrid magnetic nanosystem for application in thermochemotherapy of cancer. **A. Hervault***, A. Dunn, M. Lim, T. Toshiaki, K. Matsumura, D. Mott, S. Maenosono, T.T. Nguyen
878. Size-selective synthesis of Pd nanoparticles stabilized by dendrimers through stepwise growth method. **H. Hayashi**, Z. Maeno, T. Mitsudome, T. Mizugaki, K. Jitsukawa, K. Kaneda*
879. Enzyme-free electrochemical cholesterol sensor based on NiO/single-layer graphene composite. **G. Lee**, K. Myung, Y. Huh
880. Cancer vaccine using crosslinked CpG oligonucleotide/β-glucans nanoparticles. **N. Miyamoto***, K. Sakurai, S. Mochizuki
881. Synthesis and self-assembly of flexible, free-standing, monolayer gold nanoparticle films. **L. Pruden**, J.S. Shumaker-Parry
882. Site-selective incorporation of nanoparticles into the complex coacervate utilizing self-assembly of block copolymers in aqueous solution. **K. Naoyama***, T. Mori, Y. Katayama, A. Kishimura*

Hawaii Convention Center
Halls I, II, III

Nanocrystal Synthesis, Characterization, Assembly and Applications (#34)

Organized by: R. Tilley, S. Skrabalak, T. Hyeon, T. Nann, T. Adshiri

Poster Session
10:00 – 12:00

883. Blue inorganic light emitting diode on flexible polyimide substrate using laser lift-off process. **N. Barange***, Y. Kim, I. Han , D. Ko
884. Bio-fabrication of nanoporous gold membrane with anti-inorganic bispecific nanobody. **T. Niide**, H. Nakazawa, I. Kumagai, M. Umetsu*, N. Manabe
885. Self-assembling of gold nanoparticles on ionic liquid surface via ionic liquid-metal sputtering. **D. Sugioka**, T. Kameyama, S. Kuwabata, T. Torimoto*

*** Principle Author**

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886. Facile preparation of aramid and polybenzoxazole nanofibers from synthetic fibers by a downsizing process. **S. Ifuku***, H. Maeta

887. Surface-enhanced Raman scattering measurements using a tunable plasmonic device on hydrogels. **H. Mitomo***, K. Horie, Y. Matsuo, K. Niikura, T. TANI, M. Naya, K. Ijiro

888. Synthesis and characterizations of SnO_2 nanorods using low temperature hydrothermal technique. **H. Lee***, S. Lim, V. Inderan

889. Enhanced of catalytic performances over skeletal Ni catalysts prepared from heated Ni-Zr amorphous alloys in various structural states and composition. **Y. Tanihara**, A. Nozaki, Y. Kuwahara, T. Ohmichi, K. Mori, H. Yamashita*

890. Synthesis of lithium metal phosphates and silicates for Li-ion battery. **Q. TRUONG**, I. Honma

891. Active skeletal Au catalysts prepared from Au-Zr amorphous alloy. **A. Nozaki**, Y. Tanihara, Y. Kuwahara, T. Ohmichi, K. Mori, H. Yamashita*

892. PdRu solid-solution nanoparticles: Size-controllable synthesis and size-dependent catalytic properties. **D. Wu***, K. Kusada, H. Kitagawa

893. Photocatalytic performance of nanostructured porous silica and TiO_2 composites in environmental purification. **Y. Ishiguro**, T. Kamegawa, H. Yamashita*

894. Mechanistic study of precursor conversions at low temperature to binary colloidal nanocrystals. **K. Yu***

895. Microwave assisted synthesis and characterization of MgO nano structures in structural directing monocationic and dicationic ionic liquids and nano structures catalytic activity in organic transformation. **A. Jadhav***, G. Thorat, J. Seo*

896. Design on yolk-shell nanostructures for efficient lithium ion storage. **S. Guo**

897. Size minimization of $BaHfO_3$ flux pinning centers in $YBa_2Cu_3O_y$ superconducting films by chemical solution deposition process. **R. Teranishi***, H. Horita, K. Ootaguro, K. Yamada, K. Kaneko, M. Yoshizumi, T. Izumi

898. Structural characterisation of multimetallic nanoparticles using XAS. **I.J. Godfrey**, A. Dent, I.P. Parkin, S. Maenosono, G. Sankar*

899. Growth, structure, and optoelectronic properties of crystalline binary porphyrins. **U. Mazur***, K. Hipps

900. Using nuclear magnetic resonance (NMR) techniques to study small (d = 2-3 nm) gold-transition metal nanoparticle alloys. **L. Marbella**, C. Andolina, J.E. Millstone

901. Facile synthesis of composition-gradient $Cd_{1-x}Zn_xS$ quantum dots by cation exchange for controlled optical properties. D. Choi, J. Pyo, Y. Kim, **D. Jang**

902. Synthesis of Au-Pt composite nanoparticles with controlled composition ratio by solution plasma processing. **T. Chiyoda***, M. Banno, H. Yui

903. Self-assembly of photonic crystal of silver-based nanoparticles and double-effect on fluorescent enhancement. **F. Ge***

904. Synthesis, characterization, and formation mechanism of Mn_3O_4 hollow microspheres. **Q. Li**, C. Jiang*, W. Zhou*

905. Hydrothermal growth of yttira-stabilized zirconia nanocrsytals aqueous dispersions. **N. Pouy***, K. Sato*, K. Horiguchi, H. Abe

906. Metal nanoparticle synthesis using poly(ethylene oxide)-poly(propylene oxide) block copolymers in aqueous media. **A. Ishihara**, T. Sakai, P. Alexandridis

907. Metal nanoparticle deposition on silica spheres using poly(ethylene oxide)-poly-(propylene oxide) block copolymers in solutions. **T. Watanabe***, T. Sakai, P. Alexandridis

908. Photocurrent enhancement of colloidal quantum dots solar cell by surface treatment. **R.O. Ferreira***, S. Masuo

909. Self-assembly of gold nanoparticles into vesicle-like structures by the use of a carbohydrate-terminated fluorinated surface ligand. **J. Wei**, N. Sugimura, K. Niikura, H. Mitomo, K. Ijiro

910. Preparation and physical properties of nanoaggregates composed of organic dyes with a D-π-A structure. **M. Imai**, S. Okada*

911. Synthesis of $BaTaO_2N$ photocatalyst by ammonothermal method. **T. Toshima**, K. Kishida, T. Watanabe

912. Continuous reactive crystallization of GZO particles in supercritical water and formation mechanism. **K. Sugawara**, T. Sato, M. Matsumoto, M. OKADA, T. Hiaki

913. Fabrication of PbS colloidal quantum dot solar cell: Relationship between photovoltaic performance and surface modification. **N. Tsujii***, S. Masuo

914. Direct synthesis of liquid metal colloids and their tansformation into metal oxide nanoparticles. **S. Sudo**, K. Kokado*, K. Sada*

915. Liquid phase synthesis of Bi_2Te_3 nanoparticles for thermoelectric transducer. **Y. Shibuya***, M. Nakaya, A. Muramatsu, Y. Kinoshita, M. Ishikiriyama

916. Tuning of the gap-mode plasmon band of silver nanoparticle films by controlling of the silver nanoparticle size. **T. Togashi**, S. Soma, K. Kanaizuka, M. Kurihara

917. Formation of Pd nanocrystals from $Pd_2(dba)_3$ microcrystals. **S. Chung***, D.N. Leonard, V. Altoe, S. Aloni, J.J. De Yoreo, S. Franzen

918. Solution phase synthesis of near-infrared light-responsive quantum dots comprised of ZnTe-AgInTe$_2$ solid solution. **K. Sugiura**, T. Kameyama, S. Kuwabata, T. Torimoto*

919. Carrier dynamics of trion in CdSe nanocrystals by photochemical electronic doping. **N. Kakimoto**, Y. Usui, T. Okuhata, N. Tamai

920. Effects of cross-linking structure by alkanedithiol for stability and conductivity of 2D silver nanoparticle sheets. **N. Saito**, S. Ryuzaki, K. Okamoto, K. TAMADA*

921. Synthesis of some crystal forms of Ce-Zr composite oxide by freeze-sintering method. **T. Kohiruimaki***, S. Yoshida

922. Low temperature solid state synthesis of metallic magnetic nanoparticle loaded to multiwalled carbon nanotubes. **L. Seinberg***, S. Yamamoto, Y. Kobayashi, H. Kageyama

923. Stabilization of the superionic phase of AgI nanoparticles to room temperature under high pressure. **T. Yamamoto***, M. Maesato, Y. Asakawa, G. Kawaguchi, Y. Ohishi, N. Hirao, H. Kobayashi, H. Kitagawa

924. Mechanistic insight into the Yolk@Shell transformation of MnO@Silica nanospheres incorporating Ni^{2+} ions toward a colloidal hollow nanoreactor. **J. Kim***, I. Lee*

925. Synthesis and optoelectronic applications of branched semiconductor nanocrystals. **N. Mishra**, Y. CHAN, J. Hollingsworth

926. Hydrothermal growth of tailored SnO_2 nanocrystals. **y. motegi**, K. Sato*, Y. Yokoyama, V. Jean-Christophe, H. Abe

927. Surface capping-assisted hydrothermal growth of gadolinium-doped CeO_2 nanocrystals. **K. Sato***, M. Arai, V. Jean-Christophe, H. Abe

928. Surface-specific deposition of catalytic metal nanocrystals on hollow carbon nanospheres via galvanic replacement reactions of carbon-encapsulated MnO nanoparticles. **D. Lee**, S. Kim, I. Lee*

929. Synthesis and properties of quantum-sized metal oxide clusters by using dendrimer as a template. **Y. Inomata**, K. Albrecht, K. Yamamoto

930. Investigation of the factor for controlling C_{60} nanocrystals structure. **N. Ito**, K. Shito, A. Masuhara

931. Subnanometric PtO_x clusters deposited on CeO_2 nanowires for low-temperature CO oxidation. **J. Ke***, W. Zhu, Y. Jiang, R. Si, C. Jin, H. Liu, C. Yan, Y. Zhang

932. Electrochemical decomposition of bromosilanes made from kerf loss silicon and deposition of crystalline silicon. **K. Tomono***, R. Sakamoto, M. Okada, S. Kakihara, Y. Tamaki, Y. Yahata

933. Principle of anisotropy in biomineralization: Anisotropic mineral growth in elongated hydrogel. **K. Fukao**, T. Nonoyama, K. Furusawa, T. KUROKAWA, T. Nakajima, J. Gong*

934. Controlling perovskite crystal size and its thin film. **Y. Hayasaka**, K. Umemoto, A. Masuhara

935. Synthesis and characterization of semiconducting copper manganese sulfide nanoparticles. **K. Gupta**, M.S. Singh, D. Mott, S. Maenosono*

936. Organic-organic hydridized nanocrystals using reprecipitation method and oxidative polymerization. **H. Watanabe***, T. ARITA, K. Miyakawa, A. Masuhara

937. Nanocrystallization processes of C_{60} in the reprecipitation method. **K. Shito***, N. Ito, T. Iino, A. Masuhara

938. $CH_3NH_3PbI_3$(methyl ammmonium lead tri-iodide) perovskite film prepared by colloidal deposition technique. **K. Umemoto***, Y. Hayasaka, A. Masuhara

939. Au-SiO_2-P3HT core-shell type nanoparticles for plasmonic organic photovoltaic devices. **K. Miyakawa**, H. Watanabe, H. Naiki, H. Ujii, T. ARITA, A. Masuhara

940. p-type $Co_3O_4/ZnCo_2O_4$ hollow sphere: High performance formaldehyde detection at ppb levels. **J. Kim***, H. Park*, D. Lee, H. Song

941. Surfactant-assisted shape evolution of 3D molecular architecture. **M. Jeon**, S. Kwon, H. Lee*

942. Induction of thermoresponsive behavior in gold nanoparticles by the display of low molecular weight surface llgands. **R. Iida***, K. Niikura, H. Mitomo, K. Ijiro

943. Green synthesis of Cu/Cu_2O core/shell nanoparticles with lowered resistivity. **S. Yokoyama***, K. Motomiya, H. Takahashi, K. Tohji

944. Experimental and theoretical investigation on the formation of platinum decorated nickel nanocubes. **A. Nagao***, T. Ishimoto, M. Koyama, H. Miyamura, J. Cuya, J. Balachandran

945. Dispersion dependent stability and catalytic activity of hybrid Fe_3O_4/Pd catalysts in water for suzuki coupling reactions. **D. Kim**, H. Woo, K. Park

946. C_{60} nanocrystals thin film by liquid-liquid interface assembly technique. **S. Morizane***, M. Takeda, J. Matsui, A. Masuhara

947. Organic nanocrystals and these layered structure for organic solar cells. **A. Masuhara***, K. Shito, S. Morizane, A. Ito, K. Nakayama, T. Yoshida, J. Matsui

948. Preparation and characterization of TiO_2 anchored silica fibers derived from titanium alkoxy-diolate precursor. **A. Hasegawa***, M. Ekari, T. Honma

949. High performance electrochemical capacitors composed of mesoporous manganese dioxide and fullerene C_{60} nanocrystals. **A. Toba***, Y. Matsukubo, A. Masuhara

950. Hydrothermally synthesized CeO_2-CuO composites as a catalyst for CO oxidation. M. guo, F. Liu, J. Tsui, **A. Ng**, **A. Djurišić**, W. Chan

Hawaii Convention Center
321A

Nanowires: Synthesis, Fundamental Properties and Novel Device Applications (#51)

Organized by: T. Yanagida, S. Hara, S. Jin, P. Yang, R. Agarwal, L. Lauhon, H. Zheng
Presiding: S. Hara, F. Ishikawa, M. Jo

8:00 – 951. Exploring additional functions of GaAs-related nanowires. **F. Ishikawa**

8:20 – 952. Fabrication and characterization of MnAs/InAs hybrid nanowires grown by selective-area metal-organic vapor phase epitaxy. **M.T. Elm***, S. Hara, P.J. Klar

8:50 – 953. Selective lateral epitaxy of III-V nanowires for scalable and high performance electronics. **X. Li**

9:20 – 954. Semiconductor nanowire array grown by selective area epitaxy and their applications. **T. Fukui**

9:50 Break

10:00 – 955. Integrated Group IV nanowire optoelectronics. **M. Jo***

10:30 – 956. Synthesis and optoelectronic properties of pseudobinary solid-solution semiconductor nanowires. **B. Liu***, X. Jiang

11:00 – 957. Band gap-engineering within single semiconductor nanostructures. **A. Pan**

11:30 – 958. Unusual nanoscale electronic effects in heterojunction nanowires. **B.M. Wong***

11:45 – 959. Manipulating the optical and electrical properties of a single ZnO nanowire through interfacial modulation doping. **N. PAN***, H. Ding, Y. Wu, C. Ma, Y. Luo, X. Wang

Hawaii Convention Center
318A

Two-dimensional Nanosheets and Nanosheet-Based Materials: Synthesis, Characterization, Functionalization and Applications (#95)

Organized by: J. Kawamata, J. Choy, C. Detellier, H. Zhang, J. Huang, L. Wan
Presiding: J. Huang, H. Zhang

8:00 Break

8:30 – 960. Molybdenum disulfide as a highly efficient absorbent for nonpolar gases. **L. Wang**

8:50 – 961. Growth and characterization of single-layer $MoS_{2(1-x)}Se_{2x}$ alloy films. V. Klee, D. Barroso, Q. Ma, J. Mann, **L. Bartels**

9:10 – 962. 2D materials: From doped monolayers and defects to van der Waals solids and more. **M. Terrones**

9:40 – 963. 2D layered materials, heterostructures, and devices. **X. Duan**

10:10 Break

10:30 – 964. Atomic layer deposition of 2D MoS_2 on 150mm Si/SiO_2 substrates. A. Valdivia, **J. Conley**

10:50 – 965. Regulating electrical properties of inorganic 2D nanomaterials for energy storage and electrocatalytic applications. **C. Wu***

11:10 – 966. Hydrogen storage in Ni/graphene and Pd/graphene composites. C. ZHOU, **J. Szpunar**, J. Wang , Y. Hu

11:30 – 967. Heterostructures based on CVD transition metal dichalcogenides. **L. Li**

Hawaii Convention Center
321B

Applications of Ultrasound to Nanoscience (#150)

Organized by: K. Suslick, F. Grieser, M. Atobe, J. Yu, S. Jeong
Presiding: J. Yu

8:00 – 968. Utilization of nanostructured materials for stem cell applications. **W.H. Suh***

8:30 – 969. Sonochemical treatment of surfaces for optimized cellular interaction. **H. Moehwald**, V. Belova-Magri, E.V. Skorb

*** Principle Author**

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9:00 – 970. Sonochemically produced nanomaterials for combatting dental disease. **G.J. Price**
9:30 – 971. Sonochemical sample preparation for biological assays. **T. Matula***, K. Bomsztyk, B. MacConaghy, A. Maxwell
10:00 – 972. Polydopamine based perfluorocarbon nanodroplets for medical ultrasound applications. **B. Teo**, J.Y. Lee, A. Seth, E. Stride
10:30 Coffee and Bio Break
10:40 – 973. Preparation of polymeric ultrasonic/MRI dual mode contrast agent and its responsive drug release capacity. **F. Yang***
11:00 – 974. Sonochemical synthesis and characterization of polysaccharide-shelled microspheres. **M. Zhou***, Q. Ye, M. Ashokkumar
11:20 – 975. Numerical study on nucleation and oriented aggregation of $BaTiO_3$ nanocrystals. **K. Yasui***, K. Kato

Hawaii Convention Center
Halls I, II, III

Mechanically Responsive Materials (#153)

Organized by: P. Naumov, T. White, B. Kahr, Y. Yu

Poster Session
10:00 – 12:00

976. Shear-piezoelectric properties of Poly(L-lactic acid) woven fabric based sensors for monitoring human respiration pattern. **Y. Ahn**, E. Song, A. Prabu, K. Kim*
977. Highly sensitive paper-based pressure sensors. K. Lee, **w. shim***
978. Photomechanical bending of chiral and racemic crystals of azobenzene derivatives. **T. Taniguchi**, M. Shiro, H. Koshima*, T. ASAHI
979. Route for systematic preparation of photomechanical azobenzene cocrystals. **O. Bushuyev***, A. Tomberg, T. Friscic, C. Barrett
980. Photomechanical performance of diarylethene single crystals. **M. Morimoto***
981. Bending behavior analysis of silicone elastomer film. **Y. Koike**, N. Akamatsu, S. Fujikawa, A. Shishido*
982. Development of mechanical analysis system of flexible films. **N. Akamatsu**, S. Fujikawa, A. Shishido*
983. Piezoelectricity of nanowebs via electrospinning optical isomers of Poly(lactic acid) and their racemic mixture. **K. Kim***, E. Song, A. Prabu, Y. Ahn

Hawaii Convention Center
322AB

Current and Future Applications of Nanotechnology in the Oil Industry (#197)

Organized by: W. Wang, K. Lee, J. Ordóñez-Varela, M. Kanj, T. Jiang
Presiding: W. Wang

8:00 opening remark
8:05 – 984. "NanoProbes" for reservoir surveillance and recovery. **M.E. Poitzsch***
8:35 – 985. Iron-oxide and silica nanoparticles with specific surface coatings for upstream oil & gas applications. **C. Huh***
9:05 – 986. Exploration of rare earths based luminescence for detection and sensing in radiation security and enhanced oil recovery. **W. Chen***
9:35 break
9:50 – 987. Shale gas fracturing fluids using polymer grafted silica with enhanced suspendability. M. Bell, A. Viswanath, **B.C. Benicewicz***
10:15 – 988. Hybrid ionic-nano additives for advanced lubrication. **J. Qu***
10:40 – 989. Investigation of a kind of complex oil displacing method containing micro-nano microspheres after polymer flooding. **H. Yang**, **W. Kang**, Y. Yu, Y. Lu, Z. Li

Hawaii Convention Center
320 Theatre

Frontiers of Organic Porous Materials: Structures, Properties and Applications (#223)

Organized by: D. Jiang, W. Wang, W. Zhang
Presiding: P.M. Budd, J. Zhang

8:00 – 990. π-Conjugated porous organic frameworks as photoredox catalysts. **J. Zhang***
8:25 – 991. Computer aided design of microporous organic polymers for the energy applications. **W. Deng***, L. Sun, Y. Xie
8:50 – 992. Gas storage and separation-directed design and synthesis of porous aromatic frameworks. **G. Zhu**
9:15 – 993. Slipping induced variation in CO_2 and CH_4 adsorption and selectivity in various covalent organic frameworks. **R. Babarao***, A. Sharma, N. Medhekar, A. malani
9:30 – 994. Imine-based organic porous materials: From single molecule to extended framework. **C. Wang***, H. Ding, H. Liao
9:45 Coffee Break
9:55 – 995. Polymers of intrinsic microporosity (PIMs): Tailoring selectivity through chemical modification. **P.M. Budd***
10:20 – 996. Graphitic carbon nitride polymers for solar water splitting. **x. wang**
10:45 – 997. Task-specific functionalization of porous organic polymers. **S. Ma***
11:10 – 998. Liquids with permanent microporosity – a new phase for porous materials. **S. James**
11:25 – 999. Diversity of covalent organic frameworks (COFs): From single-pore to dual-pore. **X. Zhao***
11:40 – 1000. Rotor dynamics and photoinduced porosity switch in supramolecular architectures and covalent frameworks. **P. Sozzani***, S. Bracco, A. Comotti
11:55 Closing Remark

Hawaii Convention Center
319A

Self-organization of Membrane Systems (#259)

Organized by: D. Sasaki, K. Morigaki, I. Koeper
Presiding: K. Morigaki

8:00 – 1001. Creating lipid bilayer platforms insensitive to air-water interfaces by physical confinement. **L. Chao***, C. Han
8:30 – 1002. Designed amphiphilic polymers for lipid membrane nanodisc formation. **K. Yasuhara***, J. Arakida, J. Kikuchi
8:50 – 1003. How to manipulate self-organization of lipid components for RAFT formation by topographic curvature in model membrane. **S. Lee***, Y. Ryu
9:20 – 1004. On-chip lipid microfluidics: Controlled self-organize to form biomembranes. **N. Cho***
9:40 Break
9:50 – 1005. Microfluidic technology for artificial lipid bilayer formation. **S. Takeuchi**
10:20 – 1006. Fundamental studies of osmotic transport across the droplet lipid membrane: Lipid structure, asymmetry, and cholesterol. **S. Lee***
10:40 – 1007. Single molecue transporter assay with arrayed lipid bilayer chamber systems. **H. Noji***
11:10 – 1008. Artificial membranes composed of fluid and polymerized lipids: Assembly, structure, and application to receptor-based biosensing. **S. Saavedra**
11:30 – 1009. Nanopores with fluid lipid membrane coatings for characterization of single proteins in solution. **M. Mayer**

Hawaii Convention Center
318B

Advanced Materials for Photonics and Electronics: Fundamentals and Applications (#308)

Organized by: R. Morandotti, D. Moss, F. Omenetto, N. Tsutsumi, K. Alamgir, K. Char, A. Facchetti
Presiding: A. Karim

8:00 – 1010. Nanomembrane materials and soft fabrication methods for high performance photovoltaic systems: Low cost, full spectrum solar energy conversion. **R.G. Nuzzo***
8:30 – 1011. Fluctuations and cooperative motion in the interfacial dynamics of nanoparticles. **J.F. Douglas**, H. Zhang
9:00 – 1012. Preparation of new photoaactive materials: From a proof-of-concept to functional materials. **A. Laventure**, D. Lauzon, J. Bourotte, J. Vapaavuori, R. Sabat, O. Lebel, C. Bazuin, C. Pellerin*
9:20 – 1013. Design of full-color thermally activated delayed fluorescence emitters based on benzonitrile derivatives and their application in organic light-emitting diodes. **I. Park**, T. Yasuda*, S. Lee, C. Adachi*
9:40 – 1014. Physical and electrochemical reconciliation of Cu_2ZnSnS_4 thin film absorber properties. **D. Vaccarello**, Z. Ding*
10:00 Break
10:10 – 1015. Slot-die processing of PTB7/$PC_{71}BM$: Understanding morphology evolution and device performance. **T.P. Russell***, S. Ferdous, C. Wang, E. Schaible, A. Hexemer
10:40 – 1016. Controlling molecular weight of conjugated polymers as a powerful tool for optimizing the efficiency of all-polymer solar cells. **A. Dudnik**, N. Zhou, T.J. Aldrich, T. Li, E.F. Manley, Z. Chen, R.P. Chang*, L.X. Chen*, M. Olvera de la Cruz*, A. Facchetti*, T.J. Marks*
11:00 – 1017. Novel oxide thin-film diode for oxide electronics. **J. LEE**, E. Lee, J. Park, Y. Kim*
11:20 – 1018. Structural diversity in donor-acceptor materials - adducts of trimeric perfluro-o-phenylene mercury. **T.V. Timofeeva***, R. Castaneda, M. Fonari, Y. Getmanenko
11:40 – 1019. Novel phosphorescent complexes with bipolar charge-transporting ability for highly efficient organic light-emitting diodes (OLEDs). **Y. Liu***, J. Feng*

Hawaii Convention Center
319B

Membranes and Nanotechnologies for Energy and Environment Applications (#317)

Organized by: H. Park, B. Freeman, B. McCloskey, J. McGrath, A. Hill, A. Higuchi, Y. Lee

8:00 – 1020. Polymeric membranes for CO_2 separation. **H. Lin***, L. Zhu, J. Liu, B. Lam
8:30 – 1021. Interplay between CO_2 separation properties and membrane morphology. **I. Taniguchi***, K. Kinugasa
8:50 – 1022. Ultrathin composite membranes for CO2 separations. **G.G. Qiao**
9:10 – 1023. 6000 GPU poly(ionic liquid)/ionic liquid composite membrane for CO_2/N_2 separations. **M.G. Cowan**, J. Zhou, M.M. Mok, W. McDanel, T.K. Carlisle, D. Gin, R.D. Noble
9:30 – 1024. Mixed CO2/CH4 sorption in PIM-based membranes. A. Gemeda, **M. De Angelis**, G.C. Sarti, M.D. Guiver
9:50 – 1025. Molecular separation by a free-standing and nanometer-thick membrane. **S. Fujikawa***
10:20 – 1026. Effect of water vapour on CO_2 separation performance in mixed matrix membranes. **S. Kanehashi***, G.Q. Chen, C.A. Scholes, S.E. Kentish

10:40 – 1027. Polymer supported metal-organic framework nanocomposite hollow fiber membranes for gas separation. J. Hou, P. Sutrisna, H. Li, Y. Zhang, **V. Chen***
11:00 – 1028. Formation of CHA zeolite membranes by secondary growth for post-combustion carbon capture. E. Kim, **J. Choi***
11:20 – 1029. Novel ionic group-mediated crosslinked polyimide membranes for high performance CO_2 separation. **T. Kim***

Hawaii Convention Center
316C

Ceramic Materials and Processing for Advanced Applications (#341)

Organized by: F. Rosei, A. Vomiero, Y. Tachibana, C. Raston, H. Zhang

8:00 – 1030. Ultrafast transmission electron microscopy and its nanoplasmonic applications. **A. Yurtsever***
8:30 – 1031. Solution-based bioinspired growth of photocatalytically active nanoporous membranes, and oriented nanowires for water purification and splitting. **D. Kisailus***
9:00 – 1032. Ultrafast spectroscopic study of trapped state sensitive kinetics in $LaTiO_2N$ solid photocatalys. **A. Furube**, R. Singh, H. Matsuzaki, Y. Suzuki, K. Seki, T. Minegishi, T. Hisatomi, K. Domen
9:20 – 1033. Synthesis optimisation of mesoporous Ti-silica microspheres for efficient oxidative and photocatalytic applications. **A.S. Perera**, M. Coppens*
9:40 coffee break
10:00 – 1034. Near-infrared excited lanthanide-doped nanoparticles with core/shell architectures for theranostic applications. **F. Vetrone***
10:30 – 1035. Electron-transfer mechanism of dye-sensitized solar cells with high perfor-mance hydrotalcite nano clay electrolytes. **S. Uchida***, D. Sakurai, T. Kubo, H. Segawa
11:00 – 1036. Rare-earth-ions-doped calcium chlorapatite phosphors: Synthesis, structures, and photophysical characterization. **K. Hong***, M. Ha, B. Kang, H. Kim, H. Yang
11:20 – 1037. Tunable phase and coloration of iron based ceramic nano pigments. **Y. Kim***, R. Yu
11:40 – 1038. Novel environmentally friendly red pigments based on orthorhombic bismuth vanadate. **D. WEN**, S. Tamura, T. Masui, N. IMANAKA*

Hawaii Convention Center
316B

Materials for the Mitigation of Chemical Hazards (#388)

Organized by: J. DeCoste, G. Peterson, J. Becker, M. Biggs, L. Croll, K. Walton
Presiding: J. DeCoste

8:00 – 1039. Screening of functionalized or hydrophobic MOFs for capture of ammonia and other toxic compounds. P.Z. Moghadam, K. Kim, Y. Zeng, P. Ghosh, D.J. Fairen-Jimenez, **R.Q. Snurr***

*** Principle Author**

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8:30 – 1040. Highly efficient photocatalytic activity by five-layer Aurivillius phase perovskites under solar irradiation. **T.K. Mandal***, N. Gollapally
8:50 – 1041. New multifunctional POM-containing materials for decontamination and protection. **C.L. Hill***, W. Guo, K. Sullivan, H. Lv, Z. Luo, N. Pomerantz
9:20 – 1042. Nerve agent degradation with polyoxoniobates. **M. Nyman**
9:40 – 1043. Chemical sensing and destruction of hazardous chemicals using metal oxides and hydroxides. **J.E. Whitten***
10:10 Break
10:20 – 1044. Metal–organic frameworks as highly functional catalytic arrays. **O.K. Farha***
10:50 – 1045. Tailoring the nucleophilic character of metal-organic frameworks for the reactive removal of chemical threats. **J. DeCoste***, M.A. Browe, G.W. Wagner, G. Peterson

Hawaii Convention Center
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Design of Innovative Photochromic Applications (#399)

Organized by: J. Abe, T. Kawai, Y. Yokoyama, N. Branda, F. Raymo, W. Zhu
Presiding: J. Abe

8:00 Opening
8:05 – 1046. Using photochromes to mimic photosynthetic photoregulatory processes. **D. Gust***, T.A. Moore, A.L. Moore
8:25 – 1047. Elucidation and control of photochromic reactions by pulsed laser excitation. **H. Miyasaka**
8:45 – 1048. On the design of efficient photochromic system. **S. Hecht***
9:05 – 1049. Photo-active energetic materials. **R.J. Scharff***
9:25 – 1050. Revealing transient species of photochromic phenoxyl-imidazolyl radical complexes by time-resolved infrared absorption spectroscopy. **Y. Kobayashi**, H. Yamashita, S. Toshimitsu, J. Abe*
9:45 Break
10:00 – 1051. Dynamics and isomerization in photochromic ruthenium sulfoxide complexes. **J. Rack**, A. King
10:20 – 1052. Oxazolidines: Trimodal switchable units and molecular tango. **J. pozzo**
10:40 – 1053. Stepwise photochromism triggered by metal coordination in multidithienylethene (DTE) systems. **Z. Chen***
11:00 – 1054. Benzobis(thiadiazole)-based diarylethenes: Sterical hinderance offering full separation of conformers with chiral resolution. **W. Zhu***
11:20 – 1055. Synthesis, photochemistry, electrochemistry, and computation: Toward functional "photochromic photooxidants". **J.G. Gillmore**
11:40 – 1056. Spiropyran-cyclodextrin coated metal oxide nanoparticles for photochromic light-harvesting applications. **V. Dryza***, E. Bieske

Hawaii Convention Center
Halls I, II, III

Single-Molecule Function and Measurements (#408)

Organized by: T. Ogawa, H. Tada, S. Park, P. Weiss

Poster Session
10:00 – 12:00

1057. Synthesis and conductance measurement of single molecular slide switch. **T. TAMAKi**, R. Yamada, H. Tada, T. Ogawa*
1058. Synthesis and physical properties of a porphyrin Tb dinuclear complex designed for spintronics. **N. Sakata**, S. Lee, N. Sumitani, T. Inose, R. Yamada, H. Tada, D. Tanaka, T. Ogawa*
1059. Synthesis of polycyclic aromatic hydrocarbons by AuCl catalyzed multicyclization: Candidates for a rigid π organic molecular junction. **T. Nakae***, S. SATO, M. Takase, S. Mori, T. Okujima, H. Uno, H. Sakaguchi
1060. Synthesis, properties, and electrical conductance of insulated oligothiophenes having spiro-substituted fluorenes. **Y. Okamoto**, Y. Ie, R. Yamada, S.K. Lee, H. Tada, Y. Aso
1061. Single molecule electronic properties of perpendicularly connected porphyrin-imide dyads. **Z. Chen**, M. Handayani, R. Yamada, H. Tada, H. Tanaka, T. Ogawa*
1062. Synthesis and physical properties of cyclo[8]pyrrole-polyoxometalate complex. **H. Matsumoto***, F. Miyamoto, Y. Yamazaki, T. Ogawa, S. Mori, M. Takase, H. Uno, T. Okujima
1063. Synthesis of cyclic-insulated conjugated anchor molecule and its immobilization on ITO substrate. **H. Masai**, S. Kaneko, J. Terao, T. Katase, H. Ohta, T. Fujihara, Y. Tsuji
1064. Programming the potential gradient of phenylazomethine dendrimer. **K. Albrecht**, K. Yamamoto*
1065. Synthesis and properties of bisporphyrin connected by chrysene-like bridge with two bicyclic skeletons. **S. Mori**, N. Kawamoto, T. Okujima, H. Uno*
1066. Multidimensional mixed-valence complex with a Ni porphyrin linker. **Y. Tanaka**, K. Mishiba, M. Akita*
1067. Single molecule devices connecting to three carbon nanotube electrodes. **A.Y. Akbar***, M. Handayani, A.I. Abd El-Mageed, T. Ogawa
1068. Fabrication and electric properties of graphene nanoribbons obtained by SWNT. **M. Fukumori***, H. Tanaka, T. Ogawa
1069. Synthesis of insulated molecular wires containing transition metals in their backbones. **T. Hosomi**, H. Masai, W. Matsuda, J. Terao, S. Seki, T. Fujihara, Y. Tsuji
1070. Fabrication and electrical porperties of X- and Y- structures of unzipped single-layer graphene nanoribbons. **P. Liu**, S. Kasai, X. Yin, T.K. Yamada, T. Ogawa, M. Fukumori, H. Tanaka*
1071. Edge structure controlled synthesis of graphene nanoribbons by radical polymerization-chemical vapor deposition. **S. Song**, T. Nakae, T. Kojima, H. Sakaguchi*
1072. Nanoscale charge transport of DNA supramolecular networks. **H. Yamaguchi***, D. Che, T. Matsumoto
1073. Electrical detection of single DNA molecules by electrode-embedded nanopore devices. **K. Yokota***, M. Tsutsui, T. Ohshiro, M. Taniguchi, T. Kawai
1074. Two-step tunneling conduction through a single cytochrome c_3 molecule. **S. Sumida***, D. Che, T. Matsumoto
1075. Environmental control of single-molecule conductance. **H. Okuyama**
1076. Imaging of electrostatic potential in organic photovoltaic thin film. **K. Araki***, Y. Ie, Y. Aso, T. Matsumoto
1077. Structure controlled construction of metal-porphyrin molecular layers by self-assembly technique. **N. Aoki**, Y. Ishikawa, A. Shokai, M. Hase, T. Kondo*
1078. Formative mechanism of single-molecule junctions. **S. Tanimoto**, T. Morikawa*, A. Arima, M. Tsutsui*, M. Taniguchi*
1079. First-principles simulations of the switching mechanism in tantalum oxide-based resistive memory devices. **A. Nakayama***, J. Hasegawa, H. Nakamura*
1080. Direct quantitative analysis of HCV RNA by atomic force microscopy without labeling or amplification. **Y. Jung***
1081. Design of nano-electronic neural-network associative memory circuit for single-molecule devices. **M. Takano***, T. Asai, T. Oya
1082. Design of new logic circuit mimicking soldier crab ball gate for single-molecule device. **Y. Hamana***, T. Asai, T. Oya
1083. Design of thermal-noise-harnessing neuromorphic nano-electronic circuit based on axon of neuron for single-molecule device. **R. Hirashima***, T. Asai, T. Oya
1084. Amoeba-inspired computing system utilizing charge dynamics in a capacitor network with spatiotemporal fluctuation. **R. Wakamiya**, S. Kasai, M. Aono, M. Naruse, M. Hiroyoshi
1085. Design of single-electron "slime mold" circuit for single-molecule device. **K. Satomi***, T. Asai, T. Oya
1086. Chaotic analysis of neuron-firing reproducing device of POM/CNT random network. **F. Lingxiang**, H. Tanaka*, H. Tamukoh, T. Ogawa

Hawaii Convention Center
315

Advances in Organic Light-Emitting Diodes (#409)

Organized by: J. Bredas, C. Adachi, K. Wong, V. Yam, P. Burn, J. Kim
Presiding: P.L. Burn

8:00 – 1087. Advances in quantum dot spectroscopy and applications. **M. Bawendi***
8:30 – 1088. Molecular triplet emitters - from design to assembly and functions. **V. Yam**
8:50 – 1089. Power efficient solution-processed white organic light-emitting diodes with ultra-high color stability. **L. Wang***
9:10 – 1090. TADF combined with short-lived phosphorescence: Novel concept for OLED emitters based on Cu(I) complexes. **H. Yersin***, M.J. Leitl, T. Hofbeck
9:30 – 1091. Latest progress and its fundamentals for polymer-OLED material development. **T. Yamada**
10:00 Break
10:20 – 1092. Device architecture for highly efficient flexible organic light-emitting diodes (OLEDs). **S. Yoo***, E. Kim, J. Lee, J. Song
10:50 – 1093. Thermally activated delayed fluorescence in isometrically designed donor-acceptor mixed-stacked charge-transfer cocrystal. **S. Park**, J. Gierschner, S. Park*
11:10 – 1094. Electroluminescence generated through spin-independent band recombination and spin-dependent molecular recombination regimes in organic-inorganic halide perovskites. **B. Hu***
11:30 – 1095. Current status and future of OLED lighting. **S. Park**

Hawaii Convention Center
317B

The Frontiers of Geometrically Frustrated Magnetic Materials (#430)

Organized by: C. Wiebe, C. Ling, J. Gardner, H. Zhou

8:00 – 1096. Frustration under pressure: exotic magnetism in new pyrochlore oxides. **C. Wiebe***
8:40 – 1097. High-pressure syntheses and characterizations of the rare-earth germanate pyrochlores $R_2Ge_2O_7$. **J. Cheng**, X. Li, Z. Dun, A.M. Hallas, h. zhou, C. Wiebe
9:20 – 1098. Incipient ferromagnetism in $Tb_2Ge_2O_7$: Application of chemical pressure to the enigmatic spin-liquid $Tb_2Ti_2O_7$. **A. Hallas***, A. Arevalo-Lopez, J.P. Attfield, J. Cheng, h. zhou, G. Luke, C. Wiebe
9:35 – 1099. Quadrupole order and spin liquid state of $Tb_{2+x}Ti_{2-x}O_{7+y}$. **H. Kadowaki**
10:15 Coffee Break
10:25 – 1100. Spin liquids in two new pyrochlore materials. **R. SIBILLE***, T. FENNELL, E. LHOTEL, M. Ciomaga Hatnean, G. Balakrishnan, M. KENZELMANN
10:40 – 1101. Elastic anomalies in orbital-degenerate frustrated spinel CoV_2O_4. **T. Watanabe***, S. Yamada, R. Koborinai, T. Katsufuji
11:20 – 1102. Strong competition between orbital ordering and itinerancy in a frustrated spinel vanadate. **h. zhou**

Hawaii Convention Center
Halls I, II, III

Self-assembled Biofunctional Nanomaterials (#433)

Organized by: R. Nagarajan, K. Sakurai, H. Chen

Poster Session
10:00 – 12:00

1103. Coating of electrodes with self-organized HFBI membrane: Structure and electrochemical properties. **R. Yamasaki***, H. Asakawa, T. Fukuma, T. Haruyama
1104. Synthesis and characterization of calix[4]arene micelles bearing four quaternary amines: Formation of regular polyhedral forms. **S. Yamada**, Y. Sanada, K. Sakurai*
1105. Mechanistic study on critical role of PEG crowdedness upon pDNA packaging into rod-shaped polyplex micelles. **K.M. Takeda***, K. Osada, T.A. Tockary, Q. Chen, A. Dirisala, K. Kataoka
1106. Structural and DNA interaction studies of a designed peptide-based vector. **J. Chuah***, K. Numata*
1107. Physicochemical characteristics and biocompatibility of self-assemble DNA-mimic brush polymers. **H. Kim***, J. Kim, M. Kim, J. Lee
1108. Development of carboxyl group modified b-1,3-glucans for protein delivery to antigen presenting cells. **D. Tanohata***, S. Mochizuki, N. Miyamoto, K. Sakurai
1109. Redox-responsive vesicles prepared from double armed alkyl ferrocene with aza-18-crown-6 ether molecules. **X. Wang***, N. Satio, B. Hatano, S. Murakami, T. Kijima
1110. Development of protein nanoparticles for sensitive biosensing. **Y. Ikeda***, Y. Mashimo, M. Mie, E. Kobatake
1111. Preparation of hollow nanocapsules for effective delivery of cationic sonosensitizers. **R. Teranishi**, E. Yuba, A. Harada, K. Kono*
1112. Development of temperature responsive hydrogel scaffold composed of self-assembling proteins for 3D cell culture. **Y. Mizuguchi***, Y. Mashimo, M. Mie, E. Kobatake
1113. Temperature responsibility and salt effect on sulfobetaine polymers and brushes. **Y. Mochizuki***, A. Sakamoto, H. Matsuoka
1114. Synthesis of entirely ionic diblock copolymers having betaine and formation behavior of PIC micelle. **T. Yagi**, K. Sasaoka, H. Matsuoka
1115. Characterizing micellar structures for hydrophilic dendron bearing calix[4]arene lipids. **G. Kubo**, S. Fujii, Y. Sanada, K. Sakurai*
1116. Development of pH-responsive polymeric micelles using amphiphilic block copolymer synthesized by mechano-chemical solid-state polymerization. **S. Kondo**, K. Tatematsu, Y. Sawama, Y. Sasai, Y. Yamauchi, M. Kuzuya
1117. Cationic copolymers to enhance deoxyribozyme activity for nucleic acid detection. **T. Oyanagi**, N. Shimada, A. Maruyama*

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1118. Manipulating lipid bilayer membranes by peptide/cationic comb-type copolymer complex. **N. Kume**, T. Umegae, W. Sakamoto, N. Shimada, A. Maruyama*
1119. Disassembly and assembly of peptide fibrils via local mechanical perturbation. **A. Karsai***, T. Lanoue, F. Khoury, H. Malekan, W. Lin, V. Tran, D. Cox, X. Chen, G. Liu
1120. Ionic strength dependence of Calix [4] arene lipid. **S. Matsumoto**, S. Yamada, K. Sakurai*, Y. Sanada
1121. Interactions between DNA and cationic copolymers observed at single molecular level. **T. Takada**, A. Maruyama*, N. Shimada
1122. Examining the role of methionine oxidation on the soft-assembly of divalent peptide conjugate molecules and their use in the preparation of double and single helices of gold nanoparticles. **A. Merg**, N. Rosi*
1123. Photoregulation of assembly and shape control of ionic gel particles. **S. Abe**, S. Tamesue, T. Mitsumata, N. Tsubokawa, T. Yamauchi*
1124. Enhancing enzyme stability by construction of polymer-enzyme conjugate micelles. N. Suthiwangcharoen, **R. Nagarajan**
1125. Design of self-assembling complexes based on formation-dependant phisicochemical properties for application as biomaterials. **K. Hayashi***, H. Iwai, T. Shimanouchi, T. Kamei, H. Umakoshi, A. Kato, T. Iwasaki, H. Nakamura
1126. Self-assembly of quantum dots on biocompatible substance using dopamine polymerization. **F. Zhao***
1127. Binding of amphiphilic DNAs with different secondary structures to lipid bilayer membrane. **H. Yamaguchi**, K. Matsuzaki, T. Shibata, C. Dohno*, K. NAKATANI*
1128. Differential mobility biofunctional nanosheet graphene oxides. **Y. Lai**, J. Tai, H. Wang, R. Ho, D. Tsai*
1129. Fabrication of chitosan-based polymeric nanocomplexes as a dual-functional drug carrier in combinational chemo-photodynamic therapy. **Y. Huang***
1130. Ligand-functionalized nanoparticles interactions in enviromental health and safety. **Y. Lai**, C. Lai, J. Tai, T. Nguyen, . Wong, C. Lin, T. Tsai, H. Ho, P. Wang, Y. Liao, D. Tsai*
1131. Modulation of binding properties of DNA assemblies to lipid bilayer membrane. **C. Dohno***, S. Makishi, H. Yamaguchi, K. NAKATANI*
1132. Biomimetic in-situ study of the mineralization and demineralization of calcium carbonate with atomic force microscopy. **A. Reiber***

Thursday Afternoon

Hawaii Convention Center
313C

Organic, Inorganic and Hybrid Nanoparticles: Synthesis, Characterization, and Applications (#23)

Organized by: L. Bronstein, F. Winnik, K. Akiyoshi
Presiding: L. Bronstein, S. Sun

13:00 Welcoming remarks
13:05 – 1133. Nanoparticles, their hybrids and diades for artificial photosynthesis, as heterogeneous organocatalysts, and for energy applications. **M. Antonietti***, D. Dontsova, J. Liu, M. Shalom
13:30 – 1134. Rational synthesis and assembly of nanocatalysts for energy application. **S. Sun***
13:55 – 1135. Green fabrication of gold and silver nanoparticles from lignin solution for high-value utilizations. G. Han, Z. Shen, **X. Wang**
14:10 – 1136. Magnetically recoverable catalysts based on magnetite nanoparticles: One phase or two?. N. Baird, K. Alibegovic, C. Braeger, N. Kuchkina, Z. Shifrina, C. Yuzik-Klimova, V. Matveeva, A. Sidorov, E. Sulman, **L. Bronstein***
14:25 Intermission
14:40 – 1137. Effect of support on the activity of Ag-based catalysts for formaldehyde oxidation. **C. Zhang**
14:55 – 1138. Novel trimetallic nanocluster catalysts with a crown jewel structure for glucose oxidation. **N. Toshima***, H. Zhang, Y. Nozoe, Y. Shiraishi
15:10 – 1139. Synthesis of zirconia in mesoporous silica and its catalytic property for methanol oxidative decomposition. **N. Shimoda**, K. Nakayama, S. Umehara, S. Satokawa*
15:25 – 1140. Precise synthesis of polyamine dendrimer-encapsulated Rh_5 carbonyl cluster for chemoselective reduction of aromatic nitro compounds. **Z. Maeno**, T. Mitsudome, T. Mizugaki, K. Jitsukawa, K. Kaneda*
15:40 – 1141. Enantiospecific C-H activation using ruthenium nanocatalysts: A DFT study. I. del Rosal, C. Taglang, B. Rousseau, G. Pieters, B. Chaudret, L. Maron, **R. Poteau***
15:55 – 1142. Size-controlled, solvent-dispersible coordination polymer nanocrystals: Preparation and catalytic activity. **C. Meledandri**, K. Rodpun, E. Tan, N.T. Lucas
16:10 – 1143. New insights on charge transfer in multi core nanoshell for photocatalysis. **A. Brito-Silva***, R.G. Sobral-Filho, Y. Wang, P. Wan, A.G. Brolo
16:25 – 1144. Novel synthesis of $PtBi_2$ alloy nanoparticles with exceptionally high electrocatalytic activity. **A.P. Angelopoulos***, P. Boolchand
16:40 – 1145. Hierarchical muticomponent catalysts: Structure design, function realization, and catalytic applications. **G. Wang***, H. Gao, D. Jia, J. Li, X. Zhang, L. Tan

Hawaii Convention Center
316A

Chemistry and Applications of Graphene (#39)

Organized by: Y. Chen, R. Haddon, K. Loh
Presiding: Y. Chen, H. Gao, R.C. Haddon

13:00 – 1146. Graphene, its heterostructures and beyond. **A. Geim***
13:30 – 1147. New carbon and related materials. **R.S. Ruoff***
13:50 – 1148. 2- and 3D carbon materials: From doped graphene to graphene oxide fabrics and more. **M. Terrones**
14:10 – 1149. Molecular-based proximity effects in graphene. **K. Takai***, T. Umehara, K. Nakamoto, A. Izumiyama
14:25 – 1150. Modulation of the Dirac point voltage of graphene by ion-gel dielectrics and its application to soft electronic devices. **y. shim**
14:40 – 1151. Multiscale modeling of gas molecules adsorption and penetration through multilayer graphene membrane. **G. Sergei***
14:55 Break
15:15 – 1152. 2D atomic crystals on transition metal surfaces: Silicene, germanene, and hafnene. **H. Gao**
15:35 – 1153. From graphene to phosphorene: The 2D zoo. **A.H. Castro Neto***
15:55 – 1154. Structural diversity of bulky graphene materials. **X. Chen**
16:15 – 1155. Atomic and electronic properties of graphene-based heterostructure. **Y. Song**
16:30 – 1156. Development of graphene-based multifunctional hybrid structures: A Raman spectroscopy investigation. **E. Dervishi***, N.F. Hartmann, R. Silva, J. Yoo, Y. Lin, .J. Sheehan, A. Chen, Q. Jia, H. Htoon, S.K. Doorn
16:45 – 1157. Wetting transparency of graphene in water. **A. Luzar**, D. Bratko, D. Vanzo, J.D. Driskill

Hawaii Convention Center
321A

Nanowires: Synthesis, Fundamental Properties and Novel Device Applications (#51)

Organized by: T. Yanagida, S. Hara, S. Jin, P. Yang, R. Agarwal, L. Lauhon, H. Zheng
Presiding: F. Ishikawa, T. Yanagida, P. Yang

13:00 – 1158. Nanowires, nanoplates, and nanofilms of 2D layered materials. **Y. Cui**
13:30 – 1159. Phase-equilibrium-dominated vapor-liquid-solid growth mechanism. **Q. Wu**, Y. Zhang, J. Cai, C. He, X. Wang, Z. Hu
14:00 – 1160. Theoretical guide on fabricating conducting/semiconducting molecular wires on semiconductor surface via in situ surface polymerization reaction. **J. Wang***, X. Yao, S. Yang
14:30 – 1161. Novel classical and quantum photonic devices by manipulating light-matter interactions in nanowires. **R. Agarwal***
15:00 Break
15:10 – 1162. Design strategy of metal oxide nanowires. **T. Kawai**
15:40 – 1163. Surface chemical approach to improving the air-stability of n-type semiconductor nanowires and nanotubes. **Y. Nonoguchi***, T. Kawai
16:10 – 1164. 1D metallic nanoparticles: Preparation, functionalization, and applications. **S.E. Hunyadi Murph**
16:20 – 1165. Electrochemical liquid-liquid-solid growth of semiconductor nanowires and microwires. **S. Maldonado***
16:30 – 1166. Hierarchically driven 1D metal oxide hybrid nanostructures as efficient electrocatalytic platforms toward electrochemical applications. **M. Kim***
16:40 – 1167. Metallic nanowires as new building blocks for flexible transparent electrodes synthesis, purification, and integration into functional devices. **J. SIMONATO***, C. Celle, A. Carella, C. Mayousse
16:50 – 1168. Gold ultrathin nanowires and nanorods: Synthesis, optical properties, and stability. **R. TAKAHATA**, S. Yamazoe, K. Koyasu, T. Tsukuda*

Hawaii Convention Center
318A

Two-dimensional Nanosheets and Nanosheet-Based Materials: Synthesis, Characterization, Functionalization and Applications (#95)

Organized by: J. Kawamata, J. Choy, C. Detellier, H. Zhang, J. Huang, L. Wan
Presiding: J. Choy, M. Ogawa

13:00 – 1169. Function design via heteroassembly of inorganic nanosheets. **T. Sasaki***, Y. Ebina, M. Osada, R. Ma, T.C. Ozawa
13:30 – 1170. Bilayer silicatene: Glassy defect structures and gas separation properties. **J. Schrier***
13:50 – 1171. Supramolecular thiophene nanosheets. **T. Ikeda***
14:10 – 1172. Environmentally benign synthesis of strongly coupled $NiCo_2O_4$-rGO hybrid nanosheets as a methanol-tolerant electrocatalyst for oxygen reduction reaction. **G. Zhang**
14:30 – 1173. Ultralight graphene-based achitectured elastomers. **D. Li**
14:55 Break
15:05 – 1174. Photoinduced electron transfer via metal oxide thin films fabricated by organic-inorganic hybrid Langmuir-Blodgett method. **H. Usami***
15:30 – 1175. Atomic manipulation of atomic oxygen of graphene epoxide. **T. Kim***
15:50 – 1176. Influence of graphene oxide supports on the stability and catalytic activity of metal nanoparticles. S. Low, V. Chen, **Y. Shon***
16:10 – 1177. Synthesis, characterization, and intercalation properties of novel hybrid layered metal hydroxides modified with tris(hydroxymethyl)aminomethane. **Y. Kuroda***, T. Koichi, Y. Saito, A. Shimojima, H. Wada, K. Yamaguchi, N. Mizuno, K. Kuroda*
16:30 – 1178. Functional nanohybrid materials derived from phyllosilicates. **C. Detellier***, G. Kenne Dedzo

Hawaii Convention Center
321B

Applications of Ultrasound to Nanoscience (#150)

Organized by: K. Suslick, F. Grieser, M. Atobe, J. Yu, S. Jeong
Presiding: F. Grieser

13:00 – 1179. Size-controlled synthesis of polymer nanoparticles with tandem acoustic emulsification followed by soap-free emulsion polymerization. **M. Atobe***, K. Nakabayashi, M. Kojima, Y. Hirai
13:30 – 1180. Fluid-dynamical processes in the ultrasonic manipulation of milk fat globules. L. Johansson, T. Leong, P. Juliano, J. Jalal, J. Leontini, S. McArthur, R. Mawson, **R. Manasseh***
14:00 – 1181. Ultrasonic assisted dissolution of switchgrass using active specific designed ionic liquid. **D. Grewell**, G.A. Kraus, M. Montalbo-Lomboy
14:30 – 1182. Organic nanocrystals via sonochemistry: Host-guest chemistry, solid-state reactions, and pharmaceutics. **L.R. MacGillivray**
15:00 – 1183. Room temperature sonochemical synthesis of red phosphorus/g-C_3N_4 hybrid nanosheets for photocatalytic hydrogen evolution. **J. Yu***
15:30 – 1184. Separation of nanoparticles from suspensions with ultrasonic atomization. **S. Nii***
16:00 – 1185. Design, synthesis of nanoparticles and fabrication of polymer nanocomposites. **V.K. Rangari***, S. Jeelani
16:30 – 1186. Ultrasonic spray synthesis of functional, shape-controlled nanomaterials. **S.E. Skrabalak**

Hawaii Convention Center
322AB

Current and Future Applications of Nanotechnology in the Oil Industry (#197)

Organized by: W. Wang, K. Lee, J. Ordóñez-Varela, M. Kanj, T. Jiang
Presiding: M.E. Poitzsch

13:00 – 1187. Understanding electronic properties of coherent 2D nanostructures with multi-pbe STM sectroscopy. **A. Li**
13:30 – 1188. Highly shear thinning nanoparticle solutions in water. J. Weston, **B. Grady**, J. Harwell, D. Resasco
13:55 Break
14:10 – 1189. Synthesis and applications of near-infrared persistent luminescent nanoparticles. **Z. Pan***, F. Liu, Y. Chuang, Y. Liang, Y. Chen
14:40 – 1190. New strategy for designing silver(I) coordination complexes for olefin/paraffin separations. **M.G. Cowan**, W. McDanel, H.H. Funke, Y. Kohno, D. Gin, R.D. Noble

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15:05 – 1191. Progress and challenge on detection of nano-agents in reservoir characterization. **W. Wang***
15:30 closing remark

Hawaii Convention Center
319A

Self-organization of Membrane Systems (#259)

Organized by: D. Sasaki, K. Morigaki, I. Koeper
Presiding: I. Koeper, M. Lösche

13:00 – 1192. Nanolipoprotein particles entrapped within nanoporous silica gel. W. Zeno, S.H. Risbud, **M.L. Longo**
13:30 – 1193. Lipid membrane reorganization induced by self-assembly of a toxin. **N. Yilmaz**
13:50 – 1194. Supported lipid bilayer chromatography and sensing platforms. **P. Cremer**
14:20 – 1195. Submicron domains in phosphatidylinositol-containing supported lipid bilayers and their roles in protein assembly. T. Motegi, K. Takiguchi, Y. Tanaka-Takiguchi, **R. Tero***
14:40 – 1196. Improved models of the gram negative bacterial outer membrane. **S.A. Holt***, A. Le Brun, L. Clifton, J.H. Lakey
15:10 break
15:15 – 1197. Sparsely tethered lipid bilayer membranes as a model for biomembrane function. **B.A. Cornell***
15:45 – 1198. Polymer-tethered single- and multilipid bilayers as model membranes and biomembrane-mimicking cell substrates of adjustable dynamic and mechanical properties. **C.A. Naumann***, C. Lin, Y. Ge, L. Lautscham, W.H. Goldmann, B. Fabry
16:05 – 1199. Effects of oxdiative stress on model cellular membrane and protein interactions. **D.J. McGillivray***, J.J. Knobloch, Y. Xun, A.R. Nelson, N. Kirby
16:35 – 1200. Tethered bilayer lipid membranes as a platform for functional membrane protein insertion. J. Zieleniecki, Y. Nagarajan, J. Rongala, S. Waters, M. Hrmova, **I. Koeper***
16:55 Concluding Remarks

Hawaii Convention Center
318B

Advanced Materials for Photonics and Electronics: Fundamentals and Applications (#308)

Organized by: R. Morandotti, D. Moss, F. Omenetto, N. Tsutsumi, K. Alamgir, K. Char, A. Facchetti
Presiding: K. Char

13:00 – 1201. Development of high performance printed polymer integrated circuits. **Y. Noh**
13:30 – 1202. Emission features of organic oligomer crystals equipped with1D diffraction gratings. **T. Yamao***
14:00 – 1203. Fabrication of polymer-based arrayed waveguide gratings for upconversion transparent displays. **S. Watanabe**, T. Asanuma, H. Hyodo, K. Soga, M. Matsumoto, S. Takafumi
14:20 – 1204. Synthesis of new acrylamide-based block copolymers and their application to nanolithography. **Y. Han***
14:40 – 1205. Optochemical organization: Using light to transfer and encode information in a photopolymer. **K. Saravanamuttu***, A. Hudson, M. Ponte
15:00 Break
15:10 – 1206. Bulk heterojuntion perovskite hybrid solar cells. **X. Gong**
15:40 – 1207. Morphology control of organic-inorganic perovskite layers by hot isostaic pressing for efficient planar solar cells. **T. Matsushima***, T. Fujihara, C. Qin, Y. Esaki, S. Hwang, . S. D. Sandanayaka, C. Adachi
16:00 – 1208. Sn perovskite photoconversion devices with infrared sensitivity. **S. Hayase***
16:20 – 1209. Influence of processing and post-processing conditions on charge generation and recombination of thin-film lead-halide perovskites for electrooptical applications. **S.A. Bretschneider**, I. Hermes, S. Weber, F. Laquai*
16:40 – 1210. Real-space observation of charge distribution in perovskite solar cells. **V.W. Bergmann***, S.A. Weber, F.J. Ramos, M.K. Nazeeruddin, M. Grätzel, S. Ahmad, R. Berger

Hawaii Convention Center
319B

Membranes and Nanotechnologies for Energy and Environment Applications (#317)

Organized by: H. Park, B. Freeman, B. McCloskey, J. McGrath, A. Hill, A. Higuchi, Y. Lee

13:00 – 1211. Dramatic nanofluidic properties of carbon nanotube membranes for environmental and energy applications. **B.J. Hinds***
13:30 – 1212. Gas permeation through 1 nm thick carbon nanomembranes. A. Beyer, V. Chinaryan, X. Zhang, S. Shishatskiy, J. Wind, V. Abetz, **A. Goelzhaeuser***
13:50 – 1213. Ultrathin gas selective membranes based on metal-organic framework nanosheets for H_2/CO_2 separation. Y. Peng, Y. Li, **W. Yang**
14:10 – 1214. Speed limits of gas/vapor/liquid: Has graphene laid the ultimate transport pathways?. **A. Thornton***, A.J. Hill, H. Park, M. Majumder
14:30 – 1215. Biomimetic selective ion transport through graphene oxide membranes functionalized with ion recognizing peptides. S. Kim, J. Nham, Y. Jeong, C. Lee, S. Ha, H. Park, **Y. Lee***
14:50 – 1216. Mass transport under graphitic nanoconfinement, continuous or discontinuous. **H. Park***, S. Youn, J. Buchheim, R.M. Wyss, A. Droudian, M. Lokesh
15:20 – 1217. Carbon molecular sieve gas separation membranes derived from novel nanostructured immiscible polymer blends. N.P. Panapitiya, C.J. Gilpin, I.H. Musselman, K. Balkus, **J.p. Ferraris***
15:40 – 1218. Multilayer polymer nanocomposite thin films capable of size selective gas separation. **J. Grunlan***, B. Wilhite
16:00 – 1219. Multiscale architectured polymeric membranes with tunable separation properties. **P.J. Yoo***
16:20 – 1220. Plasticization-tolerant graphene oxide membranes for CO_2 separations. **H. Kim**, H. Yoon, J. Park, B. Freeman, H. Park*
16:40 – 1221. Architecturing porosity for efficient molecular transport in membranes. **A.J. Hill**, A. Thornton

Hawaii Convention Center
316C

Ceramic Materials and Processing for Advanced Applications (#341)

Organized by: F. Rosei, A. Vomiero, Y. Tachibana, C. Raston, H. Zhang

13:00 – 1222. Plasmonic nanoparticles to boost the response dynamic and sensitivity of optical gas sensors based on metal oxide. **A. Martucci**
13:30 – 1223. Flexible chemical processing: Multiple WO_3 typologies from a single precursor and their gas-sensing properties. **M. Epifani***, E. Comini, R. Díaz, T. Andreu, J. Arbiol, P. Siciliano, G. Faglia, J.R. Morante
14:00 – 1224. Catalytic activity of perovskite-type oxide synthesized by assisting exothermic ligand oxidation of heteronuclear cyano complex. **H. Wada**, D. Sánchez-Rodríguez, S. Yamaguchi, H. Yahiro
14:15 – 1225. Preparation of zinc oxide particles in the presence of anionic surfactants. **Y. Iizuka***, H. Shibata, T. Ogura, A. Fujimori, K. Hashimoto
14:30 – 1226. Comparison of oxygen sorption/desorption behavior between Sr-$FeO_{3-\delta}$ and $BaFeO_{3-\delta}$. **H. Ikeda**, A. TSUCHIDA, N. MIURA*
14:45 coffee break
15:00 – 1227. Solution routes to complex oxide, metal, and composite nanomaterials. **G. Westin***
15:30 – 1228. Ceramics for metal-organic frameworks based devices. **P. Falcaro**
16:00 – 1229. Hybrid carbon and other 2D materials by Pulsed Laser Deposition with applications in electron emitters and PEM fuel cells. **D.H. Chua**
16:30 – 1230. Sol-gel synthesis of rhodium substituted ϵ-iron oxide nanoparticle exhibiting zero-field ferromagnetic resonance. **A. Namai**, M. Yoshikiyo, S. Ohkoshi
16:45 – 1231. Is hysteresis truly a problem for perovskite solar cells?. **A.K. Jena***, A. Kulkarni, A. Kogo, Y. Numata, M. Ikegami, T. Miyasaka

Hawaii Convention Center
316B

Materials for the Mitigation of Chemical Hazards (#388)

Organized by: J. DeCoste, G. Peterson, J. Becker, M. Biggs, L. Croll, K. Walton
Presiding: G. Peterson

13:00 – 1232. Highly adsorptive, MOF-functionalized fiber mats for hazardous gas capture enabled by atomic layer deposition. **G. Parsons***, J. Zhao, W. Nunn, P. Lemaire, D. Lee, C. Oldham, H. Walls, G. Peterson
13:30 – 1233. *In operando* studies of CuO_x and MoO_x model surfaces for application as chemical warfare agent destruction catalysts. **L. Trotochaud**, A. Head, Y. Yu, O. Karslioglu, M. Hartl, B. Eichhorn, H. Bluhm
13:50 – 1234. Removal of sulfur mustard gas surrogate under visible light on the surface of hydrous ferric oxide/graphite oxide composites. **J. Arcibar Orozco***, T.J. Bandosz
14:10 – 1235. Microwave-assisted synthesis, characterization, and photocatalytic properties of highly dispersed SiO_2@ZnO core−shell nanocomposite particles. **N.M. Bahadur***, F. Kurayama, T. Furusawa, M. Sato, N. Suzuki
14:30 – 1236. Adsorbent-nanofibre composite materials: Concepts for broad spectrum chemical protection. **D. Nielsen***, M. Jamriska, R. Hebden, E. Micich, J. Freeman
15:00 Break
15:10 – 1237. CWA surrogates decontamination on metal (hydr)oxide/ graphite oxide adsorbents: Engaging chemical reactivity, porosity, conductivity, and visible light activity. **T.J. Bandosz***, J. Arcibar Orozco, D. Giannakoudakis
15:40 – 1238. Sol-gel synthesis of robust hierarchically porous monolithic metal(IV) phosphate materials for efficient ion adsorption. **Y. Zhu**, K. Yoneda, T. Shimizu, K. Kanamori*, K. Nakanishi*
16:00 – 1239. Electrospun composite nanofibers for enhanced photocatalytic degradation of environmental toxins. D.L. McCarthy, J. Liu, J. Tollin, J. Troiano, J. DeCoste, W.E. Bernier, **W.E. Jones***

Hawaii Convention Center
314

Design of Innovative Photochromic Applications (#399)

Organized by: J. Abe, T. Kawai, Y. Yokoyama, N. Branda, F. Raymo, W. Zhu
Presiding: F.M. Raymo

13:00 – 1240. Photo-motion and photo-polism in photochromic systems. **D. Bassani**
13:20 – 1241. Tailor-made photochromic molecules/proteins for super-resolution microscopy. **J. Hofkens***, p. dedecker, B. Moeyaert, S. Duwé
13:40 – 1242. Amplified photoswitching in fluorescent photochromic molecules and nanomaterials. **K. NAKATANI***, R. METIVIER, S. MAISONNEUVE, J. XIE, P. Yu, K. OUHENIA-OUADAHI, J. SU, T. Fukaminato, J. PLACIAL, A. BROSSEAU, J. AUDIBERT, R. PANSU
14:00 – 1243. Reversible force visualization on luminescent elastomer films. **S. Saito***, S. Nobusue, S. Yamaguchi, H. Yabu*, Y. Saito
14:20 – 1244. Development of photochromic molecules. **T. Fukaminato***, T. Hirose, K. Matsuda, M. Irie
14:40 Break
14:55 – 1245. Photochemical strategies to activate fluorescence. **F.M. Raymo**
15:15 – 1246. Swichable fluorescent probes for sensing and imaging biomolecules. **T. Yi**, G. Lv, K. Liu
15:35 – 1247. Photoresponsive molecules and materials for controlling chemistry and biochemistry. **N. Branda***, T. Wu, D. Wilson
15:55 – 1248. Synergetic effects in photochromic nanoparticles. P. Girard, K.E. Snell, T. Gallavardin, L. Lartigue, J. Duvail, F. Lagugné-Labarthet, **E. Ishow**
16:15 – 1249. Photomechanical actuators of photochromic diarylethene crystals. **S. Kobatake**, D. Kitagawa

Hawaii Convention Center
315

Advances in Organic Light-Emitting Diodes (#409)

Organized by: J. Bredas, C. Adachi, K. Wong, V. Yam, P. Burn, J. Kim
Presiding: E.R. Bittner

13:30 – 1250. Theory of exciton radiative and non-radiative decay for OLEDs materials. **Z. Shuai***
14:00 – 1251. Accelerated discovery of OLED materials through atomic-scale simulation. **M.D. Halls***, D.J. Giesen, T.F. Hughes, A. Goldberg, Y. Cao, H.S. Kwak, G.P. Dathar, J.L. Gavartin, S.R. Kimura, D. Yoshidome
14:20 – 1252. Computational design of host and guest molecules for OLED active layers. **P. Winget***, M. Hong, H. Sun, J. Bredas
14:40 – 1253. Excitonics of phosphorescent, fluorescent, and TADF-based OLEDs: A Monte Carlo simulation approach. **H. van Eersel**, M. Mesta, M. Carvelli, P. Bobbert, R. Janssen, R. Coehoorn
15:00 – 1254. Hyper-phosphorescence: Boosting the limits of blue phoshorescent technology. **C. Lennartz**, F. May, M. Zhang, G. Wagenblast, H. Mangold, G. Battagliarin, T. Holcombe, I. Münster
15:30 Break
15:40 – 1255. New materials: Synthesis, photophysics, and high efficiency organic light-emitting devices. **M.R. Bryce***
16:10 – 1256. Making use of triplet excitons in organic electronics: Thermally activated delayed fluorescence and bilumi-nescence. **S. Reineke***
16:40 – 1257. Fluorescence-based organic light-emitting diodes with high efficiency and reliability. **H. Nakanotani**, C. Adachi

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17:00 – 1258. Development of high performance OLEDs for general lighting. **J. KIdo***

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317B

The Frontiers of Geometrically Frustrated Magnetic Materials (#430)

Organized by: C. Wiebe, C. Ling, J. Gardner, H. Zhou

13:00 – 1259. Giant magnetoelasticity at a spin gap transition in the 5*d* oxide $Ba_3BiIr_2O_9$. **C.D. Ling***
13:40 – 1260. Dugganites: An experimental realization of a molecular 2D triangular Heisenberg antiferromagnet?. **H. Silverstein***, A. Sharma, h. zhou, C. Wiebe
13:55 – 1261. High field ESR study of Kagome lattice antiferromagnet Cr-jarosite single crystal. **H. Ohta***, S. Okubo, R. Nakata, S. Ikeda, N. Takahashi, T. Shimokawa, T. Sakurai, W. Zhang, K. Okuta, S. Hara, H. Sato
14:10 – 1262. Study of new beryllium substituted langasites $A_3Ga_3Ge_2BeO_{14}$ (A=Pr, Nd, Sm). **A. Sharma***, C. Wiebe
14:25 – 1263. Synthesis and properties of new mixed-anion geometrically frustrated magnets. **J.P. Attfield**, **L. Clark**
15:10 Coffee Break
15:25 – 1264. Doppelgängers amongst the double perovskites. **J. Greedan***, C. Thompson, C. Marjerrison, B. Gaulin, G. Luke, G. Nilsen, C. Wiebe
16:05 – 1265. Understanding the interplay between the magnetic and crystal structure in Sr_2YRuO_6. **B.J. Kennedy***, P. Kayser, B. Ranjbar, M. Avdeev

Hawaii Convention Center
320 Theatre

Self-assembled Biofunctional Nanomaterials (#433)

Organized by: R. Nagarajan, K. Sakurai, H. Chen

13:00 – 1266. Protein-polymer co-assembled nanoparticles for catalysis and vaccine applications. **Q. Wang***
13:30 – 1267. Control over charge and charge density in micelles from ABC triblock terpolymers: Effects on interaction with cells. **F.H. Schacher***
14:00 – 1268. Sugar and spice: Natural biofunctional materials from self-assembling polysaccharides. **B. Williams***
14:30 – 1269. Enzyme-responsive micellar nanoparticles. **N. Gianneschi**
15:00 Break
15:10 – 1270. Amphiphilic polycaprolactones for micellar delivery of anticancer drugs. **m.C. Stefan***
15:30 – 1271. Innate immunity peptides and self-assembly. **g. wong***
16:00 – 1272. Simple approach to synthesize multifunctional hybrid nanocomposites for biomedical applications. **Y. Li***, D. Niu, Y. Gao, X. Zhang
16:20 – 1273. Manipulation of immune responses by the hydrophobicity of nanomaterial composed of amphiphilic poly(γ-glutamic acid). **F. Shima***, T. Akagi, M. Akashi
16:40 – 1274. Lipid self-assembly nanoparticles as theranostic drug delivery and medical imaging agents. **C.J. Drummond***, X. Mulet, C.E. Conn, C. Fong, M. Moghaddam, N. Tse, D. Kennedy, R.A. Caruso, S. Sagnella, X. Gong, J. zhai

Hawaii Convention Center
317A

Application of Luminescent Materials for Radiation Detection (#442)

Organized by: K. Asai, J. Zhang, T. Yanagida, S. Kasap
Presiding: K. Asai

13:00 – 1275. Development of fast scintillators exhibiting auger-free luminescence. **M. Koshimizu**
13:40 – 1276. Radiation resistance and improved response times of bulk ZnO single crystals after gamma-ray irradiation. **K. Yamanoi**
14:00 – 1277. Surface vs. bulk self trapped exciton (STE) in the radioluminescence of calcium fluoride nanoparticles. **R. Sammynaiken***
14:40 – 1278. Analysis of thermoluminescence data and future uses. **K. SHINSHO**
15:20 – 1279. Radiophotoluminescence from Sm-doped glasses and glass-ceramics for large-dose, high-resolution radiation dose measurement in microbeam radiation therapy. **G. Okada**, A. Edgar, J. Ueda, S. Tanabe, C. Koughia, F. Chicilo , D. Tonchev, G. Belev, T. Wysokinski, D. Chapman, S. Kasap*
16:00 – 1280. Lithium-containing amorphous materials for radiation detection. **H. Masai***, T. Yanagida
16:40 – 1281. Luminescence properties of new layered mixed-anion compounds $Ba_3RE_2X_2O_5$. **M. Tatsuda**, H. Ogino, T. Yanagida, Y. Fujimoto, J. Shimoyama, K. Kishio

Thursday Evening

Hawaii Convention Center
318B

Nanocrystal Synthesis, Characterization, Assembly and Applications (#34)

Organized by: R. Tilley, S. Skrabalak, T. Hyeon, T. Nann, T. Adshiri

19:00 – 1282. Shape directed synthesis of Pt and Pd nanoparticles. **R.M. Richards**, G. Leong, A. Ebonassir, M. Schulze, M. Strand, D. Maloney, S. Frisco, C. Ngo, H. Dinh, B. Pivovar, G. Gilmer, S. Kodambaka, C. Ciobanu
19:15 – 1283. Studying perovskite-based solar cells with high resolution in-situ microscopy. **J.A. Aguiar**, S. Wozny, W. Zhou, K. Zhu, T. Holesinger, T. Aoki, M. Al-Jassim
19:30 – 1284. Low-temperature synthesis of compositionally complex scheelite-structured nanocrystals. **S.P. Culver***, R. Brutchey
19:45 – 1285. Optimizing the seed mediated growth of gold nanorods. **B.D. Gates***, I.W. Guo
20:00 – 1286. Characterizing the effects of dithiocarbamate ligands on CdSe nanocrystals. **A.M. Munro***
20:15 – 1287. Alloy nanocatalysts. **J. Zeng**
20:30 – 1288. Efficient selective catalysis *via* supported Pd-based nanocatalyst with specific crystal facets. **K. Tang***, J. Zhu, W. Yang, Y. Ye

Hawaii Convention Center
Halls I, II, III

Nanowires: Synthesis, Fundamental Properties and Novel Device Applications (#51)

Organized by: T. Yanagida, S. Hara, S. Jin, P. Yang, R. Agarwal, L. Lauhon, H. Zheng
Presiding: N. Fukata, S. Hara, F. Ishikawa, T. Yanagida

Poster Session
19:00 – 21:00

1289. Metallic glass nanowires: Formation, fundamental properties, and applications. **K. Nakayama***
1290. Electrodeposition of crystalline Si nanowires at low temperatures. **L. Ma**, S. Lee, S. Maldonado*
1291. Fabrication of flexible transparent conductive electrode using curved copper nanowires. **Z. Yin**, S. Cho, D. You, Y. Ahn, Y. Yang, J. Yoo, Y. Kim*
1292. Hybrid SiNW-based solar cells and hydrogenation for efficiency enhancement. **W. Jevasuwan**, K. Nakajima, Y. Sugimoto, N. Fukata
1293. Fabrication of fine sodium titanate nanowires with high Sr ion exchange properties. **N. Asao***, Y. Ishikawa, S. Tsukimoto, K. Nakayama
1294. Study of influential factors in polyol synthesis of silver nanowires assisted by single-mode microwave irradiation. **S. Saito***, M. Sato, T. Furusawa, N. Suzuki
1295. Fabrication of Pd-Ni alloy nanorings using a molecular assembly soft-template of a long-chain amidoamine derivative. **A. Shoji**
1296. Fabrication and catalytic activity of Pd-Cu nanowires with network structure. **H. Ikeda**
1297. Enhanced neuronal growth by intracellular stimulation. **J. Na**, J. Kwon, M. Hong, I. KIM, H. Choi*
1298. Gigantic reduction of energy consumption of volatile molecule sensors by pulse-heating of SnO_2 nanowire device with microsecond thermal relaxation time. **G. Meng**, K. Nagashima, F. Zhuge, M. Kanai, Y. He, T. Takahashi, K. Uchida, T. Yanagida
1299. Aligned synthesis of the geometrically-controlled carbon microcoil. **G. Kang***, J. Lee, S. Kim
1300. Band gap engineering of III-V nanowires and nanobelts. X. Zhang*, L. Ma, H. Tan, P. Ren, **A. Pan**
1301. Double-helical Au nanowires synthesized using a hydrogel template composed of two organogelators. **M. Nakagawa***, T. Kawai
1302. Modulated transport properties in B-doped Si nanowires via rationally designed dopant inhomogeneity and its application in thermoelectrics. **F. Zhuge**, N. Fukata, K. Uchida, K. Nagashima, M. Kanai, G. Meng, Y. He, S. RAHONG, X. Li, T. Kawai, T. Yanagida
1303. Photonic sintering of copper nanowires for flexible transparent conducting electrodes. **K. Woo***, Z. Zhong, Y. Choi, S. Kwon, Y. Jang, I. Kim, J. Moon
1304. Preparation of metal nanostructures for ultrafast electrochromic response. **Y. Tanaka**
1305. Preparation and electrical properties of molybdenum blue bronze nanoribbons. **T. Nishida***, T. Okazaki, K. Eda, T. Yanagida
1306. Optical characteristics and electromagnetic simulations of metal nanostructures. **S. Akimoto**
1307. Unveiled experimental design rule for vapor-liquid-solid oxide nanowire growth. A. Klamchuen, **K. Nagashima***, M. Suzuki, H. Yoshida, M. Kanai, G. Meng, F. Zhuge, Y. He, S. Kai, S. Takeda, T. Kawai, T. Yanagida
1308. Nanowires alignment on micrometer scale hydrophilic patterns by blade-coating method. **Y. He**, K. Nagashima, M. Kanai, G. Meng, F. Zhuge, S. RAHONG, X. Li, T. Kawai, T. Yanagida

Hawaii Convention Center
321A

Metal-oxo Clusters: Molecular Design from Monomers to Infinity (#79)

Organized by: M. Nyman, Y. Li, T. Ozeki, C. Ritchie
Presiding: P.I. Molina

19:00 – 1309. Polyoxometalate paneling from $\{Mo_2O_2S_2\}$ coordination. **E. Cadot***, S. Floquet
19:20 – 1310. Chemistry inside the capsule: Ligand exchange for $\{W_{72}Mo_{60}\}$ keplerate. **V.S. Korenev***, M.K. Soboleva
19:40 – 1311. Electrical conduction of polyoxometalate-based solid: Non-covalent wiring of clusters to networks. **R. Tsunashima**
20:00 – 1312. Polyoxometalate complexes of anatase-TiO_2 cores in water. M. Raula, G. Gan Or, Y. Wang, **I. Weinstock***
20:20 – 1313. Visible-light-responsive photoredox catalysis of silicotungstates. **K. Suzuki**, J. Jeong, F. Tang, Y. Kikukawa, K. Yamaguchi, N. Mizuno
20:40 – 1314. Construction of polyoxometalate-based porous materials for heterogeneous catalysis. Y. Wang, H. Zang, H. Tan, **Y. Li***

Hawaii Convention Center
Halls I, II, III

Two-dimensional Nanosheets and Nanosheet-Based Materials: Synthesis, Characterization, Functionalization and Applications (#95)

Organized by: J. Kawamata, J. Choy, C. Detellier, H. Zhang, J. Huang, L. Wan
Presiding: J. Kawamata, Y. Suzuki

Poster Session
19:00 – 21:00

1315. Plasmon resonances in 2D MoS_2. **K. Kalantar-zadeh***, J.Z. Ou, Y. Wang, T. Daeneke
1316. Unraveling orientation distribution and merging behavior of monolayer MoS_2 domains on sapphire. **Q. Ji***, Y. Zhang*, z. Liu*
1317. Stability of water-based MoS_2 nanosheets dispersion. E. Mieda, M. Horikawa, S. Shimada, R. AZUMI, **A. Ando***
1318. Investigation of two-solvent grinding assisted liquid phase exfoliation of layered MoS_2. **E.P. Nguyen***, K. Kalantar-zadeh, T. Daeneke, B.J. Carey, S. Zhuiykov
1319. Two solvent grinding sonication method for the synthesis of 2D tungsten disulphideflakes. **B.J. Carey***
1320. Growth and optical properties of high-quality monolayer WS_2 on graphite. **Y. Kobayashi**, S. Sasaki, S. Mori, H. Hibino, Z. Liu, K. Watanabe, T. Taniguchi, K. Suenaga, Y. Maniwa, Y. Miyata*
1321. Molybdenum disulphide based nanocomposite material synthesis, characterisation, and sensing applications. **R. Clark**, T. Daeneke, K. Kalantar-zadeh*
1322. Synthesis of graphene flake and nitrogen-doped graphene-like nanofilm by pyrolysis of polyacrylonitrile. **H. Kwon***, S.O. Cho
1323. CVD growth of large single crystal graphene. **L. Lin**, H. Peng, z. Liu
1324. Raman spectroscopy of graphene grown on various metals. Y. Nakata, **J. Takahashi**, H. Kato, Y. Homma
1325. Origin of high efficient graphene heater induced by electromagnetic wave. **S. Kang***, H. Choi, S. Park, B. Hong*
1326. In plane step-edge growth of graphene in a STEM. **Z. Liu***, Y. Lin, P. Chiu, S. Iijima, K. Suenaga
1327. Remarkable improvement of the electrode performance of Mn_3O_4-graphene nanocomposites upon the incorporation of exfoliated inorganic nanosheets. **K. Adpakpang***, S. Hwang
1328. Preparation and characterizations of graphene–clay composite film. **T. Nakamura***, H. Nanjo, T. Ebina, R. Ishii
1329. Large-area single layer exfoliation of graphene oxide via Couette-Taylor flow reactor. W. Park*, **H. Kim***, S. Yoo, S. Kim, Y. Do, D. Yoon*, **W. Yang***
1330. Synthesis of metal nanoparticle/graphene nanocomposites using atmospheric-pressure-microplasma-assisted electrochemistry. H. Huang*, **J. Yang**, W. Chiang

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1331. Introduction of 1-aminopyrene to graphene oxide via covalent bonding. M. Morimoto, **Y. Matsuo***

1332. Revealing coordination chemistry of metallic molecules with N-doped graphene: Implications for oxygen reduction reaction reactivity of organometallic metal-O_4-N- species. **Y. Shim**, s. Lee, s. kim, J. Oh, S. Park

1333. Opportunities for sp^2 hybridized carbon nitride. P. Persson, J. Palisaitis, **A. Kakanakova-Georgieva**

1334. Water-dispersible, atomically thin carbon nitride-based nanodots and their performances as bioimaging probes. **J. Oh**, s. Park, **Y. Shim**, D. Kim, S. Park

1335. Development of the novel film actuator with carbon nitride polymers. **H. Arazoe**, D. Miyajima, T. Aida

1336. Controlled growth of planar boron nitride on tailored thin film substrates using pulsed laser deposition. **J. Terry**, D. Velazquez, R.L. Seibert

1337. Radioisotope Co-57 introduced layered double hydroxide as radioisotopic cell labeling nanoparticles. **T. Kim**, J. Lee, S. Paek, J. Park, J. OH*

1338. Size and surface charge dependent flocculation of layered double hydroxide nanomaterials with *Microcystis aeruginosa*. **T. Kim**, I. Hong, J. OH*

1339. Direct preparation and stacking of 2D MgAl-LDHs crystals. **D. Liang***, X. Yang

1340. Injectable 2D nanovehicle for chemotherapy. **G. Choi**, J. Choy*

1341. SERS active gold nanostructure by synchrotron radiation induced photochemical reaction. T. Matsumoto, I. Okada, I. Sakurai, Y. Utsumi, **A. Yamaguchi**

1342. Synthesis of metal nanoparticles within interlayer space of titania nanosheet film. **K. Sasaki**, S. Kawamura, K. Saito, M. Yagi, R. Sasai, T. Yui

1343. Magnetic properties of antidot films in function of size. **R. Lavín***, A. Ibarra, S. Vojkovic, J.C. Denardin

1344. Structural evolution of $Cu(OH)_2$ microcrystals formed on copper surface. **K. Matsui***, A. Mochida

1345. Anisotropic hydrogel with electrostatic repulsion between cofacially aligned nanosheets. **M. Liu***

1346. Homogenous incorporation of inorganic nanoparticle into hydrogel through in situ electrophoretic precipitation. **G. Gwak**, N. Kwon, W. Lee, S. Paek, S. Kim, J. OH*

1347. Crystal growth of a layered silicate on amorphous silica fibers. **K. Shimizu**, T. Okada

1348. Quasi planar hexacoordinate carbon in Be_2C monolayer: A global minimum structure. **Y. Li***

1349. Epitaxial growth of methyl-terminated germanene multilayers on silicon. **Y. Yasutake***, S. Fukatsu

1350. In situ crystallization of an Al-containing layered silicate on monodisperse spherical colloidal silica particles. **M. Sueyoshi**, T. Okada

1351. Toward in situ observation of the formation process of mesoporous films with surfactant molecules by using confocal laser scanning microscope. T. Kimura*, M. Shintate, **N. Miyamoto**

1352. Mechanochemical lithiation of layered polysilane. **M. Ohashi**, H. Nakano

1353. Content and functional regulation of nitrogen ligands within 2D covalent organic frameworks for controllable monometallic or bimetallic docking. **Y. Gao***, W. Leng, Y. Peng

1354. Adsorption-desorption behavior of In^{3+} on clay-poly(*N*-Isopropylacrylamide) nanocomposite. **Y. YASHIRO**

1355. Studies of lanthanide bearing on titanate nanosheets: Niobium addition effects on the bearing reaction and the fluorescence. **D. Yoshioka***, Y. Nishimura, K. Katsumata

1356. Synthesis of silver nanoparticle within interlayer space of layered semiconductor. **S. Kawamura**, K. Sasaki, F. Takagi, K. Saito, M. Yagi, W. Norimatsu, R. Sasai, T. Yui

1357. Preparation of Rh-doped titanate nanosheet/porphyrin hybrid thin solid film and its photochemical characterization. **W. Soontornchaiyakul***, R. Sasai, H. Usami

1358. Largely enhanced activity of Au/TiO_2 plasmonic photocatalyst and h-BN nanosheet mixture. **Y. Ide***, K. Nagao, K. Komaguchi, Y. Sugahara, Y. Bando, D. Golberg

1359. Fabrication and photocatalysis of organosilica–titanium oxide hybrid particles. **Y. Maki**, Y. Ide, T. Okada

1360. Remarkably enhanced photocatalytic activity of layered titanate by simple mixing with commercial TiO_2 particles. **K. Saito**, M. Kozeni, Y. Ide*, M. Ogawa, Y. Sugahara*

1361. Dielectric properties of molecularly-thin titania nanosheets. **D. Ogawa**, Y. Kim, K. Akatsuka, M. Osada*, T. Fukumura, T. Hasegawa*, T. Sasaki*

1362. Preparation of single structured ionic cyclotetrasiloxanes forming 2D layered aggregates. **Y. Kaneko***, S. Kinoshita, S. Watase, K. Matsukawa

1363. Functionalization of thin montmorillonite films with cyclodextrin/dye supramolecular complexes. **M. Matejdes***, A. Czímerová, M. Janek, J. Kawamata

1364. Nanosheets-based entities self-assembled from double calixarene and amines. **A. Hitoshi**, T. Nagatsuka, R. Jin

1365. Precise control of the stacking pitches of alternate layered nanostructure composed of various metal oxide nanosheets. **T. Ano***, F. Kishimoto, D. Mochizuki, M. Maitani, E. Suzuki, Y. Wada

1366. Controllability of photoinduced charge separation at alternate layered nanostructure synthesized with thiol-ene click reaction of two metal oxides nanosheets. **F. Kishimoto***, T. Ano, D. Mochizuki, M. Maitani, E. Suzuki, Y. Wada

1367. Tuning the electronic and optical properties of phosphorene via molecular doping: A first principle calculation. **Y. Jing***

1368. Organoclays in water cause interlayer expansion that facilitates caffeine adsorption. **T. Okada***

1369. Synthesis of a nanosheet comprising a 4-way porphyrin-dipyrrin hybrid ligand and zinc ions. **T. Yagi***, R. Sakamoto, H. Nishihara

1370. Investigation on mechanism of self-fluorescence quenching reaction on the clay surface. **N. Morita**, Y. Ohtani, T. Shimada, S. Takagi

1371. Environment responsive fluorescence quenching behavior of clay nanosheet - organic dye composite. **R. Honma**, T. Fujimura, T. Shimada, S. Takagi

1372. Development of chromic hybrid thin film composed of magnesium porphyrin and inorganic layered material. **T. Fujimura**, T. Shimada, R. Sasai, S. Takagi*

1373. Frexible and transparent free-standing metal nanosheets fabricated by UV irradiation onto Langmuir monolayers of nanoparticles. **T. Nishimura***, T. Kawai

1374. Optical, mechanical, and electronic properties of a 2D silver nanoparticles sheet. **P. Wang**, S. Araki, S. Ryuzaki, D. Tanaka, K. Okamoto, K. TAMADA

1375. Development of surface enhancing Raman scattering biosensing platform with graphene hybrid nanocomposite and DNA aptamers. **A. Mahmoud**, M. McDermott*

1376. Enhanced two-photon absorption behavior of acetylenic compounds obtained by the confinement in the interlayer space of inorganic nanosheets. **M. Tominaga**, H. Sugihara, S. Mochida, K. Satomi, Y. Suzuki, J. Kawamata*

1377. Clay minerals incorporating metal complexes for colorimetric solvent and humidity indicators. **H. Hosokawa**, T. Mochida*

1378. How reactive are supramolecular azobenzene moiety in nanolayered microenvironment?. **S. Hassan**, V. Ramakrishnan, H. Horiguchi, D. Yamamoto, Y. Nabetani*, H. Tachibana, H. Inoue*

1379. Formation of vortex-shaped orientation of niobate oxide nanosheet liquid crystals by irradiation of an optical vortex. **T. Sakurai**, R. Nakanishi, M. Tominaga, Y. Suzuki, J. Kawamata*, Y. Shimura, T. Iwai, Y. Nono, T. Nakato

1380. Orientation of niobate oxide nanosheet liquid crystals under circularly polarized laser beam. **R. Nakanishi**, M. Tominaga, Y. Suzuki, J. Kawamata*, Y. Shimura, T. Iwai, Y. Nono, T. Nakato

1381. Theoretical study of the thermoelectric property of phosphorene under the tensile strain. **S. Konabe***, T. Yamamoto

1382. Thermal behavior of adsorbed water and electrolyte solution in clay minerals. **Y. Ito**, A. Nagoe, T. Sugimoto, H. Fujimori, T. Takemura

1383. Multiphase coexistence of liquid crystalline phases in binary colloids containing inorganic nanosheets. **E. Mouri**, M. Nakashima, T. Nakato

Hawaii Convention Center
Halls I, II, III

Applications of Ultrasound to Nanoscience (#150)

Organized by: K. Suslick, F. Grieser, M. Atobe, J. Yu, S. Jeong

Poster Session
19:00 – 21:00

1384. Measurement of sound pressure under cavitation conditions. **Y. Asakura***, T.T. Nguyen, K. Yasuda, S. Koda

1385. Microbubble generation from gas supersaturated water by ultrasonic stimulation. **K. Terasaka***, I. Yamazaki, S. Fujioka

1386. Ultrasonic effect on nano- and microparticles, microbubbles, and fluid flow in microspace and its application to a microreactor. **Z. Ekaputri**

1387. Sonochemical synthesis of Au nanoparticle onto iron-based cathode materials for lithium ion battery. **Y. Ono***, H. Okawa, K. Sugawara

1388. Ultrasound-assisted growth of hydroxyapatite films on magnesium alloy AZ31. **C. Liu***, A. Keller, G. Grundmeier*

1389. Metal nanoparticles synthesis onto cathode materials for lithium ion battery using sonochemical method. **H. Okawa***, Y. Ono, M. Takai, K. Uematsu, K. Sugawara, M. Sato

Hawaii Convention Center
Halls I, II, III

Carbon Nanotubes: Preparation, Characterization and Applications (#227)

Organized by: S. Maruyama, R. Weisman, J. Liu, Y. Lee, J. Zhang
Presiding: S. Maruyama, R. Xiang

Poster Session
19:00 – 21:00

1390. Understanding surfactant structure at the surface of carbon nanotube via single molecule fluorescence spectroscopy. **R. Pramanik**, S.K. Doorn, J. Duque

1391. Influence of covalent dopants on the optical properties and exciton lifetimes in single-wall carbon nanotubes. **N.F. Hartmann***, X. Ma, E.H. Hároz, S. Yalcin, H. Htoon, S.K. Doorn

1392. Using supercritical carbon dioxide to create multiscale composites. **D.G. Baird***

1393. Dielectric/electric properties of composites filled with multiwalled carbon nanotubes. **J. Banys**, I. Kranauskaite*, J. Macutkevic, V.L. Kuznetsov, S. Moseenkov

1394. Efficient semiconducting single-walled carbon nanotube sorting with a removable solubilizer based on dynamic supramolecular chemistry. **N. Nakashima***, F. Toshimitsu

1395. Characteristics of polybutylene terephthalate composites containing polybutylene terephthalate grafted multiwalled carbon nanotubes fabricated by reactive extrusion. **E. Choi***, J. Kim, Y. Jo, c. Kim

1396. Atmospheric-pressure controllable synthesis of heteroatom-doped carbon nanotube and its applications for electrochemical energy storage and conversion. **W. Chiang***, M. Yeh, T. Li, L. Lin, Y. Leu, Y. Li, G. Chen, K. Ho

1397. Alteration of blend morphology via the addition of long nanotubes. **B. Grady***, S. Crossley, J. Guo, J. Zapata, N. Briggs

1398. In situ observation of intermediates in chemical vapor deposition synthesis of carbon nanotube. **S. Inoue***, Y. Ohga, Y. Matsumura

1399. Carbon nanotube electrodes for vanadium redox flow batteries. **K. Iseki**, G. Oriji, M. Ichikawa, K. Hanawa

1400. Preparation of Poly(*N*-isopropylacrylamide) terminated carbon nanotubes and their aggregation properties responding to infrared light and heating. **R. Ishizaki**, S. Tamesue, T. Mitsumata, N. Tsubokawa, T. Yamauchi*

1401. Organic and elemental molecules encapsulated in single-walled carbon nanotubes as Na and Li ion battery electrodes. **S. Kawasaki**, Y. Ishii, Y. Sakamoto

1402. Synthesis and characterization of Co nanoparticles on multiwall carbon nanotubes for catalytic applications. **M.A. Kazakova***, A.S. Andreev, A.V. Ishchenko, O.B. Lapina, V.L. Kuznetsov

1403. Artificial muscle response to temperature. **H. Kim**, R.H. Baughman*, S. Kim*

1404. Effect of chirality separation on SWCNT-TFTs using DNA-wrapped SWCNTs. **Y. Kuwahara***, F. Nihey, S. Ohmori, T. Saito

1405. Water adsorption phenomena on vertically-aligned single-walled carbon nanotubes. **J. Kuwabara**, S. Chiashi, G. Yamaguchi, H. Kato, Y. Homma

1406. Extraordinary mechanical flexibility of bimetallic AgPt nanoparticle-decorated carbon nanotubes on PET substrates. **K. Lin***

1407. Construction of unique logic circuits using carbon-nanotube-composite papers. **K. Matsui***, T. Oya

1408. Development of paint-type dye-sensitized solar cell using carbon nanotube paint and its evaluation. **Y. Matsunaga***, T. Oya

1409. Tight binding models of carbon nanotori and applications to quantum information processing. **M. McGuigan***

1410. Thermoelectric properties of single-walled carbon nanotubes filled in ionic liquid polymers. **M. Nakano***, Y. Nonoguchi, T. Nakashima, T. Kawai

1411. Organic thermoelectric hybrid of inorganic 1D nanomaterials and conducting polymer or polymer complex. **K. Oshima***, Y. Shiraishi, N. Toshima

1412. Yarn-based enzymatic biofuel cell for biomedical applications. **Y. Park**, R.H. Baughman*, S. Kim*

1413. Structure and properties of chalcogen encapsulated carbon nanotubes studied by molecular dynamics simulations. **Y. Sato***, Y. Kataoka, H. Ogata

1414. Fluid dynamic slicing of super tensile carbon nanotubes. **K. Vimalanathan***, J. Gascooke, H. Kumari, W. Lawrance, J.L. Atwood, C. Raston

1415. Single-walled carbon nanotubes as etching masks for ion sputtering. **W. Yim**, H. Jeong, S. Park, Y. Ahn, S. Lee, **J. Park***

*** Principle Author**

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1416. Local structures and properties of the alkali halide crystals encapsulated in single-walled carbon nanotubes studied by molecular dynamics simulations and solid-state NMR. **E. Yokokura**, Y. Kataoka, H. Ogata
1417. Toward roll-to-roll production of carbon nanotubes using microwave. **X. Zhang***, J. Cook

Hawaii Convention Center
Halls I, II, III

Self-organization of Membrane Systems (#259)

Organized by: D. Sasaki, K. Morigaki, I. Koeper
Presiding: D. Sasaki

Poster Session
19:00 – 21:00

1418. Solid-state NMR and microscopic studies of synthetic mimic of GPI-anchored proteins. **K. Nomura**, E. Harada, K. Sugase, K. Shimamoto, F. Hayashi, K. Morigaki
1419. Distribution and orientation of voltage-dependent K^+ channel KAT1 reconstructed to asolectin supported lipid bilayer observed with atomic force microscope. **Y. Suzuki***, A. Nozawa, Y. Tozawa, R. Tero
1420. Mimicry of membrane curvature sensing proteins by polymethacrylate random copolymers. **M. Tsukamoto***, J. Kikuchi, K. Kuroda, K. Yasuhara
1421. Reconstitution of Min system in artificial cells. **S. Kouyama**, K. Fujiwara, N. Doi
1422. Substrate-dependent asymmetric and anisotropic diffusion in supported lipid membrane. **T. Motegi***, K. Yamazaki, T. Ogino, R. Tero
1423. Fluidity evaluation of supported lipid bilayer prepared on graphene oxide based on single particle tracking. **Y. Okamoto**, T. Motegi, S. Iwasa, A. Sandhu, R. Tero*
1424. Selective partitioning to the liquid ordered phase: Fluorescent lipid probes. **D. Sasaki***, J. Stachowiak, G.D. Bachand
1425. Liposome-based liquid handling for biochemical reactions. **T. Okano**, H. Suzuki, T. Yomo*
1426. Membrane interactions of the PTEN tumor suppressor and the conundrum of dominant-negative mutations. **M. Lösche***, F. Heinrich, A. Gericke, R. Harishchandra, H. Nanda, A. Ross
1427. Significance of charged lipids in tuning the dynamic properties of biomembranes. **E.G. Kelley**, A.C. Woodka, K. Wood, P.D. Butler, M. Nagao
1428. L-proline catyzed Michael addition reaction conducted at liposome interface. **M. Hirose**, T. Ishigami, K. Suga, Y. Okamoto, H. Umakoshi*
1429. 2D structure of supported lipid bilayer reconstructed with human *ether-a-go-go*-related gene channel. **K. Fukumoto***, Y. Ishinari, A. Hirano-Iwata, M. Niwano, R. Tero
1430. Engineering nanoscopic features within solid-supported membrane. **J. Kurniawan**, **J. Ventrici**, G. Liu, T. Kuhl
1431. COOH modification of SiO_2/Si surface with water-soluble silane coupling agent. **Y. Niiyama***, N. Misawa, R. Tero*
1432. Preparation of lipid membrane supported by structured porous materials as a multicellular biomembrane model. **K. Ueno**, K. Matsumura*
1433. Nanometic gap structure for the selective transport and detection of biological molecules. **K. Ando***, M. Tanabe, K. Morigaki
1434. Evaluating the raftophilicity of rhodopsin in a patterned model membrane. **Y. Tanimoto**, F. Hayashi, K. Morigaki

Hawaii Convention Center
Halls I, II, III

Membranes and Nanotechnologies for Energy and Environment Applications (#317)

Organized by: H. Park, B. Freeman, B. McCloskey, J. McGrath, A. Hill, A. Higuchi, Y. Lee

Poster Session
19:00 – 21:00

1435. Preparation of functional membrane materials by assembly of polymer brush nanoparticles. **I. Zharov**
1436. Mixed matrix membranes based on poly(trimethyl silyl propyne) (PTMSP) and graphene-based nanoplatelets with reduced ageing and modified permselectivity. L. Olivieri, S. Ligi, **M. De Angelis**
1437. Highly ion conductive perfluorinated sulfonic acid ionomer reinforced membranes for energy generation and valued chemicals production. S. Kang, E. Jeon, I. Park, Y. Goo, J. Park, Y. Cho, J. Shim, J. Lee, D. Lee, **C. Lee***
1438. Fluidic active transducer for electricity generation. **Y. Yang**, J. Park, S. Chung, Y. Ahn, Y. Kim*
1439. Novel concept for the design of block copolymer membranes via a modular chemical ligation approach. **M. Langer**, C. Hörenz, C. Pietsch, A. Goldmann, F.H. Schacher, C. Barner-Kowollik*
1440. Simple spray coating method to prepare superhydrophobic teflon/Al_2O_3 membrane for desalination applications. **C. Huang***, H. Chiu, Y. Liao*
1441. Synthesis, characterization, and alkaline stabilities of graft-type anion conducting electrolyte membranes containing Poly(4-vinylimidazolium) grafts and application to alkaline fuel cells. **S. Watanabe***, K. Yoshimura, T. Hagiwara, Y. Maekawa
1442. Molecular dynamics simulation study of cation exchange membrane for electroadsorption-deionization method. **T. Son**, C. PARK, E. Tocci, S. Nam*
1443. Preparation and characterization of ultrafiltration hollow fiber membrane for drinking water. **S. Woo**, S. Nam
1444. Proton transport property in organized polyimide thin films. **Y. Ono**, S. Tsuyuki, M. Hara, S. Nagano, Y. Nagao*
1445. Colorimetric solvent indicator based on Nafion films incorporating metal complexes. **H. Hosokawa**, Y. Funasako, T. Mochida*
1446. Origin of CO_2-philicity in graphene oxide membranes. **H. Yoon***, H. Kim, J. Shin, B. Yoo, H. Park
1447. Visualization of concentration polarization of nanoparticles during crossflow membrane ultrafiltration using the laser-induced fluorescence (LIF) technique. **B. Meng***, P. Liu, X. Li
1448. Detection of TNT and RDX based on gold nanoparticles molecular imprinted matrix by surface plasmon resonance and surface-enhanced Raman spectroscopy. **G. Granger***, T. Brulé, N. Bukar, M. Vidal, J. Masson
1449. Electrospun nanofiber absorbents for uranium extraction from seawater. **J. Li**
1450. Characteristics of ultrafiltration membranes fabricated from amine terminated polyethersulfone and self-assembled zinc oxide nanoparticles on the membrane surface. **Y. Jo***, E. Choi, J. Kim, c. Kim
1451. Innovative sPEEK nanocomposites by nanoparticles with external protons. **S. Kim**, H. Rhee*, T. Yun, S. Choi
1452. Tuning gas transport properties of graphene-based membranes by inserting coronene and its derivatives. **B. Yoo***, S. Jang, J. Shin, H. Park
1453. Composite anion exchange membrane based on cellulose crosslinked polysulfone for application in urea based fuel cell. **G. Das**, D. Kim, K.H. Kim, H.W. Choi, H. Hee Yoon*
1454. Improvement of cyclohexene yield in cyclohexane dehydrogenation or benzene dehydrogenation by a pore-through catalytic reactor. **M. Hasegawa**, T. Sato, N. Itoh*
1455. Vacuum membrane desiccant cooling for personal heat stress management. **y. yang**, c. lan*
1456. Synthesis of hydrophilic zeolite membranes and their dehydration performance for alcohol – water mixture. **Y. Kikuchi**, T. Sato, N. Itoh*
1457. Gas separation properties of composite membrane based on PDMS graft copolyimide coated with nanosheet of PEO graft copolyamide. **K. Ando**, A. Abeta, Y. Okamura, Y. Nagase*
1458. Forward osmosis nanochannel membrane for seawater desalination. **S. Choi**
1459. Development of innovative reverse osmosis membranes for desalination. **H. Shimura***, K. Nakatsuji, T. Sasaki, M. Kimura
1460. Enhanced pervaporation dehydration of acetone by using polyimide membranes modified by novel vapor phase crosslinking and tripodal amine crosslinking. **D.W. Mangindaan***
1461. Hydrophilic-surface modified CNT-embedded thin-film polyamide membrane and its 8-inch spiral wound module performance. **H. Lee***, J. Seon, M. Kim, B. Michael, J. Kim, H. Park
1462. Improvement of separation property of PDMS graft polyimide membrane by nanosheet coating of polymers containing imidazolium group. **T. Oda**, K. Taira, M. Watanabe, S. Koguchi, Y. Okamura, Y. Nagase*
1463. High-flux graphene oxide thin-film composite membranes for CO_2 separation. **M. Yoo**, H. Park, J. Shin, S. Jang, H. Yoon
1464. Gas permeation properties of poly(sulfone-co-ethylene glycol) membranes containing bis(phenyl)fluorene groups. **D. Kim***, H. Lee, S. Nam
1465. Oil-water separation by a titanium dioxide filter with self-cleaning property. **S. Nishimoto**, M. Ota, Y. Kameshima, M. Miyake
1466. Pervaporation and vapor permeation performance of hollow-fiber carbon membranes for the dehydration of organic solvents. **M. Yoshimune***, N. Hara, K. Haraya
1467. Long-term stability of graphene oxide thin-film composite membranes: Effect of temperature and humidity. **J. Shin**, H. Yoon, J. Park, M. Yoo, B. Yoo, B. Freeman, H. Park
1468. Facile methodology for the production of in-situ inorganic nanowire hydrogels/aerogels and their environmental applications . **H. Jung***, S. Jung*, J. Kong
1469. Graphene oxide membranes for water purification and desalination applications. **Y. Cho**, J. Shin, S. Jang, B. Yoo, H. Park*

Hawaii Convention Center
Halls I, II, III

Ceramic Materials and Processing for Advanced Applications (#341)

Organized by: F. Rosei, A. Vomiero, Y. Tachibana, C. Raston, H. Zhang

Poster Session
19:00 – 21:00

1470. Simultaneous 3D printing of calcium phosphate and osteoblast-laden hydrogel for bone tissue regeneration. **H. Yun***, R. Naren
1471. Fabrication of strontium fluoroapatite ceramics by reactive-templated grain growth method using hexagonal-shaped tristrontium phosphate particles. **A. Ishida**, A. Suzumura, Y. Kishida, T. Tani, M. Aizawa*
1472. Synthesis of a nitrogen-containing carbon material with oxygen reduction activity from polymer precursors. **A. Idesaki***, M. Sugimoto, A. Shimada, S. Yamamoto, M. Taguchi, T. Yamaki
1473. Systematic color control of a, β-FeOOH nano pigments by adjusting size and shapes depending on pH synthetic conditions. **I. Kim***, R. Yu, J. Yun, Y. Kim*, E. Choi*
1474. Synthesis of chiral TiO_2 employing soft catalytic template containing polyethylenimine/tartrate. **K. Murakami**, H. Matsukizono, M. Saito, R. Jin
1475. Preparation of SnO_2 thin films with a non-equilibrium 2D l plasma at room temperature under atmospheric pressure. **Y. Masuda***, S. Kanezashi, M. Tan, M. Okuya
1476. TiO_2 thin films prepared with a non-equilibrium 2D plasma induced by a surface discharge technique at room temperature. **Y. Masuda***, M. Tan, S. Kanezashi, M. Okuya
1477. Synthesis of the porous Si from rice husk ash (SiO2) using magnesium reduction method in a fluidized bed. **W. Cho**, M. Seo, H. Ra, J. Lee, H. Lee
1478. Study of phase transitions between γ-Ti_3O_5 and δ-Ti_3O_5. **T. Nasu**, K. Tanaka, Y. Miyamoto, N. Ozaki, S. Tanaka, T. Nagata, F. Hakoe, M. Yoshikiyo, K. Nakagawa, Y. Umeta, K. Imoto, H. Tokoro, A. Namai, S. Ohkoshi
1479. Synthesis of disk-like cross-linked polyamines gels with crystalline domain and their activity in silica deposition. **D. Soma**, R. Jin
1480. Chromogenic mechanism of *Aka-e*, a red overglaze enamel decoration on porcelain body, created with lead-free glazes and hematite particles. **H. Inada***, H. Hashimoto, Y. Okazaki, Y. Arakawa, T. Takaishi, H. Taguchi, S. Hashida, T. Fujii, J. Takada
1481. Microwave absorption properties of the mechanically surface treated alumina powders and their hydration behavior. **T. Shirai***, M. Fuji
1482. Novel 3D printing process of calcium phosphate scaffolds for bone tissue regeneration. **H. Yun***, G. Tripathi
1483. Synthesis and characterization of cationic conductive aluminum tungstates. **A. Ueyama***, R. Shimanouchi
1484. Influence of alcohol addition to hydrothermal synthesis of NASICON-type mixed valent solid solutions, $Na_{1+x}Ti_{2-y}Fe_y(PO_4)_3$. **T. Kurosaka***, R. Shimanouchi
1485. New durable bulk material of $NaSn_2(PO_4)_3$ synthesized by low temperature calcination of hydrothermally prepared sols. **R. Shimanouchi***, A. Ueyama, T. Kurosaka
1486. Crystallization kinetics and phase transformation of lithium aluminosilicate glass in heating process. **N. MISHIMA***, T. MATSUMOTO, M. NAKAMURA
1487. Application of kaolinite ceramics granules to hemodialysis water. **K. SATO***, T. MURAKAMI, T. UJIHARA, K. OKAJIMA, T. IMOTO, A. MORI, M. MURAMATSU
1488. Fabrication of visible light responsive N-doped TiO_2 coating through anodic oxidation process. **K. Yokoi***, N. Ohtsu
1489. Crystal growth of Cu-substituted Mayenite single crystals by the FZ method using the mirror-tilted type furnace. **E. Maruyama***, M. Nagao, S. Watauchi, I. Tanaka
1490. Crystal structure and luminescence of $Lu_3Al_5O_{12}$ doped with Ce^{3+} and N^{3-}. W. Ahn, **Y. Kim***
1491. Photocatalytic property of $PbTiO_3$/TiO_2 heterostructured nanotube. **H. Kim**, C. Ahn, K. Hong

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Design of Innovative Photochromic Applications (#399)

Organized by: J. Abe, T. Kawai, Y. Yokoyama, N. Branda, F. Raymo, W. Zhu

Poster Session
19:00 – 21:00

1492. Comparative investigation of photochromism of spironaphtooxazine in nanoparticle colloid, bulk solid, and solution. Y. Ogura, Y. Ishibashi, **T. Asahi***
1493. Photo-induced fluorescence switching property of single diarylethene derivatives. **S. Ito**, T. Ikegami, Y. Arai, H. Miyasaka, K. Uno, Y. Takagi, M. Morimoto, M. Irie
1494. Cooperative fluorescence color changes of a dibenzoylmethane boron complex during the molecular assembling process. **F. Ito***, Y. Suzuki, J. Fujimori, T. Sagawa
1495. Multiphoton cycloreversion reaction of diarylethene nanoparticles. **Y. Ishibashi***, Y. Ogura, H. Miyasaka, T. Asahi
1496. Reversible photochemical reactions in a flexible crystalline nanospace. **H. Sato***, Y. Zheng, S. Kitagawa
1497. Synthesis of dithienylethenes and their application in sensing technology. **G. Vamvounis**, D. Gendron
1498. Photocontrol of 2D self-assembly of photochromic molecules at liquid/solid interface. S. Yokoyama, T. Hirose, **K. Matsuda***
1499. Visible light-driven photocatalyst with gold nanoparticle two-dimensional arrays as a high intense field light sourse. **K. Isozaki***, F. Pincella, K. Miki*
1500. Photoinduced mass transport observed for azobenzene-based photochromic amorphous molecular materials. **H. Nakano***, M. Suzuki, R. Ichikawa, R. Matsui, R. Ichikawa
1501. Structural dynamics in azobenzene liquid crystal polymer films studied by microscopic and time-resolved techniques. **K. Katayama**, S. Kuwahara, T. Ikeda
1502. Chiral molecular photoswitches containing a binaphthyl unit. **T. Ubukata***, M. Samata, R. Kato, Y. Takei, Y. Yokoyama
1503. Conversion of light into macroscopic motion in spiropyran containing LC polymer films. **T. Yamaguchi***, S. Iamsaard, N. Katsonis*
1504. Coordination-driven control of photoisomerization behavior of macrocyclic azobenzene. **M. Yamamura**, T. Nabeshima
1505. Mechanism of photo-induced nanosheet sliding on azobenzene/niobate hybrids. **Y. Nabetani***, H. Horiguchi, S. Matsukura, S. Hassan, V. Ramakrishnan, H. Tachibana, H. Inoue*
1506. Photochromism and photoinduced mass transport of naphthacenequinone compounds. **M. Moriyama***, S. Kai, T. Ueshima, N. Kawano, A. Takagaki, Y. Abe, H. Shin, T. Takeshima, K. Mukai, S. Nagano, T. Seki
1507. Two-photon-gated photochemical reaction in [2.2]paracyclophane-bridged bis(imidazole dimer). **K. Mutoh**, Y. Nakagawa, I. Yonekawa, A. Tsuchiya, A. Sakamoto, Y. Kobayashi, J. Abe*
1508. CB[8] gated photochromism of a diarylethene derivative containing thiazole orange groups. **Y. Mao**, K. Liu, T. Yi
1509. UV light irradiation wavelength dependence on the photoinduced bending behavior of photochromic diarylethene crystals. **D. Kitagawa**, S. Kobatake*
1510. Quinone based diarylethenes for near IR initiated photoisomerization. **D. Carter***, D.G. Patel, F. Novak, S. Myers
1511. Photochromic reactions of spirooxazines and spiropyrans having a hydroxyphenyl group. H. Tago, **T. Nakagawa***, Y. Yokoyama
1512. Synthesis and characterization of amphiphilic silica nanoparticles covered with block coplymers branching photochromic diarylethene moieties on side chain. **K. Shimizu**, R. Seno, S. Kobatake*
1513. Enantioselective photocyclization of diarylethenes incorporated in human serum albumin. **Y. Watanobe***, K. Osawa, K. Kawamura, T. Nakagawa, Y. Yokoyama
1514. Photochromic phenoxyl-imidazolyl radical complexes with decoloration rates from tens of nanoseconds to seconds. **H. Yamashita**, T. Ikezawa, Y. Lee, Y. Kobayashi, J. Abe
1515. Photoinduced formation/disappearance of 2D ordering of 2-thienyl-type diarylethene at the solid/liquid interface: A cooperative self-assembly process. **S. Yokoyama**, T. Hirose, K. Matsuda*
1516. Photoconversion of pentacenedicketone derivative in the crystalline phase: Shape change of single crystals during the photoconversion. **Y. Miyamoto***, M. Suzuki, N. Aratani, H. Yamada, S. Masuo
1517. Photoresponsive magnetic nanoparticle composed of spiropyran and FePt. **K. Tsuda***, T. Hosomi, E. Yuryeva, T. Yamamoto, Y. Einaga
1518. Photoionization of diarylethene included cyclodextrin using multicolor multilaser irradiation. **T. Takeshita**, M. Hara, Y. Kasaba
1519. Photoinduced topographical changes of surfaces of diarylethene derivatives with pyridinium salts. **K. Takase**, Y. Kojima, M. Morimoto, S. Yokojima, S. Nakamura, K. Uchida*
1520. Fluorescence photoswitching of diarylethene derivatives: A single-molecule study. **T. Ikegami***, S. Ito, H. Miyasaka, K. Uno, Y. Takagi, M. Morimoto, M. Irie
1521. Modulation of fluorescence character of diarylethene. **S. Takeuchi***, T. Nakagawa, Y. Yokoyama
1522. Photoswitching of intramolecular π-stacking. **Y. Hashimoto**, T. Nakashima, T. Kawai*
1523. Photochemical control of vesicle formation in an aqueous mixture of a photoswitchable cationic surfactant modified with cinnamic acid and an anionic surfactant. **K. Hattori**, M. Akamatsu, K. Tsuchiya, T. Endo, K. Torigoe, K. Sakai, M. Abe, H. Sakai*
1524. Synthesis and optical properties of novel phenoxyl: Imidazolyl radical complex derivatives. **Y. Mishima**, H. Yamashita, Y. Kobayashi, Y. Yoneda, T. Katayama, H. Miyasaka, J. Abe
1525. Synthesis and photochemical properties of pentaaryibiimidazole derivative substituting pyrenyl groups. **D. Ozeki**, H. Yamashita, Y. Kobayashi, J. Abe
1526. Photoformation of surface relief grating on photopolymerizable bisanthracene films. **T. Sonoda**, M. Nakayama, H. Kihara, T. Ubukata*
1527. Excitation wavelength dependence of photochromic reaction of diarylethene derivatives: Correlation between reaction quantum yields and femtosecond dynamics. **K. Une**, T. Katayama, H. Miyasaka, S. Kobatake, M. Irie
1528. Reversible photoinduced liner birefringence change of diarylethene single crystals. **H. Tsujioka**, S. Kobatake*
1529. Photochromic and fluorescent properties in push-pull terarylenes systems. **R. Kanazawa**, T. Nakashima, M. Sliwa, S. Delbaere, T. Kawai*
1530. Synthesis and photochromic properties of diarylethenes having a benzophosphole group. **T. Ichikawa**, M. Morimoto, M. Irie
1531. Single-molecule tracking of photoswitchable fluorescent diarylethene derivatives in polymer thin films. **Y. Arai***, S. Takei, S. Ito, H. Miyasaka, K. Uno, Y. Takagi, M. Morimoto, M. Irie
1532. Optical properties of an azobenzene–bridged imidazole dimer. **H. Arai**, K. Mutoh, Y. Kobayashi, J. Abe*
1533. Development of a photochromic phenoxyl-imidazolyl radical complexes having thiophene backbone. **T. Ikezawa**, K. Mutoh, H. Yamashita, Y. Kobayashi, J. Abe
1534. Photochromic properties of biphenyl-bridged imidazole dimers by changing distances between two cross-linking points. **Y. Fujita**, H. Yamashita, Y. Kobayashi, J. Abe
1535. Revealing the initial process of the photochromic reaction of biphenyl-bridged imidazole dimer. **T. Yamaguchi**, M.F. Hilbers, P.P. Reinders, Y. Kobayashi, A.M. Brouwer, J. Abe*

Hawaii Convention Center
Halls I, II, III

Advances in Organic Light-Emitting Diodes (#409)

Organized by: J. Bredas, C. Adachi, K. Wong, V. Yam, P. Burn, J. Kim

Poster Session
19:00 – 21:00

1536. Molecular diffusion during formation of interfaces containing small molecules from solution process for organic light-emitting devices. **S. Ohisa***, Y. Pu, N. Yamada, G. Matsuba, J. Kldo
1537. Development of solution-processable dendritic thermally activated delayed-fluorescence materials. **K. Albrecht**, K. Matsuoka, K. Fujita, K. Yamamoto*
1538. Hydrocarbon macrocycles for organic-light emitting devices. **S. Sato***, J.Y. Xue, T. Izumi, A. Yoshii, K. Ikemoto, T. Koretsune, R. Akashi, R. Arita, H. Taka, H. Kita, H. Isobe
1539. Triplet recombination dynamics: Role of interfacial order and state delocalization. **E.R. Bittner**
1540. Direct investigation of the excited-state dynamics of thermally-activated delayed fluorescence molecules: Pump-probe transient absorption spectroscopy. **T. Hosokai***, H. Matsuzaki, A. Furube, K. Tokumaru, T. Tsutsui, H. Nakanotani, M. Yahiro, C. Adachi
1541. Photoluminescence of liquid-crystalline gold complexes with a biphenyl mesogenic core. **Y. Rokusha**, S. Yamada, O. Tsutsumi*
1542. Electron conducting properties of luminescent gold complexes. **H. Nakasato**, S. Shimai, S. Yamada, O. Tsutsumi*
1543. Synthesis and characterization of the new emitters for OLED applications. **R. Lygaitis***, O. Zeika, R. Scholz, P. Kleine, F. Wüst, M. Oberländer, S. Hofmann, J.V. Grazulevicius, S. Reineke
1544. Radiative transition of conjugated organic molecular aggregates: A theoretical investigation with all normal vibrational modes. **W. Li**, L. Zhu, Q. Peng, Z. Shuai
1545. Orientation of phosphorescent emitting dipoles for highly efficient organic light-emitting diodes. **K. Kim**, C. Moon, J. Kim*
1546. Structurally robust phosphorescent [Pt(O^N^C^N)] emitters for high performance organic light-emitting devices with power efficiency up to 126 lmW^{-1} and external quantum efficiency over 20%. **A. Wai Hung**
1547. Structurally robust phosphorescent [Pt(O^N^C^N)] emitters for high performance organic light-emitting devices with power efficiency up to 126 lmW^{-1} and external quantum efficiency over 20%. **M. Ko**
1548. Theoretical study on radiationless decay rate of molecular aggregates based on split-operator method. **L. Zhu**, Q. Peng, W. Li, Z. Shuai*
1549. Solution processed small molecule doped white light emitting diode based on a new polyfluorene copolymer. **P.K. Iyer**, D. Das*, P. Gopikrishna, A. Dey, A. Singh, R. Narasimhan
1550. Efficient red electroluminescent devices with sterically hindered phosphorescent platinum(II) Schiff-base complexes and with iridium complex co-dopant. **C. Kwong**, L. Zhou, C. Kwok, G. Cheng, H. Zhang, C. Che*
1551. Hybrid OLEDs with CdS_xSe_{1-x}/ZnS core-shell type quantum dot layers: An investigation of electroluminescence properties. **B.L. Vasiliauskiene***, M. Vitkus, G. Juska, K. Genevicius
1552. Introducing a thermally activated delayed fluorescence emitter for a highly efficient blue fluorescent organic light emitting diode. **J. Sun**, Y. Kim, J. Kim*
1553. Photophysical studies of the thermally activated delayed fluorescence from efficient organic light-emitting diodes. **D. Kim**, H. Shin, T. Ahn*
1554. DNA-guided organic light-emitting materials enabling biospecificity. J. Park, S. Paik, C. Cui, **D. Ahn***, J. Cho
1555. Spiro-based ecofriendly green semiconductors for OLEDs. **L. XIE***, Y. Wei, X. Zhang, W. Huang*
1556. Temperature distribution measurements of large-area organic light-emitting diodes by Raman spectroscopy. **T. Yokoyama***, Y. Furukawa, K. Katagi, H. Ohata, S. Miyaguchi, T. Tsutsui
1557. Raman study of hole accumulation at NPD/Alq_3 interfaces of fresh and aged organic light-emitting diodes. **Y. Karatsu***, Y. Furukawa, T. Miyamae, H. Okumoto, T. Tsutsui
1558. Suppression of nonradiative decay from triplet excited state by weak intermolecular interactions. **R. Kabe**, N. Notsuka, C. Adachi*
1559. Study of intramolecular relaxation processes of thermally activated delayed fluorescence materials for suppressing external quantum efficiency roll-off in organic light-emitting diodes. **M. Inoue***, T. Serevičius, H. Nakanotani, K. Yoshida, T. Matsushima, C. Adachi
1560. Exciton quenching analysis of thermally activated delayed fluorescence molecules by time-resolved photoluminance measurement. **A.S. Sandanayaka***, K. Yoshida, T. Matsushima, C. Adachi
1561. Improvement of electrical properties of organic films by cold isostatic pressing. **Y. Esaki***, T. Matsushima, C. Adachi
1562. Organic light-emitting diodes combining emission from both monomeric and exciplex excitons based on aggregation-induced derivatives of carbazole and tetra(tri)phenylethylene. **A. Tomkeviciene***, J. Sutaite, D. Volyniuk, J.V. Grazulevicius
1563. Inverted organic light-emitting diodes utilizing zinc oxide based transparent conductive films. **M. Takada***, T. Kobayashi, T. Nagase, H. Naito*
1564. Long-lived phosphorescence based organic light emitting diodes. **N. Notsuka**, R. Kabe, C. Adachi*
1565. Synthesis and optical properties of fluorene derivatives bearing *S*,*S*-dioxidized thiophene. **T. Nakahama**, S. Kobatake*
1566. Dual enhancement of electroluminescence efficiency and operational stability by rapid utilization of triplet excitons for light emission. **T. Furukawa**, H. Nakanotani, C. Adachi
1567. Conservation laws, radiative decay rates, and excited state localization in organometallic complexes with strong spin-orbit coupling. **B. Powell***

*** Principle Author**

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1568. High efficiency blue organic light emitting diodes using thermally activated delayed fluorescence. **h. noda**, R. Kabe, C. Adachi
1569. Nano-structured organic light emitting diode for suppression of roll-off characteristics toward electrically-pumped organic semiconductor laser diodes. **H. Kuwae***, A. Nitta, T. Kasahara, K. Yoshida, S. Shoji, C. Adachi, J. Mizuno
1570. Enhancement of light out-coupling efficiency for organic light-emitting diodes. **S. Kubo**, K. Suzuki, T. Fukushima, H. Kaji*
1571. Electron coupling and disorder in organic semiconductors. **S.R. Kimura**, D. Yoshidome, J.L. Gavartin, A. Goldberg, M.D. Halls, D. Giesen
1572. Highly efficient solution-processed organic light-emitting diodes using thermally activated delayed fluorescence. **Y. Wada**, K. Shizu, K. Suzuki, S. Kubo, H. Tanaka, C. Adachi, H. Kaji*
1573. Novel bis(thiophenyl)benzothiadiazole derivatives as highly efficient solution-processed non-doped red light-emitting materials for OLEDs. **V. Promarak***
1574. Operational lifetime enhancement in TADF OLEDs. **P.D. Tsang**, C. Adachi
1575. Improved efficiency roll-off and lifetime for hybrid white organic light-emitting diodes using triplet harvesting system. S. Lee*, H. Lee, J. Lee, S. Yoon, **Y. Kim**
1576. Syntheses and physical properties of carbazole-phthalonitrile-hybridized light-emitting materials. **A. Orita***, K. Shinohara, Y. Suzuma, T. Nishida, J. Otera
1577. Study on stable emission of ruthenium complex for light-emitting electrochemical transistor. **M. Nakano***, A. Aoki
1578. Preparation and evaluation of Iridium complex for light-emitting electrochemical cell. **T. Kubo***, A. Aoki
1579. Organic light-emitting diodes exploiting thermally activated delayed fluorescence: Development of a new emitter material and the analysis. **H. Kaji***, H. Suzuki, T. Fukushima, K. Shizu, K. Suzuki, S. Kubo, T. Komino, H. Oiwa, F. Suzuki, A. Wakamiya, Y. Murata, C. Adachi
1580. Conjugation-extended fluorene derivatives for OLEDs. H.P. Rathnayake, A. Cirpan, F.E. Karasz, **P.M. Lahti**
1581. Solution-processable small molecule-based emitting layers for multicolor OLEDs. S. Olivier, L. Derue, B. Geffroy, T. Maindron, **E. Ishow***
1582. Theoretical understanding of thermally activated decay fluorescence property in tetrakis(carbazol-9-yl)benzene derivatives. **Q. Peng**, Z. Shuai, Y. Yi
1583. Solution-processed multi photon emission type organic light-emitting devices. **T. Chiba***, Y. Pu, T. Hikichi, S. Ohisa, J. KIdo
1584. Improving spectrum purity and brightness of OLEDs based on an open shell radial TTM-1Cz. **A. Obolda***, F. Li
1585. Correlation of charge mobility with energetic disorder of host molecules in *p*-doped organic semiconductors. **S. Yoo**, J. Lee, J. Kim, J. Kim*
1586. Synthesis, characterization, and fabrication of a new series of conjugated light emitting polymers with high color purity and brightness. **P.K. Iyer**, P. Gopikrishna, D. Das
1587. Novel blue naphthalimide derivatives capable of harvesting triplet excitons via triplet fusion, and their applications for efficient white organic light-emitting diodes. N. Wang, **Z. Lu**, Y. Huang, F. Li

Hawaii Convention Center
317B

The Frontiers of Geometrically Frustrated Magnetic Materials (#430)

Organized by: C. Wiebe, C. Ling, J. Gardner, H. Zhou

19:00 – 1588. SIKA: A new cold triple axis neutron spectrometer ideal for studies at the frontiers of geometrically frustrated magnetism. **J.S. Gardner***
19:40 – 1589. Multiple-q phases in a stacked triangular antiferromagnetic Heisenberg model with competing interactions under magnetic field. **S. Tanaka***, R. Tamura, K. Tanimoto, K. Totsuka
19:55 – 1590. Quantum fluctuations in frustrated organic complexes κ-$(ET)_2X$. **Y. Shimizu***, A. Ono, M. Itoh, M. Yoshida, M. Takigawa, M. Maesato, A. Otsuka, H. Yamochi, T. Hiramatsu, Y. Yoshida, G. Saito
20:10 – 1591. Designing mutiferroics with frustrated molecules. **C.D. Batista***
20:25 – 1592. Quantum water ice. O. Benton, O. Sikora, **N. Shannon**
20:40 – 1593. Population of frustrations in the 2D XY model of a finite size square spin ice. **K. Nefedev**

Hawaii Convention Center
319B

Self-assembled Biofunctional Nanomaterials (#433)

Organized by: R. Nagarajan, K. Sakurai, H. Chen

19:00 – 1594. Soft nanotubes for encapsulation, release, and stabilization of proteins. **N. Kameta***, M. Masuda, T. Shimizu
19:20 – 1595. Impact of packing parameter of synthetic amphiphiles in the design of drug and gene delivery systems. **M.A. Ilies**
19:40 – 1596. Tadpole-shaped polymeric micelle with distinct phase segregation formed from pDNA, block copolymers, and chondroitin sulfate. **K. Osada***, Q. Chen, K.M. Takeda, K. Kataoka
20:00 – 1597. Evaluation of dendritic polymers as transfection agents. **J.A. Kretzmann***, C.W. Evans, D. Ho, B. Garcia-Bloj, P. Blancafort, M. Norret, K. Iyer
20:20 – 1598. Intracellular delivery of fluorescent nanoparticles self-assembled from a cytidylic acid-appended fluorescein dye. **R. Iwaura***, K. Yoshida, M. Ohnishi-Kameyama
20:40 – 1599. Preparation of phenylboronic acid-containing framboidal nanoparticles and their potential application in antioxidant delivery. **M. Morisaki***, A.J. van der Vlies, U. Hiroshi, U. Hasegawa

Friday Morning

Hawaii Convention Center
313C

Organic, Inorganic and Hybrid Nanoparticles: Synthesis, Characterization, and Applications (#23)

Organized by: L. Bronstein, F. Winnik, K. Akiyoshi
Presiding: H. Mattoussi, G. Sereda

8:00 – 1600. Synergistic DNA delivery with gold-synthetic amphiphile hybrid nanosystems. **M.A. Ilies**
8:15 – 1601. Impact of nanoparticles on the spreading of cell aggregates. **G. Beaune**, F. Brochard-Wyart, F. Winnik*
8:30 – 1602. Silica-containing redox nanoparticles as nanokidney. **Y. Nagasaki***
8:55 – 1603. Self-assembled supramolecular nanosystems for smart targeted therapy of cancer. **K. Kataoka***
9:20 – 1604. Unique properties of double-stranded DNA-functionalized nanoparticles. **M. Maeda***
9:45 Intermission
10:00 – 1605. Multi-coordinating Amphiphilic polymers as a platform for functionalizing metal, metal oxide and semiconductor nanocrystals. W. Wang, **H. Mattoussi***
10:25 – 1606. Biomolecules on gold nanocrystals: Form and function. **C. Murphy***
10:50 – 1607. Designed chemical synthesis and assembly of uniform-sized nanoparticles for medical applications. **T. Hyeon**
11:15 – 1608. Design of functional nanomaterials by the controlled covalent, coordination, and electrostatic cross-linking. **G. Sereda***, K. Rashwan, J. Keppen, E. Brakke, A. Fritza, S. Schwabbe, G. Bertsch, D. Christianson
11:30 – 1609. Silica-enzyme nanohybrids for biocatalysis. E. Jackson, M. Ferrari, D. Cazaban, S. Correa, **L. Betancor***
11:45 – 1610. Stimuli-responsive magnetic nanomicelles as multifunctional heat and cargo delivery vehicles. **E. Rozhkova***, V. Rose, V. Novosad

Hawaii Convention Center
316A

Chemistry and Applications of Graphene (#39)

Organized by: Y. Chen, R. Haddon, K. Loh
Presiding: W. de Heer, J. Huang, D. Li, A.T. Wee

8:00 – 1611. Ballistic nanostructures for epitaxial graphene nanoelectronics. **W. de Heer***
8:20 – 1612. STM/STS studies of graphene nanoribbons and MoS_2 monolayers. **A.T. Wee***, Y. Huang, H. Huang, L. Li
8:40 – 1613. Some new insights about graphene oxide: To burn or not to burn, to dissolve or not to dissolve. **J. Huang***
9:00 – 1614. Graphene as a protective layer for silicon in an aqueous PEC cell. **A.C. Nielander**, N.S. Lewis
9:15 – 1615. Micellar electrokinetic chromatography of graphenes. **T. Takayanagi***, M. Morimoto, Y. Tomiyama, T. Yabutani
9:30 – 1616. Modified graphene oxide for electro-optical switching devices. **M. Kim***, J. Park, G. Scalia, Y. Kim
9:45 Break
10:00 – 1617. Electricity generated by moving water on graphene. **W. Guo**
10:20 – 1618. Multilayered graphene hydrogel membranes. **D. Li**
10:40 – 1619. Local recovery of the electrical conductivity of graphene oxide by vacuum-ultraviolet photoreduction. **Y. Tu***, T. Utsunomiya, T. Ichii, H. Sugimura
10:55 – 1620. Electrical characterization of graphene films synthesized by plasma treatment under a low carbon concentration. **Y. Okigawa**, R. Kato, M. Ishihara, T. Yamada, M. Hasegawa
11:10 – 1621. Influence of the iron oxide nanoparticles on the electronic properties of graphite and few-layers graphene. **M. Quintana***, A. Champi, A. Bazan
11:25 – 1622. Stimuli responsive graphene dispersions and materials. **J. Texter***

Hawaii Convention Center
321A

Nanowires: Synthesis, Fundamental Properties and Novel Device Applications (#51)

Organized by: T. Yanagida, S. Hara, S. Jin, P. Yang, R. Agarwal, L. Lauhon, H. Zheng
Presiding: R. Agarwal, N. Fukata, T. Yanagida

8:00 – 1623. 3D printed bionic nanomaterials. **M. McAlpine**
8:30 – 1624. Nanowire devices for manipulation and analysis of DNA, RNA, proteins, and exsomes. **Y. Baba**
9:00 – 1625. Germanium nanowires-in-graphite tubes via self-catalyzed synergetic confined growth and the Li-storage performance. **C. Wang***, S. Yong*
9:30 Break
9:50 – 1626. Connectivity, memory, and neuromorphic function in nonbiological networks. **J.J. Boland***
10:20 – 1627. Synthesis, characterization, and device fabrication of metal chalcogenides nanostructures for solar and waste-heat energy conversions. **L. Whittaker-Brooks**, A. Rahman
10:30 – 1628. Making graphene nanoribbons: A theoretical exploration. **J. Wang***, L. Ma, F. Ding
10:40 – 1629. Strong diameter dependence of Seebeck coefficient in thin-films of solution-synthesized PbSe and PbTe nanowires. **N. Mishra**, M. Jaime, O. Roslyak, A. Piryatinski, J. Hollingsworth
10:50 – 1630. Perovskite solar cells based on 3D dendritic anatase titania nanowire thin films. **W. Wu**, F. Huang, D. Chen, Y. Cheng, R.A. Caruso*
11:00 – 1631. First-principles simulation on sensing properties of silicon carbide and zinc oxide nanowires. **K. Nakamura***
11:10 – 1632. Thermal and electrical transport in template fabricated poly(3-hexylthiophene)-multiwalled carbon nanotube composite fibers. **M. Smith***, V. Singh, K. Kalaitzidou, B.A. Cola
11:20 – 1633. Columnar liquid crystals in nanochannels of circular and other cross-sections. R. Zhang, X. Zeng, Y. Liu, **G. Ungar**

Hawaii Convention Center
Halls I, II, III

Metal-oxo Clusters: Molecular Design from Monomers to Infinity (#79)

Organized by: M. Nyman, Y. Li, T. Ozeki, C. Ritchie

Poster Session
10:00 – 12:00

1634. pH dependence of molecular structures of Dawson-type tri-aluminum-substituted polyoxotungstates. **M. Aikawa**, T. Kashiwagi, C.N. Kato*
1635. Hydration of diphenylacetylene catalyzed by phosphanegold(I) cationic species stabilized with polyoxoanion. **H. ARAI***, T. YOSHIDA, K. Nomiya
1636. Enhanced sensitivity of colour/emission switching of fluorescein film by incorporation of polyoxometalate. **L. Bi**
1637. Mode of action of decavanadate in biology. **D.C. Crans***, M. Aureliano
1638. Elucidation of the fast self-assembly of the uranyl peroxide cluster U_{32}. **C. Falaise**, H. Neal, M. Nyman
1639. Lindqvist polyoxoniobates as aqueous precursors for lithium niobate thin films. **D. Fast**, Y. Hou, L.B. Fullmer, S.R. Decker, M. Nyman, M. Dolgos
1640. Polyoxometalates to metal oxide thin film: the effect of protonation. **L.B. Fullmer**, R.H. Mansergh, L.N. Zakharov, D.A. Keszler, M. Nyman
1641. Rare earth(III) salts diphosphato- and di(phenylphosphonato)tetraperoxido-hexatungstates. D. Shima*, **M. Hashimoto**
1642. Assembly of photoactive organic-polyoxometalate complexes. **M.R. Healey**, K.M. Davies, C. Ritchie*
1643. Keggin-type platinum(II)-coordinated polyoxotungstates: Syntheses, molecular structures, and photocatalytic performance for hydrogen evolution from water under visible light irradiation. **Y. Ihara**, S. Hattori, K. Aono, R. Yamashita, C.N. Kato*
1644. Molecular chirality and racemization behavior of sandwich-type polyoxometallolanthanoates. **J. Iijima***, H. Naruke
1645. Reversible structural conversion of chloride-incorporated dodecavanadates for release control of the chloride. **Y. Inoue**, Y. Kikukawa, Y. Hayashi*

*** Principle Author**

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1646. Open-Dawson polyoxometalates containing tetraaluminum, tetragallium, and decaindium hydroxide clusters. **Y. Inoue**, S. Matsunaga, O. Takuya, K. Nomiya
1647. Visible-light-responsive multielectron redox catalysis utilizing electron transfer from coordinated alcohols to lacunary polyoxometalates. **J. Jeong**, K. Suzuki, K. Yamaguchi, N. Mizuno*
1648. Evaluation of a structural ion fluctuation in Preyssler-type polyoxometalate salt. **C. Kato**, S. Nishihara, K. Maryunina, R. Tsunashima, Y. Tatewaki, K. Inoue
1649. Syntheses, molecular structures, and acid catalysis of organozirconium complexes with Keggin-type mono-aluminum-substituted polyoxotungstates. **S. Kato**, T. Ogasawara, C.N. Kato*
1650. Mesoporous ionic crystals constructed with cationic metal complexes ($M = Cr^{3+}$, Fe^{3+}) and anionic polyoxometalates: Importance of water clusters as templates. **R. Kawahara**, K. Niinomi, S. Uchida*
1651. Control of composition and structure in decavanadate-alkylamine hybrid layered crystals. **Y. Kiyota**, T. Kojima, H. Naruke, M. Kawano, T. Ito
1652. Syntheses of inorganic-organic hybrid crystals composed of octamolybdates and heterocyclic surfactants. **J. Kobayashi**, E. Ishikawa, H. Naruke, S. Koguchi, T. Ito
1653. Cobalt-polyoxometalates as oxidation co-catalysts in photocatalytic H_2 evolution. **F. Li***, M. Liu, L. Xu
1654. New organic-inorganic hybrid based on dimeric $[Mn_2V_{22}O_{64}]^{10-}$ polyoxoanion. **Y. Lu***, D. Liu, E. Wang
1655. Driving polyoxometalates to dense thin films: TMA^+ vs. H^+. **R.H. Mansergh**, L.B. Fullmer, D. PARK, M. Nyman, D.A. Keszler
1656. Construction of manganese and cobalt cores stabilized in polyoxovanadate ligands. **T. Maruyama**, Y. Kikukawa, Y. Hayashi*
1657. Open-Dawson polyoxometalate containing mixed-valence trimanganese cluster. **S. Matsunaga**, Y. Inoue, K. Nomiya*
1658. Inorganic anionic cage $[\alpha\text{-}Si_2W_{18}O_{62}]^{8-}$ with reversible proton capturing inside the aperture via intramolecular hydrogen bonds. **T. Minato**, K. Suzuki, K. Kamata, N. Mizuno*
1659. Synthesis of heterogeneous catalyst composed of aluminum hydroxide cluster polycation and $[SiV_3W_9O_{40}]^{7-}$. **K. Mizuno**, S. Uchida*
1660. Controled assembly of polyniobate chains in solution monitored by SAXS. **P.I. Molina**, J. Son, W.H. Casey, M. Nyman*
1661. Synthesis of heterogeneous catalysts composed of aluminum hydroxide cluster and $[CoW_{12}O_{40}]^{6-}$. **T. Mura**, S. Uchida*
1662. MO_4^{2-} (M = Mo, W) encapsulating silver(I) ethynide clusters formed by template exchange reactions abstracting MO_4^{2-} groups from the Keggin-type polyoxometalates. **K. Ohashi**, T. Kojima, T. Ozeki*
1663. Novel phosphonium and ammonium hexatungstate compounds for the precursor of inorganic photoresists: Synthesis and radiation chemistry. **S. Saha***, J.M. Amador, S.R. Decker, L.N. Zakharov, D.A. Keszler*
1664. Construction of chiral polyoxometalate/nanoparticle composites toward chirality transfer and enhancement. **L. Shi**, L. Wu*
1665. Synthesis and structure of di- and triphosphato complexes of peroxidovanadate. **S. Sorihashi***, M. Hashimoto
1666. Modification of zirconium-substituted polyoxometalates for peroxidase-like catalysis. **Y. Wang***, H. Tan
1667. Liquid-cystalline materials with an inorganic core in mesogen. **R. Watanabe**, T. Tsumori, S. Yamada, O. Tsutsumi*
1668. Thermodynamic stability of aqueous metal clusters: A dynamic approach. **L. Wills**, T. Mustard, I. Chang, P.H. Cheong
1669. Synthesis of novel photochromic polyoxometalate compounds. **J. Xu**, M.R. Healey, C. Ritchie
1670. Base catalysis of niobate clusters. **S. Yamazoe**, S. Hayashi, K. Koyasu, T. Tsukuda*
1671. Assembly of coordination-adjustable units to form inorganic-organic hybridized molecular-scale proton conductors. **H. Zang***
1672. Synthesis and characterization of Sb-bicapped heteropolyoxoniobate microtube. **Z. Zhang***, **J. Peng***, **W. Zhou***
1673. Paddle-like titanium–oxo–clusters with salicylic and phthalic ligands. **Q. Zhu***, **J. Dai***, J. Hou

Hawaii Convention Center
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Two-dimensional Nanosheets and Nanosheet-Based Materials: Synthesis, Characterization, Functionalization and Applications (#95)

Organized by: J. Kawamata, J. Choy, C. Detellier, H. Zhang, J. Huang, L. Wan
Presiding: C. Detellier, H. Usami

8:00 – 1674. From 2D nanosheet to 3D multifunctional nanohybrids. **S. Hwang**
8:30 – 1675. Macroscopic hierarchical structures of liquid crystalline inorganic nanosheets. **T. Nakato***, Y. Nono, E. Mouri
8:50 – 1676. Cellulose nanomaterials by unconventional ball milling. m. Zhao, **S. Kuga**, M. Wu*, Y. Huang
9:10 – 1677. Chromium halide nanosheets – 2D insulating ferromagnets for spintronic application. **D. Weber**, L.M. Schoop, A. Kuhn, B.V. Lotsch*
9:30 – 1678. Bandgap-tunable lateral and vertical heterostructures based on monolayer $Mo_{1-x}W_xS_2$ alloys. Y. Kobayashi, S. Mori, Y. Maniwa, **Y. Miyata***
9:50 Break
10:00 – 1679. Host-guest chemistry of nanospace materials. **M. Ogawa**
10:30 – 1680. Solvation induced excimer formation in clay-fluorescent dye hybrid systems. **Y. Suzuki***, M. Tominaga, Y. Oniki, J. Kawamata
10:50 – 1681. Excitonic and photoluminescent properties of laterally confined 2D tranastion-metal dichalcognides. **B.J. Carey**
11:10 – 1682. Anisotropic photothermal response of the poly(*N*-isopropylacrylamide) gel hybridized with liquid crystalline clay nanosheets aligned by electric field. **N. Miyamoto***, T. Inadomi
11:30 – 1683. Particle size and surface charge effect of layered double hydroxide nanoparticles in their surface interaction with biological substances. **J. OH***, H. Kim, I. Hong, T. Kim
11:55 Closing Remark

Hawaii Convention Center
Halls I, II, III

Luminescent Nanomaterials: Properties, Mechanisms, and Applications (#101)

Organized by: F. Vetrone, S. Kohei, D. Ma, W. Huang, L. Huang, X. Peng

Poster Session
10:00 – 12:00

1684. Unconventional white-light emission of CdSe core quantum dots synthesized at room temperature. **N. NAGASHIMA**, K. KONDOH, T. UWADA, **M. Ishikawa***
1685. Fabrication and characterization of a silver mirror planar microcavity with organic dye J-aggregates. **H. Mizuno***, N. Tanijiri, Y. Kawanishi, A. Ishizumi, H. Yanagi, I. Hiromitsu
1686. Monochromatic and white light LEDs from carbon nanoparticles. **W. Yu***
1687. Multicolor upconversion luminescence by adding Er^{3+} in β-$NaYF_4$:Yb^{3+}/Tm^{3+} phosphor. **H. Lin**, D. Xu, D. Teng, S. Yang, Y. Zhang*
1688. Fluorescence properties of perylenediimide nanoparticles prepared by reprecipitation method. **S. SASAKI***, T. Asahi
1689. Fabrication of ZnS-$AgInS_2$ nanoparticles covering on SiO_2 particles and characterization of their fluorescence property. **Y. Saito**, Y. IMURA, H. Endo, T. Kawai
1690. Glucose-powered antimicrobial system using organic–inorganic assembled network materials. **I. liu**
1691. Multiple ZnS coating method for high-efficiency Cd-free quantum dot. **T. Fukuda***, T. Kurabayashi, M. Hishinuma
1692. Sol-gel preparation and luminescence properties of Mn^{2+}-doped Zn_2GeO_4 and Li_2ZnGeO_4 thin film phosphors. **M. Karita**, T. Sanada, N. Wada, K. Kojima
1693. Preparation of Tb^{3+}-doped Ta_2O_5 fluorescent, spherical particles by sol-gel method using W/O emulsion and their characterization. **S. Oku**, T. Sanada, N. Wada, K. Kojima
1694. Highly efficient upcoversion in Zn_2TiO_4: [Er, Yb] phosphor for biomedical application. **S. Yamamoto**
1695. Organic fluorescent nanoparticles encapsulating a liquid pyrene. **S. Azeyanagi**, K. Hayashi, M. Taki, Y. Sato, T. Higashiyama, S. Yamaguchi*
1696. Preparation of highly photoluminescent, low cytotoxic small glass particles incorporating quantum dots. **M. Ando***
1697. Synthesis of blue-light emitting alkyl-passivated silicon nanocrystals via $(HSiO_{1.5})_n$ sol-gel polymer. **Y. Xin**, R. Wakimoto, D. Kajiya, K. Saitow*
1698. Rational design of a conjugated molecule based on donor-acceptor (D-A) structure as the fluorescent probe to picric acid. **H. Ma***, C. He, F. Li, M. Zhang
1699. Y^{3+} doping effect on phase and size of $LiGdF_4$-based upconversion nanoparticles. H. Na, J. Jeong, H. Chang, H. Kim, K. Mkhoyan, **H. Jang**
1700. Increasing efficiency of small molecular/polymer hybrid organic semiconductor thin films for light emitting diodes. **H. Kon**, C. Kurosawa, Y. Tsuji*
1701. Nonconjugated poly(maleimide-*alt*-methacrylate): Unusual luminescence and ion-sensing properties. **J. Yan**, D. Pan, R. Yang, Y. Xu, L. Wang, M. Yang
1702. Estimation of defect density in oxynitride and nitride photocatalysts by fluorescence lifetime measurement. **N. Koshimizu**, C. Izawa, T. Watanabe
1703. High luminescent and size-tunable silicon quantum dots and their applications for sensing explosives. **B. Cho**, H. Sohn*
1704. Synthesis and properties of K_2TiF_6: Mn^{4+} phosphors by continuous coprecipitation method. **C. Kim***, S. Jee, B. Bang, K. Choi
1705. Fabrication of $Sr_2MgSi_2O_7$ (SMS): Eu^{2+} phosphors by the solid-state reaction and sol-gel process. **A. Matsunaga***, T. Nishiki, R. Asano, T. Kido, K. Matsui
1706. Proton-responsive emission properties in cyclometalated iridium(III) complex film, $[Ir^{III}(bdp)_3]$@Nafion (bdp = 2,4'-(benzene-1,3-diyl)dipyridine). **H. Kamebuchi***, Y. Fujimura, A. Okazawa, M. Tadokoro, N. Kojima

Hawaii Convention Center
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Functional Molecular Materials and Devices (#128)

Organized by: R. Kato, H. Mori, J. Schlueter, B. Powell, S. Lo, H. Fujii, T. Mori, J. Takeya
Presiding: R. Kato, T. Mori

8:00 Introductory Remarks
8:05 – 1707. Switching of organic superconductivity by electric-field, strain, and light. **H.M. Yamamoto***
8:30 – 1708. Naphtho[2,3-*b*:6,7-*b'*]dithiophene-4,5,9,10-diimide (NDTI)-based organic semiconductors: From small molecules to polymers. **K. Takimiya**, M. Nakano, J. Hu, I. Osaka
8:55 – 1709. N-shaped pi-conjugated materials with high carrier mobility and thermally stable crystal phase in solution crystallized organic field-effect transistor. **C. Mitsui**, M. Yamagishi, K. Yoshimoto, J. Soeda, H. SATO, A. Yamano, J. Takeya, T. Okamoto
9:15 – 1710. Phosphorescent metal complexes for organic light-emitting application. **S. Lo***, R. Wawrzinek, M. Ullah, K. Muhieddine, P. Koszo, P.E. Shaw, P.L. Burn, E. Namdas*
9:35 – 1711. Formation of the conductive interface by conjugating electron donor and acceptor single crystals. **Y. Takahashi**, T. Shimada, H. Hasegawa, J. Harada, T. Inabe
9:55 break
10:10 – 1712. Chiral conductors based on methylated TTF derivatives. **N. Avarvari***
10:35 – 1713. When halogen bonding interactions influence the electronic properties of molecular conductors. **M. Fourmigue***, K. Shin, O. Jeannin, J. Lieffrig
11:00 – 1714. Hydrogen-bonded purely organic conductors based on catechol-TTF: Hydrogen-bond-dynamics-based switching of conductivity and magnetism. **A. Ueda***, S. Yamada, T. ISONO, A. Hatakeyama, A. Nakao, R. Kumai, H. Nakao, Y. Murakami, K. Yamamoto, Y. Nishio, H. Mori
11:20 – 1715. Structural and physical properties of molecular conductors derived from chiral and racemic π-donors. **J. Yamada***, S. Inagaki, S. Sakamoto, T. Kadoya, H. Akutsu
11:40 – 1716. Molecular conductors based on TMTTP and its related donors. **Y. Misaki***, T. Shirahata, S. Kohno, Y. Harada, K. Furuta, T. Kawamoto, T. Mori

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Applications of Ultrasound to Nanoscience (#150)

Organized by: K. Suslick, F. Grieser, M. Atobe, J. Yu, S. Jeong
Presiding: K. Suslick

8:00 – 1717. Ultrasonic fabrication of composite material. **M. Ashokkumar**
8:30 – 1718. Innovative ultrasonic technology for production of antibacterial nanoparticles and antibacterial textiles. A.V. Abramova, **V.O. Abramov***, V.M. Bayazitov, A. Sidorenko
8:50 – 1719. Ultrasonic preparation of gold nanoparticles from bulk gold source. **D. Huber***, J. Watt, M. Austin
9:10 – 1720. Ultrasound assisted synthesis of nanocomposites for energy and environmental remediation. **N. Bernaurdshaw***
9:40 – 1721. Sonochemical preparation of nanocarbon supported Pt catalysts for fuel cells. **S. Hatanaka***
10:10 Coffee and Bio Break
10:20 – 1722. Application of ultrasound for crystallization and nanoparticle deposition onto surfaces. **J. Lee**, N. Perkas, M. Ashokkumar, A. Gedanken
10:50 – 1723. Fabrication of some mesoporous semiconductors though ultrasonic irradiation at room temperature. **c. yu***, J. Li, J. Yu
11:20 – 1724. Sonochemical synthesis of 2D nanosheets/noble metal nanocomposites for electrochemical applications. **J. Zhu**

*** Principle Author**

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Janus Materials: Design, Fabrication and Properties (#210)

Organized by: Z. Yang, S. Granick, E. Kumacheva
Presiding: Z. Yang

8:00 openning
8:05 – 1725. Janus particles for probing and manipulating immune functions. **Y. Yu**
8:35 – 1726. Polymer single crystal templated Janus hybrid hairy nanoparticles. **C. Li**
9:05 – 1727. Dynamically interacting and self-reconfiguring assemblies of Janus microcubes: New actuation principles for microbots and colloidal origami. K. Han, C. Shields , G.P. Lopez, B. Bharti, **O.D. Velev***
9:35 break
9:50 – 1728. Design and fabrication of Janus particles from spherical polymeric templates with the assistance of carbon dioxide. **Q. Yang***, K. Loos*
10:10 – 1729. Proving the Janus character of gold nanoparticles by means of infrared reflection absorption spectroscopy (IRRAS). **S.D. Bourone***, C. Kaulen, U. Simon
10:30 – 1730. Microfluidc-assisted synthesis of Janus polymeric microcarriers for dual drug sustained release. I.U. Khan, **C.A. Serra**, N. Anton, T. Vandamme, I. Kraus, Z. Chang
10:50 – 1731. Induced assembly of asymmetrically-functionalized gold nanoparticles using localized DNA hybridization. **L. Pruden**, R. Goldstein, A. Liu, E. Hulkko, B. Mayukh, V.A. Apkarian, J.S. Shumaker-Parry
11:10 – 1732. Janus nanomaterials for thermoelectrics: Manipulating the structure of sulfur based chalcogenides to enhance energy conversion efficiency. **D. Mott***, M.S. Singh, K. Gupta, M. Koyano, S. Maenosono
11:30 – 1733. Computer simulation of self-assembly for soft Janus particles. **Z. Sun***

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Carbon Nanotubes: Preparation, Characterization and Applications (#227)

Organized by: S. Maruyama, R. Weisman, J. Liu, Y. Lee, J. Zhang
Presiding: J. Liu, S. Maruyama

8:00 – 1734. State-of-the-art science and applications of carbon nanotubes. **M. Endo***, H. Muramatsu, K. Takeuchi, T. Hayashi
8:30 – 1735. How we can realize chirality-specific growth of single-walled carbon nanotubes using intermetallic compound nanocatalysts. **Y. Li**
9:00 – 1736. Toward selective synthesis and applications of carbon nanotubes. **A.R. Harutyunyan**
9:30 – 1737. Quantum chemical simulations of SWCNT and graphene nucleation with and without catalysts. **A. Page**
9:50 break
10:10 – 1738. Perfect ultralong carbon nanotube and its application. **F. Wei***
10:40 – 1739. Sweet spot in the synthesis of single wall carbon nanotube forests and its relation to their properties. **D.N. Futaba**
11:10 – 1740. Modulating diameter of single-walled carbon nanotubes in alcohol catalytic chemical vapor deposition. **R. Xiang**, K. Cui, A. Kumamoto, H. An, T. Inoue, S. Chiashi, Y. Ikuhara, S. Maruyama
11:30 – 1741. Controllable growth of semiconducting and metallic SWCNTs. P. Hou, C. Liu, **H. Cheng***

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Advances in Bioinspired and Biomedical Materials (#245)

Organized by: K. Healy, Y. Ito, P. Messersmith, X. Chen, I. Kang
Presiding: P. Messersmith

Poster Session
10:00 – 12:00

1742. Engineered nanostructures of lipopolysaccharide for investigation and regulation of the activation of dendritic cells. **Y. Liu***, K. Wang, M. Zhang, H. Chen, J. Li, S. Ross, F. Liu, G. Liu*
1743. Development of injectable chelate-setting β-tricalcium phosphate cement with non-fragmentation property and their material characteristics. **K. Nagata**, M. Honda, T. Konishi, M. Aizawa*
1744. Developmental responses of hippocampal neurons on various functionalized surfaces. **M. Kim***, H. Moon, M. Park, J. Park, I. Choi*
1745. Poisson ratio of collagen fibrils under tension. **H. Wells***, K.H. Sizeland, H. Kayed, N. Kirby, A. Hawley, S. Mudie, R.G. Haverkamp
1746. Preparation of hydroxyapatite-coated PS plates and culture of human mesenchymal stem cell. **R. Suzuki**, K. Iijima, N. Kiyokawa , M. Hashizume
1747. Molphology control of polysaccharide composite hollow fibers using microfluidic techniques. **S. Ohyama**, K. Iijima, K. Yuyama, M. Hashizume*
1748. Effect of carbonated apatite on osteoclast differentiation of RAW264. **Y. Kuwamura***, N. Horiuchi, K. Hashimoto, **K. Yamashita**, A. Nagai
1749. Evaluation of proliferation of fibroblasts on chondroitin sulfate/chitosan composite films prepared by hot press techniques. **Y. Tsuji**, K. Iijima, A. Kakimoto, R. Ninomiya, T. Iyoda, F. Fukai, M. Hashizume
1750. All-conductive-polymer Interface to electrically guide neurite outgrowth. Q. Pan, Y. Zhang, **B. Zhu***
1751. Mineralization of hydroxyapatite onto crosslinked water-based chitosan/chitin whisker composite nanofibrous scaffold. **A. Pangon***
1752. Development of heparin-modified silk fibroin for tissue engineered cardiac patch. **R. Kubo***, K. Shimada, R. Tanaka, Y. Nakazawa
1753. Improvement of cellular compatibility on titanium surface through a low power laser irradiation in air. **T. Kozuka***, M. Yamane, N. Ohtsu
1754. Highly ordered 1D fullerene crystals for concurrent control of macroscopic cellular orientation and differentiation towards large-scale tissue engineering. **K. Minami***, Y. Kasuya, T. YAMAZAKI, Q. Ji, W. Nakanishi, J. Hill, H. Sakai, K. Ariga*
1755. Bioinspired coating of tissue engineering scaffolds in regenerative medicine. **H. Shin***, J. Lee, S. Madhurakkat Perikamana
1756. Development of a seeded scaffold in the great omentum feasibility of an in vivo bioreactor for esophageal reconstruction. **E. Chung***, C. Park
1757. Characterization of silk fibroin/poly-(ethylene carbonate) composite films for cardiac patches. **A. Yonezawa**, Y. Nakazawa, Y. TOMINAGA
1758. Novel chelate-setting cements with various calcium-phosphate phases for minimally-invasive treatment of bone disease: Processing, material property, in vitro solubility, and biocompatibility. **K. Hazama**, K. Nagata, M. Honda, M. Aizawa*
1759. Structure and strength of neonatal pericardium for heart valve application. **K. Sizeland***, H. Wells, J. Higgins, C. Cunanan, N. Kirby, A. Hawley, S. Mudie, R.G. Haverkamp
1760. Effect of the addition of the vanadium ion in the property of β-tricalcium phosphate ceramics. **Y. Sekiguchi**
1761. Development of silk fibroin/polyurethane composite materials for degradable cardiac patch. **A. Higuchi**, R. Kubo, A. Asano, C.T. Nakazawa, R. Tanaka, K. Shimada, T. Kameda, Y. Nakazawa
1762. Modification of gelatin nanofiber with genetically engineered growth factor. **K. Toyonaga***, Y. Mashimo, M. Mie, E. Kobatake
1763. Fabrication of β-tricalcium phosphate ceramics substituted with silicon. **K. Hashimoto***, H. Shibata
1764. Preparation of a sintered body of β-Ca_2SiO_4/β-$NaCaPO_4$ solid solution as new bioceramics. **I. WATANABE***, H. Shibata, K. Hashimoto
1765. Tailoring micrometer-long high-integrity 1D array of superparamagnetic nanoparticles in a nanotubular protein jacket and its lateral magnetic assembling behavior. **S. Sim**, D. Miyajima, T. Aida
1766. Initiation of enzyme-catalyzed polymerization by the chemical structural transformation of the substrates. **T. Waga**, Y. KIKKAWA, K. Hiratani, H. Endo, T. Kawai
1767. Development of RGD containing hydrophobic extracellular matrix for small-caliber vascular grafts. **N. Nishioka***, Y. Mashimo, M. Mie, E. Kobatake
1768. High speed water transport on open channels controlled by arrangement of structures. **K. Muto**, S. Ito, D. Ishii
1769. Expression and purification of a functional silica binding protein fused with RGD motif for neural tissue engineering. **M. Yang***, W. Chen, A. Masroujeh, A. Augustine, C. Tsai, **Y. Chen-Yang***
1770. Novel chemoembolization on the basis of porous calcium-phosphate microspheres prepared by salt-assisted ultrasonic spray-pyrolysis technique. **M. Aizawa***, S. Yabu, K. Yano, M. Matsueda, M. Honda, M. Emoto
1771. Design and synthesis of artificial TRAIL mimics based on C_3-symmetric and luminescent iridium complexes. **A.A. Masum**, H. Tanaka, N. Suzuki, Y. Hisamatsu, S. Aoki
1772. Antimicrobial peptide stars: The road to discovery and development. **S. Lam**, N. O'Brien-Simpson, N. Pantarat, A. Sulistio, E. Wong, A. Blencowe, E. Reynolds, G.G. Qiao*
1773. Mussel-inspired, facile antibacterial coatings onto various substrates. D. Kim, J. Moon, S. Song, J. Choi*, **W. Cho***
1774. Cell-instructive bioactive hydrogel with microchanneled piezoelectric membrane. S. Cho, M. Lee, H. Kong, **J. Jeong***
1775. Cellular responses of osteoblasts to nitrogen-doped hydroxyapatite ceramics: Cell attachment, proliferation, morphology, differentiation, and calcification. **R. Namiki**, R. Umeda, R. Hashimoto, C. Izawa, M. Nakamura, M. Honda, T. Watanabe, M. Aizawa*
1776. Cellular evaluation of beat-tricalcium phosphate doped with potassium or sodium. **A. Muto***, H. Shibata, K. Hashimoto
1777. Worm-inspired microneedle patches for enhanced adhesion and controlled release of drugs. K. Seong, Y. Hwang, **S. Yang***
1778. Fabrication of vascular endothelial growth factor-loaded apatite-fiber scaffolds with enhanced mechanical property and their biological evaluation. **S. Yasuda**, M. Honda, M. Nagaya, Y. Asano, K. Nakano, H. Nagashima, M. Aizawa*
1779. Development of angiogenic peptides /silk fibroin sheet for coronary vascularization. **K. Takahama**, K. Shimada, R. Shimada, A. Yonezawa, R. Tanaka, S. Nemoto, Y. TOMINAGA, T. Kameda, Y. Nakazawa
1780. Clarification of interaction of denatured protein on artificial dialysis membrane. **Y. Chikayama***, Y. Ueno, H. Takahashi, M. Yamada, . Fujieda, K. Hayashi, H. Nakamura
1781. Novel Al-rich microtubular sheaths produced by an Fe-oxidizing bacterium, *Leptothrix*, in culture. **K. Tamura**, T. Kunoh, H. Kunoh, J. Takada*
1782. Mussel-inspired, self-healing polyurethane elastomers blended with poly(dopamine methacrylate). **S. Song***, Y. Tang*, X. Qu*, Z. Yang*, J. Huang*
1783. Dopamine as a new tanning molecule for mandible development in grasshoppers. **K. Lee**, H. Lee*
1784. New molecule in self-assembled monolayer for super-hemophilic modification of platinum surfaces. **H. Lee**, I. Song, H. Lee*
1785. Repairable and stimuli-responsive catecholamine film inspired by insect cuticular melanization. **Y. Wang**, H. Lee*
1786. Theoretical study of the interaction of aminoglycosides and gold complexes with different sequences of HIV ARN molecules. **P. Francisco Santiago***, B. Molina Brito, J. Soto Mercado, L. Sansores Cuevas
1787. Construction of bFGF-tethered ECM for tissue engineering. **C. Suttinont***, Y. Mashimo, M. Mie, E. Kobatake
1788. Antibacterial behaviors of Ag-contained apatite coating on titanium substrate fabricated using calcium-phosphate slurry. **Y. Kakuchi***, M. Hirano, M. Komata, N. Ohtsu
1789. Antimicrobial and antibiofilm activities of cellobiose dehydrogenase functionalized polydimethylsiloxane. B. Thallinger*, M. Brandauer, **K. Gitschtaler**, C. Sygmund, R. Ludwig, G.S. Nyanhongo, G.M. Guebitz
1790. Intracellular acidity-responsive polymer–drug conjugates for malignancy therapy. **X. Zhuang***, J. Ding, X. Chen
1791. Construction of a molecular logic gate inspired by polymerase chain reaction. **T. NOJIMA***

Hawaii Convention Center
319A

Self-organization of Membrane Systems (#259)

Organized by: D. Sasaki, K. Morigaki, I. Koeper
Presiding: D. Sasaki

8:00 – 1792. Applications of artificial lipid-anchored proteins to study membrane protein behavior in vivo and in vitro. **J.R. Silvius***
8:30 – 1793. Membrane deformation determined by intracellular viscosity. **K. Fujiwara**, M. Yanagisawa
8:50 – 1794. Role of protein crowding in shaping and organizing cellular membranes. **J. Stachowiak***
9:20 – 1795. Enhanced order of lipid bilayer by *n*-alkane. **M. Hishida***, A. Endo, R. Yanagisawa, K. Nakazawa, Y. Yamamura, K. Saito
9:40 – 1796. Controlling membrane dynamics by tuning the hydrophobic mismatch. **M. Nagao***, E.G. Kelley, R. Ashkar, R.D. Bradbury, K. Wood, A.C. Woodka, X. Zuo, P.D. Butler
10:00 – 1797. Applications of model membrane architectures. **S.G. Boxer***
10:30 – 1798. The phage endolysin PlyC penetrates bilayer membranes after docking to phosphatidylserine. M. Barros, F. Heinrich, T. Vennemann, **M. Lösche***, D. Nelson

*** Principle Author**

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10:50 – 1799. Magnetically directed 2D crystallization of membrane proteins in block copolymers. S. Klara, P. Saboe, I. Sines, M. Kumar, **M.S. Mauter**
11:10 – 1800. Osmotic stress induced stochasticity in *E.coli* synthetic gene network. **S. Muralidharan***, G. Balandaram, N. Srividya, A. Peasley
11:40 – 1801. Chiral recognition of L-amino acid on liposome prepared by L-phospholipid. T. Ishigami, K. Suga, Y. Okamoto, **H. Umakoshi***

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318B

Advanced Materials for Photonics and Electronics: Fundamentals and Applications (#308)

Organized by: R. Morandotti, D. Moss, F. Omenetto, N. Tsutsumi, K. Alamgir, K. Char, A. Facchetti
Presiding: R. Morandotti

8:00 – 1802. Highly aligned lamellar block copolymer films for high energy-density electrostatic capacitors. S. Samant, C. Grabowski, K. Kisslinger, M. Durstock, **A. Karim***
8:30 – 1803. Decipher supramolecular nanocomposite toward functional material. **T. Xu**
9:00 – 1804. Neutron crystal structure analysis of stilbazolium derivatives for developing nonlinear optical materials with low terahertz-wave absorption. **T. Matsukawa***, Y. Yoshida, A. Hoshikawa, S. Okada, T. Ishigaki
9:20 – 1805. Selective noncontact modification of morphology and chain orientation in conducting polymers by femtosecond laser writting. **H. Lee**, S. Chae, S. Lee, J. Choi, H. Kim
9:40 – 1806. OBDD-forming block copolymer for a photonic crystal: Effect of particle distortion on SAXS studied by paracrystalline theory and self-consistent field theory. **S. Okamoto***, K. Nomura
10:00 break
10:10 – 1807. Observation of significantly increased Rayleigh scatter in UV-exposed optical fiber and its application in distributed sensing. S. Loranger*, M. Gagne, V. Lambin Iezzi, **R. KASHYAP**
10:40 – 1808. Development of high-refractive index titanate-silk nanocomposites for biopolymer-based optical devices. G. Perotto, F. Omenetto, **A. Martucci**
11:00 – 1809. Theoretical study of 3D nano optical assembling. **T. Iida***, M. Tamura
11:20 – 1810. Investigation of grating-coupled SPR enhanced organic photovoltaic cells fabricated by pressure-less nanoimprinting technique. **S. Nootchanat***, A. Pangdam, R. Ishikawa, C. Thammacharoen, K. Shinbo, K. Kato, F. Kaneko, N. Tsuboi, S. Ekgasit, A. Baba*
11:40 – 1811. Understanding the effect of hydrogen passivation of impurities in solution processed metal oxide thin film. **J.C. Ramos**, L. Feixiang, C. Perkins, D. Park, Y. Huang, E. Garfunkel, D.A. Keszler

Hawaii Convention Center
319B

Membranes and Nanotechnologies for Energy and Environment Applications (#317)

Organized by: H. Park, B. Freeman, B. McCloskey, J. McGrath, A. Hill, A. Higuchi, Y. Lee

8:00 – 1812. High free volume polymer membranes for gas separation. **P.M. Budd***
8:30 – 1813. Role of adaptive porous frameworks in anti-aging mixed matrix membranes. **C. Lau***, S. Smith, K. Konstas, A. Thornton, A.J. Hill, M.R. Hill
8:50 – 1814. Microporous polyimides incorporating Tröger's Base for membrane gas separation. **M.D. Guiver**, Y. Zhuang, J. Seong, Y. Do*, H. Jo, Y. Lee
9:10 – 1815. Ladder-structured polysilsesquioxane-based hybrid membranes for gas separations. **J. Lee***, S. Park, A. Lee, S. Hwang
9:30 – 1816. High-performance triptycene-based gas separation membranes. **I. Pinnau***, B. Ghanem, R. Swaidan, E. Litwiller
9:50 – 1817. New membranes and membrane unit operations for a process intensification strategy. **E. Drioli**, F. Macedonio
10:20 – 1818. Advanced polymeric membrane for gas separation. **K. Nagai***
10:40 – 1819. Surface modification of nanoporous polysulfone ionomers for VRFB applications. **B. Gindt**, Z. Tang, D.G. Abebe, T. Zawodzinski, T. Fujiwara*
11:00 – 1820. Recent developments to describe and predict gas solubility and permeability in glassy polymeric membranes. **G.C. Sarti***
11:20 – 1821. Architecturing molecular cavities in iptycene-containing polyimide membranes for gas separation. **R. Guo***, S. Luo, J. Wiegand, Q. Zhang, G. Kline
11:40 – 1822. New use for MOFs: Stopping physical aging in glassy polymers for exceptional separation performance. **M.R. Hill***, C. Lau, A.J. Hill, K. Konstas, R.D. Noble, C.M. Doherty, D. Gin, T.J. Bastow

Hawaii Convention Center
316C

Ceramic Materials and Processing for Advanced Applications (#341)

Organized by: F. Rosei, A. Vomiero, Y. Tachibana, C. Raston, H. Zhang

8:00 – 1823. Interfacial nanoengineering of perovskite solar cells based on $CH_3NH_3PbI_3$ and $HC(NH_2)_2PbI_3$. **N. Park**
8:30 – 1824. Charge separation and recombination dynamics at TiO_2/Perovskite/OMeTAD interfaces. M. Liu, S. Makuta, M. Endo, A. Wakamiya, **Y. Tachibana***
8:50 – 1825. Toward efficient perovskite solar cells: Development of new charge-transporting materials and surface treatment of lead halide perovskite layer. **A. Wakamiya***, H. Nishimura, N. Maruyama, A. Shimazaki, Y. Nakaike, M. Endo, T. Aharen, Y. Murata
9:10 – 1826. Panchromatic dye-sensitized solar cells for spectral splitting photovoltaics using lead halide perovskite solar cells. **T. Kinoshita***, S. Uchida, H. Segawa
9:30 coffee break
9:50 – 1827. Organo lead halide perovskite for high efficiency solar cells and optoelectronic devices. **T. Miyasaka***
10:20 – 1828. Electronic and energetic landscape of perovskite solar cell: A microwave conductivity study. **A. Saeki**
10:40 – 1829. Investigation of surface treatment for stable and efficient planar heterojunction perovskite solar cells. **L. Cojocaru***, S. Uchida, J. Nakazaki, T. Kubo, H. Segawa
11:00 – 1830. Planar heterojunction perovskite solar cells using sequential vacuum deposition method for high stability and low-cost. **K. Yamamoto**, M. Shahiduzzaman, Y. Furumoto, T. Kuwabara, K. Takahashi, T. Taima*
11:20 – 1831. Controlling charge recombination dynamics by modifying conjugated polymer/ZnO nanocrystal interface for hybrid solar cell applications. M. Liu, **Y. Tachibana***, W. Li, M. Purushothaman, Z. Ma, J.S. Chen, S.K. Matta
11:40 – 1832. PbS quantum-dot/ZnO nanowire solar cells yielding high efficiency in the near-infrared region and long-term stability. **H. Wang***, T. Kubo, J. Nakazaki, H. Segawa

Hawaii Convention Center
317B

Supramolecular Assemblies at Surfaces: Nanopatterning, Functionality, Reactivity (#346)

Organized by: D. Perepichka, F. Rosei, A. Wee, W. Chen, P. Weiss
Presiding: D. Perepichka

8:00 Introductory Remarks
8:05 – 1833. Molecular self-assembly on graphene and graphite: From fundamentals to applications. **S. De Feyter***
8:35 – 1834. Surface chirality: Origin, propagation, and amplification. **D. Wang**, T. Chen, I. Wan
9:05 – 1835. On surface tailoring of 1- and 2D supramolecular structures via hydrogen bonding. **N. Schmidt***, M. Enache, I. Georgiou, L. Maggini, D. Bonifazi, M. Stoehr
9:25 – 1836. Diverse 2D patterns in supramolecular block copolymer thin films by dip-coating. **C. Bazuin***, S. Roland, C. Gamys, J. Grosrenaud, J. Vapaavuori, R.E. Prud'homme, C. Pellerin
9:45 Coffee Break
10:00 – 1837. Organized metal nanoparticle assemblies by block copolymer templating. **A.M. Ritcey**, J. Lemineur
10:20 – 1838. Multi-component 2D self-assemblies at the liquid/solid interface via optimization of multiple intermolecular interactions using designed trigonal molecular building blocks. **K. Tahara**, K. Nakatani, K. Katayama, S. De Feyter, Y. Tobe
10:40 – 1839. Competing sergeant-soldiers and host-guest chirality induction pathways at the liquid-solid interface. **K.S. Mali***, E. Ghijsens, Y. Fang, O. Ivansenko, H. Cao, K. Tahara, Y. Tobe, S. De Feyter
11:00 – 1840. Redox non-innocent ligand design for two and three electron oxidations of single-site metal centers at surfaces. **S.L. Tait***
11:30 – 1841. Supramolecular organisation on layered semiconductors and insulators. V. Korolkov, A. Summerfield, J. Kerfoot, S. Svatek, N. Besley, N. Champness, L. Yang, K. Watanabe, T. Taniguchi, **P. Beton**

Hawaii Convention Center
Halls I, II, III

Multi-scale & Synergistic Supramolecular Systems in Material and Biomedical Sciences (#357)

Organized by: S. Aoki, H. Chiu, K. Soga, N. Gianneschi, X. Bengang

Poster Session
10:00 – 12:00

1842. Wavelengths dependence of photo-induced reactions of hybrid systems of chiral Schiff base Cu(II) complexes. **N. Yoshida***, T. Akitsu
1843. Synthesis of self-propelled protein microtubes. **S. Kobayakawa**, T. Komatsu*
1844. Enhanced red upconversion luminescence of $NaYF_4$:Yb^{3+}, Er^{3+} nanoparticles by Mn^{2+} doping for photodynamic therapy. **A. Omoto***, M. Kamimura, H. Chiu, K. Soga
1845. Induced CD from chiral Schiff base complexes involving azo-group to gold nanoparticles. **Y. Tsutsumi**, T. Akitsu
1846. Photodynamic activities of human serum albumin-metalloporphyrin complex. **M. Akiyama***, T. Komatsu
1847. BODIPY derivatives with fluorescence ability responding to environmental polarity and heavy metal ions. **Y. Gobo**, G.J. Richards, M. Yamamura, T. Nabeshima
1848. Synthesis of [3]rotaxanes which consist of one ring and two axles. **Y. Yamashita***, Y. Mutoh, R. YAMASAKI, T. Kasama, S. Saito
1849. Design and synthesis of light and redox reaction-driven molecular shuttles. **M. Karasaki**, A. Ota, T. Tanaka, S. Aoki
1850. Synthesis and anticancer activity of doxorubicin-loaded DNA nanotubes. **C. Yamada**, M. Akiyama, T. Komatsu*
1851. Synthesis of rotacatenanes using transition metal catalysis and metal-template approach. **R. Hayashi***, K. Wakatsuki, P. Slavik, R. YAMASAKI, Y. Mutoh, T. Kasama, S. Saito
1852. Tracking of cancer metastasis in living mice with rare-earth-doped ceramic nanophosphors by over-1000 nm (OTN) near-infrared fluorescence imaging. **R. Fukushima**, M. Kamimura, S. Hayashi, T. Ono, S. Murakami, H. Akiyama, F. Tashiro, K. Soga
1853. Synthesis of disaccharide nucleosides by the chemical *O*-glycosylation of natural nucleosides with thioglycoside donors. **T. Itoh**, T. Fukumoto, M. Kurihara, S. Saito, S. Komabiki, S. Aoki
1854. Classification of the crystal structures of $[Ni(dmit)_2]$ salts of alkyl hexyldimethylammonium of various alkyl chain length. **R. Suzuki**
1855. Allosteric guest binding of octaphosphonate biscavitands. **D. Shimoyama**, H. Yamada, T. Ikeda, R. Sekiya, T. Haino*
1856. Development of calixarene-based host molecules capable of binding histone tail peptide. **Y. Kajiki**, N. Tochio, J. Uewaki, S. Tate, T. Haino*
1857. Design, synthesis, and reactivity of supramolecular complexes formed by self-assembly of multinuclear zinc complexes, functionalized organic building blocks, and metals. **Y. Hisamatsu**, M. Miyauchi, K. Yoneda, Y. Miyazawa, S. Aoki

Hawaii Convention Center
316B

Materials for the Mitigation of Chemical Hazards (#388)

Organized by: J. DeCoste, G. Peterson, J. Becker, M. Biggs, L. Croll, K. Walton
Presiding: J. DeCoste

8:00 – 1858. Co-adsorption of organic and inorganic compounds on activated carbons. **P. Lodewyckx***
8:30 – 1859. Reaction analysis on the removal of aromatic sulfonates from aqueous solution by Mg-Al oxide. **M. Umetsu***, T. Kameda, T. Yoshioka
8:50 – 1860. Impregnated activated carbons vs. highly porous inorganic materials for toxic gas removal. **J. Dahn***, M. Rankin, X. Ma, J. Smith, M. McDonald, J. Romero, L. Croll
9:20 – 1861. Effectiveness of Mg-Al layered double hydroxide to remove arsenic from waste water. **M.T. Rahman***, T. Kameda, T. Yoshioka
9:40 – 1862. Modification of fibers with nanostructures for chemical defense. **T. Glover**, K. West, M. Bunge
10:10 Break
10:20 – 1863. Removal of boron and fluoride by means of adsorption process with magnesium oxide: Availability assessment. **y. yamamoto***, T. Kameda, T. Yoshioka
10:40 – 1864. Sensing, decontamination, and filtration by the multifunctional zirconium hydroxide. **G. Peterson***, J. Rossin

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Hawaii Convention Center
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Design of Innovative Photochromic Applications (#399)

Organized by: J. Abe, T. Kawai, Y. Yokoyama, N. Branda, F. Raymo, W. Zhu
Presiding: N. Branda

8:00 – 1865. Photochromic triangle terarylenes: Efficient photo- and electro-reactions. **T. Kawai***
8:20 – 1866. Photoswitching interlocked molecule construction and dynamic intermolecular communication. **N.D. McClenaghan***, A. Tron, R. Bofinger, J. Thevenot, S. Lecommandoux, J. Tucker
8:40 – 1867. Sensing or actuating with photochromic dyes. **C. Coudret***, J. MICHEAU, J. VALLET
9:00 – 1868. Photocytotoxicity of photochromic diarylethenes. **K. Uchida***, K. Sumaru, J. Okuda, R. Kodama, K. Morishita, T. Kanamori, S. Yokojima, S. Nakamura
9:20 – 1869. Azobenzene photoswitching as a tool for controlling nanoscale morphology in dip-coated block copolymer thin films. **J. Vapaavuori***, J. Grosrenaud, C. Pellerin, C. Bazuin
9:40 Break
9:55 – 1870. Photochemical control of static charge using spiropyran-functionalized polymers. **S.W. Thomas***
10:15 – 1871. Computational study of the photochromism of nitrospiropyran and merocyanine. **M. Mayes**
10:35 – 1872. Pushing the absorption of photochromic diarylethenes into the near IR: The use of quinoidal units for a modular approach to advanced materials. **D.G. Patel**, D. Carter, F. Novak, S. Myers
10:55 – 1873. Red, far-red, and near infrared photoswitches based on azonium ions. M. Dong, A. Babalhavaeiji, **A. Woolley***
11:15 – 1874. Single particle and ultrafast spectroscopy of new photochromic nanoparticles. **M. Sliwa***, B. Debus, R. Bernex, C. Ruckebusch, C. Pavageau, R. METIVIER, P. Yu, H. Miyasaka, J. Abe
11:35 – 1875. Photon-working switches involving hydrogen bonds. **Y. Yokoyama***
11:55 Closing

Hawaii Convention Center
Halls I, II, III

Synthesis, Structure and Functionalities of Ferroelectrics and Multiferroics (#432)

Organized by: Z. Ye, C. Brown, T. Kiguchi
Presiding: Z. Ye

Poster Session
10:00 – 12:00

1876. Electronic state of Pd nanoparticles supported on ferroelectric $BaTiO_3$ particle studied by in situ X-ray absorption fine structure. **T. Yoshida**, J. Kano, N. Oshime, S. Hinokuma, K. Kato, K. Nitta, m. Mizumaki, N. Ikeda, T. Fujii, T. Ohkubo, T. Ueda
1877. Temperature dependent study on the visible emission in ferroelectric nanotubes. **Y. Lee***, S. Bu
1878. Effect of silver niobate substitution on structures and electrical properties of sodium potassium niobate thin films. **X. Li***, X. Wu
1879. Phase formation, dielectric loss, and ferromagnetic properties in multiferroic PFN-PZT ceramics. **P. Amonpattaratkit***, P. Jantaratana, N. Vittayakorn, S. Ananta
1880. High frequency tunable property of $Ba(Zr_xTi_{1-x})O_3$ films grown by reactive sputtering. **J. Kim***
1881. Ferroelectric and magnetic properties of $Bi_{m+1}Ti_3Fe_{m-3}O_{3m+3}$ thin films. **T. Jia***, H. Kimura, Z. Cheng, H. Zhao
1882. Preparation of high-quality single crystal and spin flop of multiferroic Co_4Nb_2O. **S. Cao***, J. Zhang, W. Ren
1883. Ferroelectric properties of perovskite 0.93PZN-0.07BT ceramics fabrication from two-stage reactive sintering technique. **P.N. Pakawanit***, D.N. Ngmjarurojana, D.N. Rugmai, D.N. Ananta
1884. High piezoelectricity in (K,Na)(Nb,Sb)O_3-(Bi,La,Na,Li)ZrO_3 lead-free ceramics. **L. Jiang***
1885. Enhanced sensitivity in magnetoelectric laminated composite sensors based on ME nonlinearity. **J. Ma**, J. Jiao, C. Fang , H. Xu, D. Lin, S. Wang, X. Zhao, H. Luo
1886. Electrical properties of chemical solution deposited $K_{0.5}Bi_{4.0}M_{0.5}Ti_4O_{15}$ (M=Tb, Yb and Lu) thin films. **S. Kim***, C. Raghavan, J. Kim, J. Choi

Friday Afternoon

Hawaii Convention Center
317A

Organic, Inorganic and Hybrid Nanoparticles: Synthesis, Characterization, and Applications (#23)

Organized by: L. Bronstein, F. Winnik, K. Akiyoshi
Presiding: E.E. Nesterov, M. Samal

13:00 – 1887. Excited state behavior of organic metal halide perovskite films and its influence on photovoltaic properties. **P.V. Kamat***, J. Manser
13:25 – 1888. Nanopatterning of plasmonic nanostructures for silicon surface functionalization via block copolymer self-assembly. **J.M. Buriak***, F. Liu, E.J. Luber
13:50 – 1889. Real-time chemical imaging of single nanoparticles by photothermal microscopy. **B. Dragnea***
14:15 Intermission
14:30 – 1890. Unusual electrocatalytic activity trend for Pd_xAu_{140-x}@Pt (x = 0 to 140) core@shell nanoparticles for adsorbed CO oxidation. L. Luo, L. Zhang, G. Henkelman, **R.M. Crooks***
14:55 – 1891. Near-infrared fluorescent conjugated polymer "core-shell" nanoparticles. C.A. Chavez, T.E. Karam, L.H. Haber, **E.E. Nesterov***
15:10 – 1892. General and robust strategies to monodisperse nanoparticles and nanorods with unprecedented control over dimensions, compositions, and architectures. **Z. Lin***, X. Pang
15:25 – 1893. Graphene oxide coupled metal oxide nanosheets incorporating small organic molecules for n-type and p-type field effective transistors (FETs). **M. Samal***, N. Barange, K. Yun
15:40 – 1894. Binary nanocolloidal crystals: Preparation, characterization, and applications. **Y. Sakamoto***
15:55 – 1895. Preparation of highly dispersive hollow silica particles using vesicle template method. **H. Sakai***, T. Ohki, H. Sohma, T. Ogura, T. Endo, K. Torigoe, K. Sakai, M. Abe
16:10 – 1896. Surface enhanced NMR spectrosopy for the characterization of nanoparticle surfaces. A. Rossini, L. Piveteau, L. Protesescu, M. Valla, A. Lesage, M.V. Kovalenko, C. Copéret, **L. Emsley**
16:25 – 1897. Boron- and gadolinium-rich nanoparticles for neutron capture therapy of cancer. **I. Zharov**

Hawaii Convention Center
317B

Nanocrystal Synthesis, Characterization, Assembly and Applications (#34)

Organized by: R. Tilley, S. Skrabalak, T. Hyeon, T. Nann, T. Adshiri

13:00 – 1898. Multishelled metal oxides hollow microspheres: Synthesis and applications. J. Wang, H. Ren, R. Yu, H. Zhao, **D. Wang**
13:40 – 1899. Effect of ligands on charge transfer dynamics in hybrid polymer: quantum dot photovoltaics. **R. Brutchey***
14:00 – 1900. Shape, electronic structure, and steric effects of organometallic nanoparticles: A theoretical chemistry point of view and its consequence for catalysis. L. Cusinato, I. del Rosal, **R. Poteau***
14:20 – 1901. Perovskite nanocrystals: Hydrothermal synthesis and atomic-scale structural characterization. H. Wu, L. Li, S. Zhou, J. Zhu, Z. Liu, **X. Zhu***
14:40 – 1902. Luminescent silicon nanocrystals: The role of surface groups. **M. Dasog**, J. Veinot*
15:00 – 1903. Molecular clusters as superatoms in solid-state chemistry. **X. Roy***, M.L. Steigerwald, C. Nuckolls, T. Siegrist
15:20 – 1904. Rational design and synthesis of iron-oxide-based high-performance MRI contrast agents. Z. Zhao, Z. Zhou, L. Wang, **J. Gao**
15:40 – 1905. Dimensional optical property of self-assembled metallic nanoparticles. **K. TAMADA***
16:00 – 1906. Controllable synthesis of metal and Metal@Semiconductor hybrid nanoparticles with highly tunable plasmonic absorption properties. **C. Li**, T. Zhang, Y. Sun, J. Li
16:20 – 1907. Revisiting an old debate: What is the origin of photoluminescence in Si nanocrystals. **R. Sinelnikov***, M. Dasog, A. Meldrum, J. Veinot

Hawaii Convention Center
316A

Chemistry and Applications of Graphene (#39)

Organized by: Y. Chen, R. Haddon, K. Loh
Presiding: B. Hong, J. Kong, Y. Liu, H. Zhang

13:00 – 1908. Functionalized, heterogeneous carbons: From fundamental properties to new applications. **C.W. Bielawski**
13:20 – 1909. Controllable growth of high quality graphene by a chemistry vapor deposition. **Y. Liu**
13:40 – 1910. Time evolution of nanobubbles in graphene liquid cells: In-situ TEM study. **B. Hong***, D. Shin, J. Park, S. Cho
14:00 – 1911. Covalent modification of graphene nanoribbons with a reactive BODIPY complex. **A.J. Way**, M. Waterland, S. Telfer, N. Lucas
14:15 – 1912. Adsortpion of NO and CO molecules at the edge of graphene uisng DFT calculation. **A. Ishii***
14:30 – 1913. Immobilized Co(II) on porous graphene aerogels: Electrocatalytic activity. **s. bagheri**
14:45 Break
15:00 – 1914. Chemical vapor deposition synthesis of graphene and related 2D materials. **J. Kong**
15:20 – 1915. Warped nanographenes and soluble graphene nanoribbons. **L.T. Scott***
15:40 – 1916. Synthesis and applications of novel 2D nanomaterials. **H. Zhang***
16:00 – 1917. Green, facile, and high-yield synthesis of dimension-controllable graphene oxide nanoribbons. **W. Chiang**, Y. Li
16:15 – 1918. Ge vapor assisted catalytic growth of single layer graphene on silicon dioxide substrate. **J. Lee**, M. Kim, J. Lim, S. Jung, S. Hwang, D. Whang
16:30 – 1919. Direct synthesis of sub-10 nm graphene nanoribbons with smooth armchair edges on Ge(001). R. Jacobberger, B. Kiraly, M. Fortin-Deschenes, P. Levesque, K. McElhinny, R. Rojas Delgado, S. Singha Roy, A. Mannix, M. Lagally, P. Evans, P. Desjardins, R. Martel, M.C. Hersam, N. Guisinger, **M.S. Arnold***

Hawaii Convention Center
321A

Metal-oxo Clusters: Molecular Design from Monomers to Infinity (#79)

Organized by: M. Nyman, Y. Li, T. Ozeki, C. Ritchie
Presiding: Y. Li

13:00 – 1920. Computational approach to giant POMs and new POCATs. **C. Bo***, N. Bandeira, D. Melgar
13:25 – 1921. Hydrogen-bonded trimer of methylated molybdoplatinate. J. Imai, T. Ozeki, **A. Yagasaki***
13:45 – 1922. Zr-cluster substituted poly(polyoxometalate)s made by synergistic structure-directing roles of lacunary fragments under hydrothermal conditions. **G. Yang***
14:05 CSMC-Flash poster-3
14:15 – 1923. All-inorganic metallacrowns by heteropolyoxovanadates. **Y. Hayashi**
14:35 – 1924. Turning up the heat on reductive polyoxometalate synthesis: Benefits of COST action CM1203 (PoCheMoN). **J. Errington***, Y. Duan, W. Salomon
14:55 – 1925. Interconversion among neutral vanadium(V) oxo cluster complexes by changing the solvent systems. **S. Kodama***, N. Taya, Y. Ishii*
15:15 – 1926. Experimental and in silico investigation of Nb/Ta substituted isopolytungstates. **P.I. Molina***, P. Miro, D.J. Sures, L.N. Zakharov, T. Heine, M. Nyman*
15:35 – 1927. Synthesis and application of molybdenum oxides containing polyoxomolybdate building units. **M. Sadakane***, W. Ueda
15:55 – 1928. Niobium POM speciation in acid. **D. PARK***, S. Goberna Ferron, M. Nyman, D.A. Keszler
16:15 – 1929. Inorganic-organic hybrid assembled materials based on block copolymers and polyoxometalates. H. Wei, N. Shi, J. zhang, X. Wan*, **J. Zhang***
16:35 – 1930. Polyoxometalate mediated oxidative transformations. **R. Neumann**

Hawaii Convention Center
321B

Luminescent Nanomaterials: Properties, Mechanisms, and Applications (#101)

Organized by: F. Vetrone, S. Kohei, D. Ma, W. Huang, L. Huang, X. Peng

13:00 – 1931. Fluorescence of graphene oxides and their applications in biosensing. **N. Wu***
13:40 – 1932. Controlling the electronic properties of 2D MoS_2 through thiol functionalization. **E.P. Nguyen***, T. Daeneke, B.J. Carey, K. Kalantar-zadeh, S. Zhuiykov
14:00 – 1933. Ultrasonic modulation of photoluminescence in atomically thin molybdenum disulphide. A. Rezk, **B.J. Carey**
14:20 – 1934. Metal-containing nanomaterials with biocompatible luminescence properties: devising luminescent nanoparticles for biomedical imaging. **K. Sorasaenee***, C. Blumenfeld, P. Promdet, B. Rodriguez, A. Henry, G.E. Fernandez, D. Koos, R.H. Grubbs, J. Galan-Mascaros, H.B. Gray

*** Principle Author**

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14:40 – 1935. Colloidal II-VI magic-sized nanocrystals. **K. Yu***
15:20 – 1936. Dual electrochemiluminescence of BDY-PbS nanoparticles. **K. Swanick**, J. Lu, S. Wang, Z. Ding
15:40 – 1937. Modification of exciton/multi-exciton emission of quantum dots by gold nanoparticles. **J. Zhao***, S. Dey, Y. Zhou, J. Jenkins, S. Zou
16:00 – 1938. Switchable lanthanide emissive molecular monolayers. **J. Lehr***, M. Tropiano, S. Faulkner, P. Beer, J. Davis*
16:20 – 1939. White light of colloidal hybrids containing 2D crystals exfoliated from layered rare-earth (Dy^{3+}, Eu^{3+} and Tb^{3+}) hydroxides. **X. Wang***, X. Yang

Hawaii Convention Center
320 Theatre

Functional Molecular Materials and Devices (#128)

Organized by: R. Kato, H. Mori, J. Schlueter, B. Powell, S. Lo, H. Fujii, T. Mori, J. Takeya
Presiding: K. Kanoda, J. Takeya

13:00 – 1940. Organic charge-transfer complexes based on BTBT. T. Kadoya, Y. Kiyota, K. Iijima, T. Higashino, M. Dogishi, R. Sato, T. Kawamoto, K. Takimiya, **T. Mori***
13:25 – 1941. N-type organic semiconductors based on linearly fused N-heteroarenes. **Q. Miao**, S. Yang, X. Xu, D. Liu
13:45 – 1942. Synthesis of substituted picenes and its derivatives and their application to field-effect transistors. **Y. Nishihara***, X. Chen, N. Chang, K. Hyodo, S. Nishinaga, Y. Okuda, H. Nonobe, J. Zhao, J. Xu, H. Mori
14:10 – 1943. Design of two-component molecular materials toward photofunctional applications. **D. Yan***
14:30 – 1944. Steering molecular orientation and strengthening π-π intermolecular interaction through perfluoroalkylation: Insights for rational design of functional molecular materials. **H. Sun***
14:50 – 1945. Synthesis, process and device fabrication of ladder polymers. **L. Fang**
15:10 – 1946. Optical control of carriers and spins in molecular materials: How to produce photomagnetic conductors from nonmagnetic insulators in an instant. **T. Naito***
15:30 break
15:45 – 1947. High-magnetic-field superconducting phase in layered charge-transfer salts. **S. UJI***, Y. Iida, K. Sugii, T. ISONO, S. Tsuchiya, N. Kikugawa, S. Tsuda, T. Terashima, H. Akutsu, J. Yamada, P. Day
16:10 – 1948. Correlations and superconductivity in organic charge transfer salts. **S. Brown***
16:35 – 1949. Observation of spatial symmetry breaking in κ-$(ET)_2Cu_2(CN)_3$ by terahertz emission spectroscopy. **K. Itoh***, H. Itoh, N. Yoneyama, T. Sasaki, S. Iwai*

Hawaii Convention Center
322AB

Janus Materials: Design, Fabrication and Properties (#210)

Organized by: Z. Yang, S. Granick, E. Kumacheva
Presiding: C. Li

13:00 – 1950. From Janus to patchy nanoparticles: About an efficient synthesis route. A. Desert, C. Chomette, C. Hubert, J. Taveau, O. Lambert, S. Ravaine, M. Lansalot, E. Bourgeat-Lami, A. Thill, O. Spalla, L. Belloni, A. Perro-Marre, **E. Duguet***
13:30 – 1951. Janus materials. **Z. Yang**
14:00 – 1952. Janus tectons for surface-confined supramolecular self-assembly: A versatile platform for the noncovalent functionalization of graphene. P. DU, D. KREHER, F. MATHEVET, F. CHARRA, **A. ATTIAS***
14:30 break
14:45 – 1953. First direct observation of thermodynamically stable internally ordered Janus nanoparticles created by lipid self-assembly. N. Tran, X. Mulet, A. Hawley, C.E. Conn, J. zhai, L. Waddington, **C.J. Drummond***
15:05 – 1954. Asymmetric structures based on block copolymer brushes on silica particles. **H. Zhao***
15:25 – 1955. Design of hybrid material with water-repelling and adsorptive properties. **M. Higuchi**, S. Kitagawa*
15:45 – 1956. Number distribution of ligand chains on the surface of polymer-grafted nanoparticles. **Z. Lu**, H. Liu
16:05 – 1957. Organic-inorganic Janus composite particle through nanoscale phase separation in seeded polymerization. **D. Qiu***
16:25 – 1958. Novel radiative properties of segmented Au-Ag nanocylinders. **G. Wang***
16:45 closing remark and discussion

Hawaii Convention Center
315

Carbon Nanotubes: Preparation, Characterization and Applications (#227)

Organized by: S. Maruyama, R. Weisman, J. Liu, Y. Lee, J. Zhang
Presiding: S. Maruyama, R. Weisman

13:00 – 1959. Resolution of carbon nanotube enantiomers by DNA and chiral surfactants: Common mechanism revealed. **M. Zheng**
13:30 – 1960. Fluidized-bed production of sub-millimeter-long carbon nanotubes and their application to electrochemical energy storage devices. **S. Noda***
14:00 – 1961. Chemically modified carbon nanotubes and graphene: Synthesis, assembly, and applications. **S. Kim**
14:30 – 1962. Improved photovoltaic performance of carbon nanotube-based solar cells. **K. Matsuda***
15:00 break
15:20 – 1963. Large scale sorting of single-chirality single-wall carbon nanotubes. **H. Kataura***, Y. Yomogida, X. Wei, T. Tanaka
15:50 – 1964. Environmental TEM, low-voltage SEM, and optical imaging of carbon nanotubes. **K. Jiang**
16:20 – 1965. Growth of high-density horizontally aligned SWNT arrays using Trojan catalysts. **J. ZHANG**

Hawaii Convention Center
318A

Advances in Bioinspired and Biomedical Materials (#245)

Organized by: K. Healy, Y. Ito, P. Messersmith, X. Chen, I. Kang
Presiding: P. Messersmith

13:00 Introduction
13:05 – 1966. Nitric oxide: A key player for novel target of immunotherapeutics. **Y. Nagasaki***
13:45 – 1967. Biocompatible liquid crystal elastomers with unique internal morphologies as cell scaffolds. **E. Hegmann***, A. Sharma, C. Malcuit, R. Clements, E. Freeman, L. Korley, T. Hegmann
14:05 – 1968. Microstructured polymer nanosheets for tissue engineering application. **T. Fujie***, S. Suzuki, S. Takeoka
14:25 – 1969. Bioinspired binding growth factors for regenerative medicine. **Y. Ito***
14:45 – 1970. Multiple component self-assembled peptide/polysaccharide scaffold presents an antiinflammatory environment to downregulate the expression of cytokines and induces apoptosis in epithelial cancer cells. R. Li, K. Bruggeman, D.R. Nisbet, **R.J. Williams***
15:05 Coffee Break
15:20 – 1971. Construction of novel xeno-free artificial extracellular matrix proteins for the culture and expansion of iPS cells. **N. Adnan***, M. Mie, E. Kobatake
15:40 – 1972. Synthetic surfaces to promote stem cell pluripotency and differentiation. **L.L. Kiessling**
16:20 – 1973. Temporally controlled bioactive 3D hydrogel scaffolds as next generation nerve grafts. **A. Badea**, J.M. McCracken, E.G. Tillmaand, S.S. Rubakhin, J.V. Sweedler*, R.G. Nuzzo*
16:40 – 1974. Novel cytoplasm transplantation method by microdevice. **K. Wada**, K. Hosokawa, Y. Ito, M. Maeda*

Hawaii Convention Center
318B

Nitroxide Radicals: Synthesis and Functional Bio-/Nanomaterials (#309)

Organized by: A. Smirnov, S. Bottle, R. Tamura
Presiding: I.j. berliner, A. Smirnov

13:00 Introductory Remarks - Alex I. Smirnov
13:05 – 1975. Design and synthesis of nitroxide radicals for biophysical and biomedical applications. **A. Rajca***
13:35 – 1976. Access to local surface water dynamics and structure by spin labeling and Overhauser DNP. **S. Han**
14:05 Session Break
14:20 – 1977. Mono- and biradical nitroxide cysteine-specific labels for structural biology of membrane protein by solid-state NMR and DEER spectroscopy. **A. Smirnov***, M. Voynov, S. Milikisiyants, S. Wang, R. Munro, M. Donohue, L. Brown, T. Smirnova, V. Ladizhansky
14:50 – 1978. Bifunctional spin labeling of muscle proteins: Accurate rotational dynamics, orientation, and distance by EPR. A. Thompson, B.P. Binder, J.E. McCaffrey, B. Svensson, **D.D. Thomas***
15:20 – 1979. Nitroxide-tagged platimum(II) compound enables identification of DNA G-quadruplex binding mode. X. Zhang, C. Xu, Z. Mao, **P.Z. Qin***
15:40 – 1980. Probing the electrostatics of biointerfaces by EPR of spin-labeled phospholipids with pH-dependent EPR spectra. **M.A. Voynov**, A. Koolivand, C. Scheid, I. Kirilyuk, A. Marek, A. Smirnov
16:00 – 1981. pH-sensitive nitroxide probes to probe electrostatics and proton gradients in membrane protein systems. **T. Smirnova***, M. Voynov, A. Smirnov

Hawaii Convention Center
319B

Membranes and Nanotechnologies for Energy and Environment Applications (#317)

Organized by: H. Park, B. Freeman, B. McCloskey, J. McGrath, A. Hill, A. Higuchi, Y. Lee

13:00 – 1982. New approach for scientific research on RO membrane. **M. Kimura***, T. Ogawa, K. Nakatsuji, T. Sasaki
13:30 – 1983. Construction of biomimetic asymmetric membranes and application of them in the field of energy and environment. **L. Wen**, L. Jiang
13:50 – 1984. Complexation induced phase separation: Preparation of composite membranes with a nanometer thin dense skin loaded with metal ions. **L. Villalobos***, K. Peinemann
14:10 – 1985. Correlating transport and stability of ion-exchange membranes through nanostructure. **A. Kusoglu**, a.z. weber
14:30 – 1986. Design and synthesis of membranes for artificial photosynthesis. **N.A. Lynd**
14:50 – 1987. Polymer electrolytes with high lithium ion transference numbers. **B.D. McCloskey***
15:20 – 1988. Ionic diode membrane for salinity gradient power generation. **W. Guo***, L. Jiang
15:40 – 1989. Ion transport structure/property relationships in charged polymer membranes. **G.M. Geise***
16:00 – 1990. Self-assembled nanoporous nanoparticle network films for membrane applications. N. Kwon, H. Lee, H. Park, **B. Lim***
16:20 – 1991. Template-free hydrothermal synthesis and high alcohol selectivity of silicalite-1 membranes with nanosize seed. **C. Cho***, S. Hu
16:40 – 1992. Membrane migration method for the purification of adipose-derived stem cells from fat tissue through synthetic porous membranes. **A. Higuchi**, S. Kumar, A. Alarfaj, M. Munusamy

Hawaii Convention Center
314

Supramolecular Assemblies at Surfaces: Nanopatterning, Functionality, Reactivity (#346)

Organized by: D. Perepichka, F. Rosei, A. Wee, W. Chen, P. Weiss
Presiding: C. Wang

13:00 – 1993. On-surface host-guest chemistry of planar pyridine macrocycles with organic cations. **Y. Tobe***
13:30 – 1994. Supramolecular assembly through ion-dipole interaction. **Y. Kim***
14:00 – 1995. Desorption rates and energy of desorption measurements at the solid solution interface. **K. Hipps***, U. Mazur, A. Bhattarai
14:30 – 1996. Clocking surface-reaction by the observed in-plane rotation of a product. **K. Anggara**, A. Chatterjee, F. Cheng, K. Huang, L. Leung, J. Polanyi
14:50 – 1997. Molecular quasicrystals: Penrose tiling with molecules. S.J. Nam, G. Waterhouse, D.C. Ware, **P.J. Brothers***
15:10 Coffee break
15:20 – 1998. Hydrogen-bonding in control of supramolecular ordering of organic semiconductors. **C. Fu***, H. Lin, J. Macleod, A. Krayev, F. Rosei, D. Perepichka
15:40 – 1999. Tuning the self-assembly of 5-amino [6]helicene on solid surfaces. H. Ascolani, M.W. van der Meijden, L.J. Cristina, J. Gayone, R.M. Kellogg, J.D. Fuhr, **M. Lingenfelder***
16:00 – 2000. Toward spatio-temporally resolved chemistry: The role of surface confinement. **S. Hecht***
16:30 – 2001. Self-assembly of organics on carbon surfaces and applications for electronic devices. **Z. Bao***

Hawaii Convention Center
316C

Fundamentals and Applications of Nanomaterials for Energy Technologies (#348)

Organized by: S. Jin, G. Yu, T. Minegishi, S. Maldonado, J. He
Presiding: S. Maldonado, G. Zheng

13:00 – 2002. Publishing in Wiley materials science journals. **J.R. Oliveira***
13:30 – 2003. Semiconductor heterostructures for energy conversion, storage, and bio-interfaces. **G. Zheng***
14:00 – 2004. Charge separation in heterostructured nanoparticles. **T. Teranishi***

*** Principle Author**

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14:30 – 2005. Exotic Au nanostructures: Structure solution, properties, and applications. **Y. Han**
15:00 Break
15:15 – 2006. Can surface plasmon promote energy conversion effectively. C. Zhan, Y.F. Huang, **Z. Tian**
15:45 – 2007. Synthesis of chemically modified graphene materials for energy applications. **G. Shi***
16:15 – 2008. SURMOFs/CNCs as tuneable photonic and optoelectronic materials for light harnessing and solar energy applications. **E. Redel**
16:30 – 2009. Nanograined half-Heusler Ti-NiSn for thermoelectric applications. **M. Buffon**, R. Seshadri
16:45 – 2010. Aerogels as novel matrices and spacers of ultralow thermal conductivity for applications in nano-enabled thermoelectrics. **N. Mishra**, M. Jaime, C. Hamilton, J. Torres, J. Hollingsworth

Hawaii Convention Center
316B

Multi-scale & Synergistic Supramolecular Systems in Material and Biomedical Sciences (#357)

Organized by: S. Aoki, H. Chiu, K. Soga, N. Gianneschi, X. Bengang
Presiding: K. Soga

13:00 Opening remarks
13:05 – 2011. Supramolecular systems constructed of porous solids and guest inclusions for energy and environmental applications. **M. Suh***, D. Lim, H. Park, S. Sung
13:30 – 2012. Highly diastereoselective guest encapsulation by self-assembled dissymmetric capsule. **T. Haino***
13:55 – 2013. On-colloid supramolecular assembly of nanoparticle growth templates. **J.E. Millstone**
14:15 – 2014. Nanosecond charge carrier lifetimes in hierarchical donor-acceptor supramolecular polymer films. **A.B. Braunschweig**, A.M. Scott, C.X. Guzman, S. Yamazaki
14:35 – 2015. Odd-even effect in the crystal structure of [Ni(dmit)$_2$] salt of alkylammonium enhanced by substitution of end methyl group with phenyl group. **K. Miyamura***, M. Saeki
14:55 Break
15:00 – 2016. Design of functional glycomaterials and the biological consequences of multiscale glycan presentation at cellular boundaries. **K. Godula***
15:20 – 2017. New polymer-MOF hybrids built from the ground up. **S. Cohen***, S.A. Miller
15:40 – 2018. Reversible anion transport and biological properties using host-guest competitive processes. **J. Gravel**, A.R. Schmitzer*
16:00 – 2019. Design and synthesis of luminescent cyclometalated iridium(III) complexes for material and biomedical science. **S. Aoki***, Y. Hisamatsu, A. Kando, N. Suzuki, A.A. Masum, H. Tanaka, S. Kumar
16:25 – 2020. Dipyrrin-typical-element complexes with unique and responding functions. **T. Nabeshima***

Hawaii Convention Center
319A

Synthesis, Structure and Functionalities of Ferroelectrics and Multiferroics (#432)

Organized by: Z. Ye, C. Brown, T. Kiguchi
Presiding: Z. Ye

13:00 Opening
13:05 – 2021. Spin and lattice dynamics in multiferroic $BiFeO_3$. G. Xu*, **Z. Xu**, J. Schneeloch, j. Wen, C. Stock, P.M. Gehring, M. Stone, M. Matsuda, B. Winn, T. Berlijn, W. Ku, G. Gu, S. Shapiro, R. Birgeneau, T. Ushiyama, Y. Yanagisawa, Y. Yomioka, T. Ito
13:30 – 2022. Toward enhancement of magnetoelectric performance in spin-driven ferroelectrics. **T. Kimura***
13:55 – 2023. Raman spectroscopy and photovoltaic responses of doped $BiFeO_3$ multiferroic ceramics. **C. Tu**, C. Lin, V.H. Schmidt, R. Chien
14:10 – 2024. Multiferroic and magnetoelectric nanocomposites for data processing. **W. Kleemann***, P. Borisov, C. Schmitz-Antoniak, L. Henrichs, H. Wende
14:25 – 2025. Noncentrosymmetric metals: A new materials class for artificial multiferroic design. **J. Rondinelli***
14:45 Break
14:55 – 2026. Electrically controlled non-volatile switching of magnetism in multiferroic heterostructures via engineered ferroelastic domain states. **M. Liu***, T. Nan, N. Sun, Z. Ye
15:20 – 2027. Magnetic control of ferroelectric polarization in a self-formed single magnetoelectric domain of multiferroic $Ba_3NbFe_3Si_2O_{14}$. **Y. Choi***, N. Lee
15:35 – 2028. Effect of strain on ferroelectric field effect in strongly correlated oxide $Sm_{0.5}Nd_{0.5}NiO_3$. L. Zhang, J. Gardner, V. Singh, **X. Hong***
15:50 – 2029. Strong ferromagnetic-dielectric coupling in multiferroic Lu_2CoMnO_6 single crystals. **N. Lee***, H. Choi, Y. Jo, Y. Choi
16:05 – 2030. Multiferroic perovskite nanoparticles: Microwave-hydrothermal synthesis, structural characterization, and visible-light photocatalytic properties. H. Wu*, L. Li, S. Zhou, J. Zhu, Z. Liu, **X. Zhu***
16:20 – 2031. Spin-lattice coupling in a paraelectric antiferromagnet EuTiO3. **H. Cao***, J. Hong, O.A. Delaire, J. Yan
16:35 – 2032. Multifunctional $BiFeO_3$-$ATiO_3$ [A: Pb, Ba] thin films: Chemical composition modification and electrical and magnetic properties. **W. Sakamoto***, Y. Ito, A. Iwata, D. Maeda, N. Makino, T. Yogo

Friday Evening

Hawaii Convention Center
317A

Organic, Inorganic and Hybrid Nanoparticles: Synthesis, Characterization, and Applications (#23)

Organized by: L. Bronstein, F. Winnik, K. Akiyoshi
Presiding: V. Ksenofontov

19:00 – 2033. Magnetic properties of iron oxide nanoparticles imbedded in a coordinating polymer matrix. **V. Ksenofontov***, S. Shylin, M. Tahir, F. Liaqat, P. Daniel, W. Tremel
19:15 – 2034. Recent advances in the synthesis of organosoluble thiolate-protected metal nanoparticles. **P.J. Goulet***, J. Sidletsky, B. Root
19:30 – 2035. Utilizing electron transfer effect to enhance the chemical stability of Ag within the shell of nano-heterostructured particles with Au or Pt in the core. **A.T. Dao***, D.M. Mott, S. Maenosono
19:45 – 2036. Magnetorheology of core-shell structured carbonyl iron/polystyrene foam microparticles suspension with enhanced stability. **Y. Seo***, W. Chuah
20:00 – 2037. Synthesis of organic-inorganic hybrids using various alkoxysilane-functional polymer precursors via hydrolytic and non-hydrolytic polymerization process. **J. Kim***, N. Kim
20:15 – 2038. Improvement of the thermal stability of mesoporous titania with crystalline framework using silane coupling agent and pluronic surfactants. **T. Endo***, T. Tojo, K. Torigoe, K. Sakai, M. Abe, H. Sakai
20:30 – 2039. Removal of petroleum crude oil spill from sea water using high magnetization antimicrobial biocompatible magnetite nanoparticles. a.m. atta, **h.a. al-lohedan**

Hawaii Convention Center
Halls I, II, III

Chemistry and Applications of Graphene (#39)

Organized by: Y. Chen, R. Haddon, K. Loh
Presiding: S. Bak, Y. Chen, Y. Huang

Poster Session
19:00 – 21:00

2040. Preparation of water-dispersible few-layer graphenes via edge-only oxidation, followed by shear-induced exfoliation. **T. Yoon***, J. Lee, H. Yoon
2041. Simple preparation of reduced graphene oxide encapsulation film for organic photovoltaic device. **T. Kim**, J. Kang, S. Yang, S. Sung, Y. Kim, **C. Park**
2042. Fabrication of few-layer graphene sheets using a serious linear diamino alkanes. **J. Li***, J. Li*
2043. Wafer-scale nanoperforation of single-layer graphene by arrayed Pt nanoparticles. **m. park***
2044. Fluorination of nanodiamond/nanographene-shell structure. **K. Kogane**, H. Touhara, Y. Hattori, K. Takai*
2045. Correlation between spin magnetism and chemical activity in graphene oxide/nanographene. **T. Yamashina**, T. Isaka, K. Inoumi, Y. Matsuo, K. Takai*
2046. Control the bandgap of graphene quantum dots with functional groups. **S. Bak**, H. Lee*
2047. Enhanced sensitivity of DNA sensing by surface-passivated graphene oxides. **B. Lee***, M. Lee, Y. Kim, B. Hong*
2048. Mechanical flexibility and electrical conductivity of graphene films synthesized by plasma treatment. **M. Ishihara**, Y. Okigawa, T. Yamada, M. Hasegawa
2049. Electrocatalytic properties of Pt or Pt-Ru alloy nanoparticles on modified carbon nanomaterials by electrodeposition methods. **H. Yoshitake**, E. Inami, Z. Wang, H. Ogata
2050. Direct observations of graphene dispersed in solution by FRET-TIRF microscopy. **Y. Matsuno**, Y. Sato, M. Sano*
2051. STM observation of graphene oxide reduced by vacuum ultraviolet irradiation. **H. Nakamoto***, Y. Tu, O.P. Khatri, T. Ichii, T. Utsunomiya, S. Kurokawa, H. Sugimura
2052. Tuning molecular adsorption kinetics in graphene by gate-bias voltage. **T. Umehara**, K. Takai
2053. Bromine adsorption effects on epitaxial graphene. **K. Nakamoto**, K. Takai, T. Akatsu
2054. Liquid crystal property driven selective seiving of graphene oxide and its electrochemical properties. **K. Lee**, S. Kim*
2055. Application of graphene to the removal of Pb(II) and Cd(II) cations from aqueous solutions. S. Hemidouche, L. Boudriche, A. Boudjemaa, **S. Hamoudi***
2056. Immobilization and photoreduction of graphene oxide on hydrogen–terminated silicon. **S. Kokufu***, Y. Tu, T. Ichii, T. Utsunomiya, H. Sugimura
2057. Modeling of the adsorption of aromatic organic compounds by graphene oxide based on its surface structure. **H. Yang***
2058. Matrix-free LDI-TOF mass analysis of small molecules using converted graphene surfaces. **H. Kang**, H. Yun, S. Lee, W. Yeo*
2059. Thermal conduction and dissipation application of polymer composites including graphene. **W. Oh**
2060. Structural characterization of graphene based morphologies for cathode application in fuel cells. **K. Lehmann***, O. Yurchenko, G. Urban
2061. Highly efficient nucleic acid drug delivery by graphene oxides. **J. Yoo**, E. Jeong, H. Lee, B. Hong
2062. Graphene-enhanced conductivity and shape modulation of ionic hydrogel. **Y. Kim***, B. Hong*
2063. Preparation of graphene oxide/polyvinyl alcohol microcomposites and their thermal conducting properties. **S. Kim**, Y. Azuma, Y. Kuwahara, T. Ogata, S. Kurihara

Hawaii Convention Center
321A

Metal-oxo Clusters: Molecular Design from Monomers to Infinity (#79)

Organized by: M. Nyman, Y. Li, T. Ozeki, C. Ritchie
Presiding: D.C. Crans

19:00 – 2064. Computational study of the water oxidation mechanism catalyzed by the polyanion $[Co_4(H_2O)_2(XW_9O_{34})_3]^{10-}$ ($X = P^{5+}, V^{5+}$). **J. Soriano-Lopez***, J. Galan-Mascaros, J. Carbo, J. Poblet, D.G. Musaev, C.L. Hill
19:20 – 2065. Natural born catalysts: The great POM beauty. **M. Bonchio***
19:40 – 2066. Water-oxidation catalysis starting with cobalt polyoxometalates: Addressing the challenging, "who's the true catalyst" question. **R.G. Finke***
20:00 – 2067. Polyoxometalate catalyst design for water oxidation and reduction. **G.R. Patzke**
20:20 – 2068. Catalytic water oxidation with cobalt-containing POMs: Processing and activity in the solid state and into plastic thin films. **J. Galan-Mascaros**, M. Blasco-Ahicart, J. Soriano-Lopez
20:40 – 2069. Polyoxometalate catalysts for solar fuel production. **C.L. Hill***, H. Lv, S.M. Lauinger, Q. Yin, J. Vickers, E.N. Glass, J. Sumliner, Y.V. Geletii, D.G. Musaev, T. Lian

Hawaii Convention Center
320 Theatre

Functional Molecular Materials and Devices (#128)

Organized by: R. Kato, H. Mori, J. Schlueter, B. Powell, S. Lo, H. Fujii, T. Mori, J. Takeya
Presiding: S. Lo

19:00 – 2070. Questioning of superconductivity in aromatic hydrocarbons. **S. Heguri***, M. Kobayashi, K. Tanigaki
19:20 – 2071. Synthesis and physical properties of a chiral donor with reduced π-electron system. **H. Nishikawa***, T. Watanabe, Y. Yoshimura
19:40 – 2072. Molecular design and electronic properties of TTF- and TTP-based salt-bridge conductors. **Y. Kobayashi***, T. Terauchi, S. Sumi, Y. Matsushita, H. Iwai, A. Tanaka
20:00 – 2073. In-operando studies of ultra-thin film OFETs using soft X-ray microspectroscopic probes. **R.H. Fink**, X. Du, B. Rösner, P. Warnicke, N. Pilet
20:20 – 2074. Controlling the stereochemistry and regularity of butanethiol self-assembled monolayers on Au(111). **J. Reimers***, J. Yan, R. Ouyang, P.S. Jensen, E. Ascic, D. Tanner, B. Mao, J. Zhang, C. Tang, N.S. Hush, J. Ulstrup
20:40 – 2075. Exotic properties of nanoscale molecular charge transfer clusters. **S.W. Hla***

*** Principle Author**

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Hawaii Convention Center
Halls I, II, III

Janus Materials: Design, Fabrication and Properties (#210)

Organized by: Z. Yang, S. Granick, E. Kumacheva

Poster Session
19:00 – 21:00

2076. Construction of hierarchical structured hydrogel film as scaffold for 2D and 3D cell co-culture. F. Zhu, Y. Chen, S. Yang, Q. Wang, F. Liang, **X. Qu***, Z. Yang
2077. Experimental and theoretical study on lateral buckling of Janus nanowalls. H. Yoon, **W. Lee***
2078. Novel method to fabricate anisotropic highly porous silica core/shell microspheres. **J.K. Maisch**, H.A. Mayer
2079. Janus hollow spheres. **F. Liang***, Z. Yang
2080. Synthesis and application of anisotropic particles. **L. Huarong***, F. WANG*
2081. Templated synthesis of paramagnetic Janus nanotubes from PDVB nanotubes. **H. Zhang**, F. Liang, Q. Wang, Z. Yang*
2082. Crosslinked hollow epoxy resin microspheres with single hole in their shells. **J. Liu**, F. Liang, Z. Yang*
2083. Janus polymeric nanosheets. **Q. Wang**, Z. Yang*
2084. Facile preparation of Janus silica nanoparticles by SI-ARGET ATRP in aqueous disperse systems. **X. Dong***, W. Zhang, J. He*

Hawaii Convention Center
315

Carbon Nanotubes: Preparation, Characterization and Applications (#227)

Organized by: S. Maruyama, R. Weisman, J. Liu, Y. Lee, J. Zhang
Presiding: S. Maruyama, M. Zheng

19:00 – 2085. Carbon nanotube thin-film static random access memory. **M.C. Hersam***
19:30 – 2086. Scalable assembly and alignment of semiconducting carbon nanotube arrays for high performance field effect transistors. G. Brady, H. Evensen, Y. Joo, A. Albrecht, M. Shea, P. Gopalan, **M.S. Arnold***
19:50 – 2087. Single-walled carbon nanotubes and graphene as hole transport layer and electrode for solar cells. **S. Maruyama***

Hawaii Convention Center
318A

Advances in Bioinspired and Biomedical Materials (#245)

Organized by: K. Healy, Y. Ito, P. Messersmith, X. Chen, I. Kang
Presiding: P. Messersmith

19:00 – 2088. Poly(catecholamine): A new class of bioinspired adhesive polymers. **H. Lee***
19:40 – 2089. High performance mussel-inspired adhesives of reduced complexity. **K. Ahn***, S. Das, R. Linstadt, Y. Kaufman, N. Martinez, R. Mirshafian, E. Kesselman, Y. Talmon, B.H. Lipshutz, J.N. Israelachvili, J. Waite
20:00 – 2090. Hydrogen peroxide generation and biocompatibility of mussel adhesive moiety. H. Meng, **B.P. Lee***
20:20 – 2091. Mussel-inspired cell-adhesion peptide coated PDMS microspheres for enhanced vocal fold augmentation of paralyzed larynx. **S. Kwon***
20:40 – 2092. Rapid fabrication of hierarchical tissues by reeling-based cell fiber assembly. **S. Iwanaga***, T. Okitsu, S. Takeuchi

Hawaii Convention Center
Halls I, II, III

Nitroxide Radicals: Synthesis and Functional Bio-/Nanomaterials (#309)

Organized by: A. Smirnov, S. Bottle, R. Tamura
Presiding: S.E. Bottle, A. Smirnov, R. Tamura

Poster Session
19:00 – 21:00

2093. Preparation and magnetic properties of all-organic nitroxide biradical liquid crystals. **K. Taguchi***, K. Suzuki, S. Devendra, Y. Takemoto, S. Takaoka, Y. Uchida, D. Mazhukin, I. Grigor'ev, R. Tamura
2094. Mapping of chemical environment by paramagnetic probes using Overhauser enhancement. **A.V. Samouilov***, A. Bobko, W. Takahashi, I. Dhimitruka, O. Efimova, J.L. Zweier, V.V. Khramtsov
2095. Spectral-spatial rapid scan EPR imaging with nitroxide spin probes. **M. Tseytlin***, J.R. Biller, D.G. Mitchell, **H. Elajailib**, G.A. Rinard, R.W. Quine, G.M. Rosen, J.P. Kao, L.A. buchanan, J. McPeak, Y. She, G.R. Eaton, S.S. Eaton
2096. Preparation and magnetic properties of metal-free magnetic nanoemulsions encapsulating nitroxide radicals. **K. Nagura***, Y. Takemoto, Y. Uchida, S. Shimono, T. Kato, J. Yamauchi, R. Tamura
2097. Theoretical investigation of the efficiency of electron propagating through molecules using biradical molecular wires by DFT calculations. **S. Nishizawa**, J. Hasegawa, K. Matsuda*
2098. Singlet oxygen topology on the nanoscale. **M. Forbes**
2099. Studies on magnetic properties of bis-(nitronyl nitroxide) and bis(iminonitroxide)-substituted azulenes. **M. Haraguchi**, E.V. Tretyakov, S. Suzuki, M. Kozaki, K. OKADA*
2100. Studies on magnetic properties of trinuclear gold(I) complexes bearing imino nitroxide radicals. **T. Wada**, S. Suzuki, M. Kozaki, d. shiomi, k. sato, t. takui, K. OKADA*
2101. Stable boronylated triarylmethyl radicals for the measurement of glucose, hydrogen peroxide, and peroxynitrite by electron paramagnetic resonance. **B. Driesschaert***, A. Bobko, J.L. Zweier, V.V. Khramtsov
2102. 6-Oxoverdazyl polymers. **J.A. Paquette**, J.T. Price, C.S. Harrison, R.R. Maar, J.B. Gilroy*

Hawaii Convention Center
Halls I, II, III

Supramolecular Assemblies at Surfaces: Nanopatterning, Functionality, Reactivity (#346)

Organized by: D. Perepichka, F. Rosei, A. Wee, W. Chen, P. Weiss

Poster Session
19:00 – 21:00

2103. 3D printing of functional nanostructures. **J. Zhao**, L. Swartz, A. Sulkanen, J. Frommer, G. Liu*
2104. Unique adsorption behaviors of carboxylic acids at rutile TiO_2(110). **Y. Yu**, X. Gong*
2105. Dual component grafting of HOPG: Toward large scale morphology control. **T. Phan**, Y. Fujita, H. Van Gorp, J. Greenwood, T. Huynh, Z. Li, O. Ivasenko, H. Ujii, S. De Feyter*
2106. Architectural control of surface properties and morphology of fluoromethacrylate copolymers. **H. Peng***, A. Chen, I. Blakey, K. Jack, A. Whittaker
2107. Supramolecular interaction of side chain crystalline polymer and interaction function with polyethylene and polytetrafluoroethylene. **S. YAO***, A. Maeda, H. Obuchi, M. Yamasaki, R. Nakano, H. Sekiguchi
2108. Structure and disassembly of a biomineralization protein on a biologically relevant surface. **W. Shaw**, B. Tarasevich, J. Tao, G. Buchko, J. De Yoreo
2109. Development of surface control technique by the photoresponsive self-assembled monolayer toward organic field-effect transistors. **T. Konishi**, K. Yamaguchi*
2110. Construction of calix crown-containing polymer nanosheets for capturing cesium ion. **K. Sato***, G. Noguchi, K. Asao, A. Murata, T. Fujie, Y. Nagase, S. Takeoka
2111. Self-assembled structures of alkyl-derivatized diketopyrrolopyrrole pigment at surface and in crystal. **A. Honda***, Y. Tamaki, K. Miyamura
2112. Chemical functionalization of 2D surfaces with nonbiofouling polymer coating. S. Ko, **G. Han**, J. Lee*
2113. STM observation of nucleation–elongation process of surface-confined self-assembly based on hydrogen bond network via amide or urea group. **N. NISHITANI**, T. Hirose, K. Matsuda*
2114. Competitive adsorption of water and surfactants at solid/ionic liquid interfaces. **K. Okada***, T. Misono, T. Endo, K. Sakai, M. Abe, H. Sakai
2115. Scanning tunneling microscopy investigation on nanoparticle packing driven by line tension. S.L. Riechers*, **W. Lin**, S. Wang, J. Zhang, Q. Zhong, S. da Rocha, G. Liu
2116. Orientation and photofunctional properties of the thin films of oligothiophene derivatives. **H. Urino**, A. Kodaira, C. Pac, H. Moriyama*
2117. Arrangement and reorganization of gold nanoparticles on nanolines prepared by scanning probe lithography on indium tin oxide surface. **J. Yang***, T. Ichii, K. Murase, H. Sugimura
2118. Construction of 2D cyclic array of zinc porphyrin derivative and binding of fullerene. **K. Iritani**, K. Tahara, Y. Tobe*
2119. Self-assembled structures of alkoxy-derivatized Ni(II)-salen complex investigated by scanning tunneling microscopy. **K. Morita***, A. Honda, Y. Tamaki, K. Miyamura
2120. Desorption kinetics at the solution-graphite interface: An STM study. **A. Bhattarai**, K. Hipps, U. Mazur
2121. Thermally activated transition with accompanying dimensional variation: Squaric acid on Au(111). **K. Ueji***, J. Jung*, J. Oh, K. Miyamura, Y. Kim*

Hawaii Convention Center
Halls I, II, III

Fundamentals and Applications of Nanomaterials for Energy Technologies (#348)

Organized by: S. Jin, G. Yu, T. Minegishi, S. Maldonado, J. He
Presiding: J. He, S. Maldonado, T. Minegishi

Poster Session
19:00 – 21:00

2122. Hydrogen evolution from water using Cu(In,Ga)Se_2 photocathodes modified with nanometer-thick conductor layers. **T. Minegishi**, H. Kumagai, H. Kaneko, K. Domen*
2123. $Rh_{2-y}Cr_yO_3$-loaded $LaMg_{1/3}Ta_{2/3}O_2N$ as a hydrogen evolution photocatalyst in Z-scheme overall water splitting. **Z. Pan***, T. Hisatomi, C. PAN, Q. Wang, T. Takata, K. Domen
2124. Semiconductor photoanodes sheathed with ultrathin nanolayers of double hydroxides for photoelectrochemical oxidation of water. **X. Xiang**, W. He
2125. Photovoltaic performance of solar cells sensitized with ZnSe-$AgInSe_2$ solid solution quantum dots. **H. Shibakawa**, Y. Douke, T. Kameyama, M. Kawaraya, H. Segawa, S. Kuwabata, T. Torimoto*
2126. Effect of capping agent on CdS nanoparticlesstructure for quantum dots-sensitized solar cells. **C. Kusumawardani***, A.K. Prodjosantoso, K.H. Sugiyarto
2127. High cycling performance of SiO_2 coated on multiwall carbon nanotubes for anode material of lithium-ion battery. Q. Sun, X. LIU, W. Yiu, **A. Djurišić**, M. Xie, **A. Ng**, W. Chan
2128. Improvement in the energy storage properties of ZnO based LIB anode by precursor treatment. X. LIU, F. Liu, Q. Sun, M. guo, **A. Djurišić**, **A. Ng**, M. Xie, W. Chan
2129. Microstructures of Si-SiO_x core-shell nanoparticles as an anode material for Li-ion battery. **B. Jang***, J. Lee, J. Koo
2130. $Li_4Ti_5O_{12}$/Graphene nanoribbon composites as anodes for lithium-ion batteries. **P.A. Medina***, H. Zheng, B.D. Fahlman
2131. High energy mechanical milling route to indium selenide carbon nanocomposites with promising electrode functionality. **S. Oh***, S. Hwang
2132. Development of the direct glucose fuel cell with a high power density. **M. Takahashi***, K. Iwabata, K. Torigoe, Y. Kanai, T. Ruike, K. Sakaguchi, H. Sakai, M. Abe
2133. Growth and characterization of lithium ion conductor $La_{2/3-x}Li_{3x}TiO_3$ single crystals. **C. Kobayashi***, M. Nagao, S. Watauchi, I. Tanaka
2134. Self-assembled polythiophene-fullerene-single-walled carbon nanotube ternary nanocomposites showing pn heterojunction. **M. Kawamoto***, Z. Li, A. Furube, K. Seki, K. Tajima, Y. Ito
2135. Imaging of time-dependent changes of hydrophilicity and its inhomogeneity on a titanium dioxide film induced by UV irradiations studied by the newly developed NIR camera (Compovision). **I. Tanabe***, D. Ishikawa, D. Furukawa, M. Ishigaki, T. Goto, T. Morishima, T. Okuno, Y. Ozaki
2136. ZnO – organic molecule hybrid interlayer for transparent organic tandem photovoltaic. **C. Chi**, H. Chang, C. Shih, C. Ma, B. Huang, Y. Tai*
2137. Facile preparation of PEDOT/GO hybrid composites for supercapacitors. **Y. Sulaiman***, N. Azman, H. Lim
2138. Vanadium oxide nanostructures Ffor smart window applications. Y. Jung, J. Han, **S. Chung***
2139. In situ solid-state NMR studies on the size dependency of hydrogen storage property of Pd nanoparticles under controlled hydrogen gas pressure. **S. Dekura***, H. Kobayashi, R. Ikeda, M. Maesato, Y. Kubota, H. Kitagawa
2140. Control of relative geometry between porphyrins accumulated at phase segregation interface of normally oriented cylindrical nanostructure. **J. Takehisa**, G. Akimoto, S. Asaoka*
2141. Electrically reinforced polymer composites of PMMA with MWCNT-PANI. **T. Hussain***, F. Bashir, A. Samad, A. Mujahid, K. Shehzad, M.H. Raza
2142. Synthesis of CIS ($CuInSe_2$) solar cell in aqueous phase under room temperature. **H. Takahashi***, H. Fujiki, M. Takagi, S. Yokoyama, K. Tohji
2143. Investigating the effect of grain size on the nanostructured chalcopyrite thermoelectric material. **M.S. Singh**, K. Gupta, S. Nishino, M. Miyata, D. Mott, M. Koyano, S. Maenosono*

*** Principle Author**

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2144. Structure dependence of anharmonic effects in thermoelectric materials. **T. Hata***, R. Jono, K. Yamashita
2145. Copper manganese sulfide nanoparticles for a sustainable thermoelectric material. **K. Gupta**, . Singh, D.M. Mott, M. Koyano, S. Maenosono*
2146. Synthesis of Sn-Bi-Te tertiary thermoelectric alloy nanoparticles by controlling the metal complexes condition in aqueous solution. H. Takahashi*, **S. Kon**, S. Yokoyama, K. Tohji
2147. Bubble propelled nanomotor based on aggregation of thiol-modified Pt/Au nanorod. **R. Katogi**, I. Shitanda, M. Itagaki, Y. Hoshi
2148. Microwave-assisted synthesis of platinum-ruthenium-cobalt-graphene catalysts for fuel cells. **L. Tamasauskaite-Tamasiunaite***, T. Kaveckas, A. Balciunaite, M. Semasko, V. Kepeniene, J. Vaiciuniene, A. Drabavicius, E. Norkus
2149. Kinetics of sodium borohydride hydrolysis catalyzed by cobalt with a fiber structure decorated with gold or platinum nanoparticles. **E. Norkus***, A. Zabielaite, I. Stalnioniene, S. Lichusina, D. Simkunaite, B. Simkunaite-Stanyniene, A. Matuseviciute, A. Selskis, L. Tamasauskaite-Tamasiunaite
2150. First principles study of adsorption mechanisms of lithium oxides (Li_xO_2) on a graphene-based electrode. **J. Lee**, H. Moon, Y. Yoon, S. Kang, I. Kim, **S. Lee***
2151. Synthesis and characterization of fullerene derivatives with an alkyl chain spacer in organic photovoltaic devices. **Y. Kuda**, K. Abe, H. Lee, J. Lee, J. Jang, C. Pac, H. Moriyama*
2152. Novel graphene-based porous materials: Synthesis and applications. **Y. Li**, G. Shi
2153. Facile strategy for robust graphene films in a large scale. **m. zhang***, G. Shi
2154. Pure surface plasmon resonance induced photocurrent. **C. Zhan**, B.W. Liu, S. Hu, B. Ren, Z. Tian
2155. First principles study of the Na adsorption mechanisms on graphene and graphene oxide. **H. Moon**, J. Lee, H. Lee, S. Kwon, I. Kim, **S. Lee***

Hawaii Convention Center
319A

Synthesis, Structure and Functionalities of Ferroelectrics and Multiferroics (#432)

Organized by: Z. Ye, C. Brown, T. Kiguchi
Presiding: J.L. Jones

19:00 – 2156. Design of new tetrahedral ferroelectric system. **M. Itoh***, Y. Hamasaki, S. Yasui, T. Taniyama, A. Konishi, H. Moriwake
19:25 – 2157. Multiferroic perovskite structure and function design from the first principles. **W. Ren***
19:40 – 2158. Magnetic field induced unidirectional transmission of THz light in multiferroics. **T. Room***
19:55 – 2159. Interfacial flexoelectricity in oxide superlattices. **H. Xu***, A. Plymil
20:10 – 2160. New ferroelectrics and antiferroelectrics by design. **K.M. Rabe***

Hawaii Convention Center
Halls I, II, III

Application of Luminescent Materials for Radiation Detection (#442)

Organized by: K. Asai, J. Zhang, T. Yanagida, S. Kasap
Presiding: K. Asai

Poster Session
19:00 – 21:00

2161. New dosimetry technique using TL phosphor BeO:Na. **K. SHINSHO***, K. Otsubo, Y. Koba, G. Wakabayashi
2162. Radiophotoluminescence response in Ag-doped phosphate glass irradiated with heavy particles. **H. Nanto***, T. Ikeguchi, Y.m. Yanagida, K. Hirasawa, Y. Takei, S. Kodaira, T. Yanagida, Y. Fujimoto, T. Kurobori, T. Yamamoto
2163. Sm-doped fluorochlorozirconate (FCZ) glasses and glass-ceramics for scintillator applications. **G. Okada***, A. Edgar, S. Kasap, T. Yanagida
2164. Scintillation and optically stimulated luminescence of ZnO-precipitated glass-ceramics. **H. Masai**, T. Yanagida, T. Fujiwara
2165. Luminescence property of MO_x-codoped tin zincphosphate glasses. **H. Masai**, T. Yanagida, Y. Fujimoto, M. Koshimizu
2166. Scintillation responses of undoped CdF_2 crystal. **T. Yanagida***, M. Koshimizu, Y. Fujimoto, G. Okada, K. Fukuda
2167. Evaluation of undoped CdS semiconductor crystalline scintillator. **T. Yanagida***, M. Koshimizu, G. Okada
2168. Comparative study of undoped and Eu-doped SrI_2 crystal scintillator. **T. Yanagida***, M. Koshimizu, G. Okada, T. Kojima, J. Osada
2169. Spiropyran-based X-ray sensitive fiber. **K. Kinashi***, Y. Miyamae , R. Nakamura, W. Sakai, N. Tsutsumi

Saturday Morning

Hawaii Convention Center
317A

Organic, Inorganic and Hybrid Nanoparticles: Synthesis, Characterization, and Applications (#23)

Organized by: L. Bronstein, F. Winnik, K. Akiyoshi
Presiding: K. Akiyoshi, M. Tabrizian

8:00 – 2170. Molecularly imprinted nanogels for human serum albumin recognition. **Y. Kitayama**, R. SASAO, T. Takeuchi*
8:15 – 2171. Phenylboronic acid-bearing nanoparticles as a versatile platform for preparing drug-conjugated nanoparticles using the Suzuki reaction. **A.J. van der Vlies**, U. Hasegawa
8:30 – 2172. Transdermal protein delivery systems controlled by photothermal effect of gold nanorods. **T. Niidome***
8:55 – 2173. Enhancement of DNA enzyme activity by nano-assembling with cationic copolymers. **A. Maruyama**, J. Gao, N. Shimada
9:20 – 2174. DNA-assembled nanosystems for in vivo targeting. **W.C. Chan***
9:45 Intermission
10:00 – 2175. Surface-enhanced Raman scattering nanoparticles for the detection and mapping of cardiovascular inflammatory biomarkers. K. Bowey, J. Tanguay, M. Sandros, **M. Tabrizian***
10:25 – 2176. pH- and temperature-responsive organic-inorganic hybrid polymer nanoparticles with controlled cellular uptake. **Y. Hiruta***, S. Koide, J. Wang, H. Kanazawa
10:40 – 2177. Effect of "reversely arranged" zwitterionic amphiphile on protecting structure of liposomes during freeze-dry and rehydration. **T. Aikawa**, Y. Takahashi, H. Okado, T. Kondo, M. Yuasa*
10:55 – 2178. Synthesis of protein-imprinted core/shell polymer particles bearing ON/OFF switchable molecular recognition property via CO_2/N_2 bubbling. **M. Isomura***, Y. Kitayama, T. Takeuchi
11:10 – 2179. Polymer nanocomposites - an NMR investigation. **U. Scheler***
11:25 – 2180. Size-selective polymer nanocapsules as a platform for yolk-shell hybrid nanocomposites. **S. Shmakov***, Y. Jia, E. Pinkhassik

Hawaii Convention Center
316A

Chemistry and Applications of Graphene (#39)

Organized by: Y. Chen, R. Haddon, K. Loh
Presiding: Y. Huang, Y. Lee, Z. Liu, K.P. Loh

8:00 – 2181. Chemically functionalized graphene for high performance electrochemical energy storage. **Y. Zhang**
8:20 – 2182. Growing high-quality graphene on insulators. **Z. Liu**
8:40 – 2183. Graphene molecules: Synthesis, electronic properties, and applications. Z. Ji, **M. Sykora***
8:55 – 2184. Intelligent polymer materials based on graphene. **Y. Huang***, Y. Zhang, J. Liang, L. Huang, Y. Chen*
9:10 – 2185. Graphene oxide as a super material. **S. Hayami***, H. Takehira, K. Wakata, Y. Murashima
9:25 Break
9:45 – 2186. Centimeter-scale monocrystalline graphene growth. **Y. Lee**
10:05 – 2187. CVD growth of 3D sp^2 structures and its application. **F. Wei***
10:25 – 2188. Recent development in CVD graphene growth: Large area wafer scale growth and oriented grains. **K.P. Loh**
10:45 – 2189. Graphene electrodes for bio/chemical sensors. **A. Mulchandani***, R. Paul, S. Badhulika, R. Rajesh, P. Ramnani, T. Terse-Thakoor, N.M. Saucedo, T. Tran, C. Villarreal
11:00 – 2190. 3D graphene and boron nitride nanosheets grown by chemical blowing. **X. Wang***
11:15 – 2191. Peeling process of thin-film solar cells using graphene electrodes. **R. Ishikawa**, S. Miyajima, M. Konagai

Hawaii Convention Center
321A

Metal-oxo Clusters: Molecular Design from Monomers to Infinity (#79)

Organized by: M. Nyman, Y. Li, T. Ozeki, C. Ritchie
Presiding: C. Bo

8:00 – 2192. Oxygen-isotope exchanges in nanometer-sized ions as a window into geochemical processes. **W.H. Casey***
8:25 – 2193. Chemistry of tetravalent actinide (U and Th) carboxylates: Isolation of oxo/hydroxo polynuclear clusters. **C. Falaise***, C. Volkringer, C. hennig, T. Loiseau
8:45 – 2194. Lanthanide "BottleBrush" clusters. **M. Massi***, M.I. Ogden, D. D'Alessio, R. Phe
9:05 – 2195. Designer polyoxometalate – silver alkynide chimera cluster. **T. Ozeki***, M. Kurasawa, F. Arisaka
9:25 Flash posters
9:35 – 2196. Structures and properties of uranyl peroxide cage clusters. **P.C. Burns**
10:00 – 2197. Structural variations in Group 13 heteropolycations. **T.Z. Forbes**, S.E. Mason
10:20 – 2198. Group 13 (^{27}Al, ^{71}Ga) studies of metal-oxide clusters. **B.A. Hammann**, Z.L. Ma, K.M. Wentz, M.K. Kamunde-Devonish, V.V. Terskikh, D.W. Johnson, S.E. Hayes
10:35 – 2199. Novel hybrid uranium-transition metal peroxide nanoclusters. **J. Qiu**
10:50 – 2200. Metal(IV)-oxide cluster formation: Understanding and controlling hydrolysis. **L. Soderholm***
11:15 – 2201. Solid-state dynamics and hydrogen bonding in uranyl clusters using multinuclear MAS NMR spectroscopy. **T.M. Alam**, M. Nyman, J. Yates
11:35 – 2202. Main group coordination clusters: Synthesis, solution speciation, structure, and their use as "inks" for oxide materials. **D.W. Johnson**

Hawaii Convention Center
321B

Luminescent Nanomaterials: Properties, Mechanisms, and Applications (#101)

Organized by: F. Vetrone, S. Kohei, D. Ma, W. Huang, L. Huang, X. Peng

8:00 – 2203. Growth of fluorescence-tunable gold clusters. D. Mishra, F. Aldeek, G. Palui, **H. Mattoussi***
8:40 – 2204. Surface plasmon enhanced photoluminescence of silver nanoparticles. **A. Pinchuk***, V. Kravets, K. Jiang
9:00 – 2205. Correlating nanoparticle surface chemistry and photoluminescence via NMR spectroscopy. **J.E. Millstone**
9:20 – 2206. Ultrabright luminescence from gold nanoclusters. **D. Lee***
9:40 – 2207. Development of bioluminescent sensor for rapidly detecting thrombin. **J. Zhang***
10:20 – 2208. Protein protected luminescent gold nanoclusters and nanoparticles: Synthesis and their applications. **S. Yarramala**, P. Chebrolu*
10:40 – 2209. Surface functionalization of silicon nanocrystals for sensing platforms. **C.M. Gonzalez**, Z. Yang, T.K. Purkait, M. Iqbal, S. Nesdoly, J. Veinot
11:00 – 2210. Long-lived luminescent silicon nanoparticles for time-gated imaging. **J. Joo**, X. Liu, E. Ruoslahti, M.J. Sailor*
11:20 – 2211. Lanthanide complex based luminescent nanointerface: A versatile platform for molecular information conversion. **J. Liu***, H. Lei*
11:40 – 2212. Near-Infrared (NIR) nanomaterials for bioanalysis. **F. Zhang**

Hawaii Convention Center
319B

Development of Nano Devices and Nanotechnologies for Environmental Monitoring and Remediation (#124)

Organized by: S. Al-Abed, D. Dionysiou, H. Choi, A. Bezbaruah, J. Gardea-Torresdey, W. Choi, M. Litter, T. Lim, B. Pan
Presiding: S. Al-Abed

8:00 Introductory Remarks
8:05 – 2213. Nanomachine-based accelerated environmental remediation. **J. wang**
8:25 – 2214. Sol-gel synthesis of metal-ion-modified TiO_2 photocatalysts for degradation of chlorinated organic compounds under visible light irradiation. **S. Yamazaki***, N. Nishiyama, K. Tashiro, K. Adachi
8:45 – 2215. Synthesis of $Mg(OH)_2$-coated nanoscale zero-valent iron (NZVI) for improved physical and chemical stabilities in environmental remediation. **Y. Hu***, X. Li*
9:05 – 2216. Encapsulation of iron oxide nanoparticles and microorganism with extracellular polymeric substances: Envisioning coupled adsorption-bioremediation of resistant pharmaceuticals. **H. Ha**, S. Yoon, B. Mahanty, R. Kumar, S. Sen, C. Kim*
9:25 – 2217. Synthesis of manganese oxide-coated magnetic nanoparticles and their catalytic efficiency for the oxidative degradation of bisphenol A. **A. Omoike***, K.N. Hall

*** Principle Author**

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9:45 Break
9:55 – 2218. Inorganic oxyanion activation strategies using nanoscale materials: Application for oxidative degradation of organic pollutants. **J. Lee***, H. Yoo, Y. Ahn, E. Yun
10:15 – 2219. TiO_2 nanotube as deactivation-resistant photocatalyst for the removal of volatile organic compounds. **W. Choi***, S. Weon
10:35 – 2220. Photocatalytic degradation of contaminants of emerging concern using solar/visible light-active TiO_2. C. Han, **D. Dionysiou***
10:55 – 2221. Adsorption of CH_4 and N_2O from livestock using ZIF-8. **B. Delgado***, A. Avalos Ramirez, R. Lagace, S. Godbout, A. Giroir-Fendler

Hawaii Convention Center
320 Theatre

Functional Molecular Materials and Devices (#128)

Organized by: R. Kato, H. Mori, J. Schlueter, B. Powell, S. Lo, H. Fujii, T. Mori, J. Takeya
Presiding: H. Mori, B. Powell

8:00 – 2222. Magnetism and conductivity in triangular-lattice ET compounds under controlled randomness and doping. M. Urai, T. Furukawa, K. Miyagawa, H. Taniguchi, H. Oike, T. Sasaki, **K. Kanoda***
8:25 – 2223. Organic superconductors and quantum spin liquid candidates based on dimer-type ET materials κ-$(ET)_2X$. **G. Saito***, T. Hiramatsu, Y. Yoshida, A. Otsuka, M. Maesato, Y. Shimizu, H. Ito, H. Kishida
8:50 – 2224. Charge carrier injection into spin-liquid BEDT-TTF Mott insulators using ionic-liquid-gated transistors. **H. Ito***, K. Sato, Y. Eura, S. Iguchi, S. Kuroda, T. Hiramatsu, Y. Yoshida, G. Saito
9:10 – 2225. High pressure and high magnetic-field studies of the spin gapped organic Mott insulator with distorted triangular lattice. **M. Maesato***, Y. Yoshida, Y. Shimizu, T. Hiramatsu, G. Saito, H. Kitagawa
9:30 – 2226. Dual-functional molecular crystal. **B. Zhang***, D. Zhu
9:50 break
10:05 – 2227. Critically dielectric. **C. Hotta**
10:30 – 2228. Prediction of a spin-liquid ground state in the geometrically frustrated molecular crystal $Mo_3S_7(dmit)_3$. A.C. Jacko, C. Janani, H. Nourse, J. Merino, I. McCulloch, **B. Powell**
10:55 – 2229. Multi-band molecular conductors. **R. Kato***, T. Tsumuraya, T. Miyazaki, H. CUI
11:20 – 2230. Thermodynamic properties of spin liquid in dimer-Mott organic compounds. Y. Nakazawa, **S. Yamashita**, H. Akutsu, H. CUI, K. Ueda, H.M. Yamamoto, R. Kato
11:40 – 2231. Controlling crystallographic and electronic structure in completely organic cation radical salts. **J. Schlueter***

Hawaii Convention Center
315

Carbon Nanotubes: Preparation, Characterization and Applications (#227)

Organized by: S. Maruyama, R. Weisman, J. Liu, Y. Lee, J. Zhang
Presiding: S. Maruyama, J. ZHANG

8:00 – 2232. Tip enhanced Raman spectroscopy of carbon nanotubes. **R. Saito***
8:30 – 2233. Metrology of nanotube metallicity, its evolution, and the range of the Kataura plot. **P. Finnie***
9:00 – 2234. Emergent optical phenomena in carbon nanotubes. **Y. Miyauchi***
9:30 – 2235. Asymmetry in resonant Raman excitation profiles of carbon nanotubes: The role of state-mixing. **E.H. Hároz***, H. Telg, E.B. Barros, J.A. Fagan, G. Ao, M. Zheng, J. blackburn, S.K. Doorn
9:50 break
10:10 – 2236. Photon statistics and materials development towards single-photon emitters based on doped single-wall carbon nanotubes. **S.K. Doorn***, X. Ma, N.F. Hartmann, S. Yalcin, H. Htoon
10:40 – 2237. Optics and photonics with macroscopically aligned carbon nanotubes. **J. Kono***
11:10 – 2238. Preparation, measurement, and fractionation of monodisperse single wall carbon nanotubes. **P.J. Wyatt***
11:30 – 2239. Variance spectroscopy of single-walled carbon nanotube samples. **R. Weisman***, J. Streit, S. Bachilo, S. Sanchez

Hawaii Convention Center
318A

Advances in Bioinspired and Biomedical Materials (#245)

Organized by: K. Healy, Y. Ito, P. Messersmith, X. Chen, I. Kang
Presiding: I. Kang

8:00 Introduction
8:05 – 2240. Biomimetic water and oil selective open capillary prepaed by surface modification. **S. Ito**, D. Ishii
8:25 – 2241. Evaluation of water evaporation suppression effect of plasma polymerized thin film of amphiphilic molecules. **H. Shibagaki**, D. Ishii, R. Kawamura
8:45 – 2242. Slippery interfaces: A new concept in antibiofouling materials. **J. Aizenberg***, C. Howell, S. Sunny
9:25 – 2243. Infrared invisibility stickers inspired by cephalopods. **L. Phan**, D.D. Ordinario, E. Karshalev, W.G. Walkup IV, **A.A. Gorodetsky***
9:45 – 2244. Construction and functionalization of regularly assembled structures composed of liquid crystalline filamentous viruses. **T. Sawada**, T. Serizawa*
10:05 Coffe Break
10:20 – 2245. Mechanically adaptive nanocomposites for biomedical applications. **C. Weder**
11:00 – 2246. Miniemulsion techniques to generate hollow capsules based on the dopamine self-polymerization: Tailoring the capsule shell chemistry, surface functionality, and applications. **A.M. Granville***, P. Zetterlund*, M. Stenzel, Y. Zhai, K. Fan
11:20 – 2247. Rigid and anisotropic coiled-coil proteins exhibit superior cell-penetration activity. N. Nakayama, K. Hagiwara, Y. Ito, K. Ijiro, Y. Osada, **K. Sano***

Hawaii Convention Center
317B

Challenge for Rare Element-free Functional Materials (#291)

Organized by: H. Hosono, D. Ginley, Y. Lee
Presiding: H. Hosono

8:00 – 2248. Ubiquitous element strategy in materials research. **H. Hosono***
8:20 – 2249. Toward a sustainable society. **S. Murai***
8:40 – 2250. Achieving high thermoelectric performance in skutterudites without rare elements. **J. Snyder**
9:10 – 2251. Sustainable chalcogenide nanomaterials for thermoelectrics. **D. Mott***, M.S. Singh, K. Gupta, M. Koyano, S. Maenosono
9:30 – 2252. Development of novel quasi-solid electrolytes composed of lithium, sodium, or magnesium salts and small amount of organic solvent. **M. Moriya***, S. Nabeno, Y. Hanawa, W. Sakamoto, T. Yogo
9:50 Break
10:00 – 2253. Oxide artificial atoms. **N. Satoh***
10:20 – 2254. Thin films of electronic-spin delocalized neutral radical: Morphology and photoelectronic properties. T. Miyata*, **R. Tsuji**, M. Keishima, Y. Morita
10:40 – 2255. Carbon-centered neutral radicals/carbon nanotube composite cathodes for high-performance Li-ion rechargeable batteries. **R. Tsuji***, M. Fujisaki, H. Nobukuni, Y. Morita
11:00 – 2256. Transparent electrochromic transistor. M. Hirono, T. Katase, **H. Ohta***
11:20 – 2257. Intermetallic compounds of naturally-abundant transition-metal elements rival precious-group metals in the catalytic remediation of automobile exhaust. **H. Abe***, T. Tanabe, T. Fujita
11:40 – 2258. Earth-abundant nanoporous metal catalysts for exhaust-gas transformation. **T. Fujita***

Hawaii Convention Center
318B

Nitroxide Radicals: Synthesis and Functional Bio-/Nanomaterials (#309)

Organized by: A. Smirnov, S. Bottle, R. Tamura
Presiding: S.E. Bottle, M.V. Fedin

8:00 – 2259. pH-Switching of nitroxide radical stability and orbital conversion. **M.L. Coote***, G. Gryn'ova
8:30 – 2260. Light sensitive alkoxyamines: New efficient agents for nitroxide mediated photopolymerization (NMP^2). **J.P. Blinco**, E. Simpson, S. Bottle, D. Gigmes, J. Clement, Y. Guillaneuf
9:00 – 2261. Light-sensitive alkoxyamines as versatile spatially- and temporally-controlled precursors of alkyl radicals and nitroxides. M. Baron, J. Lalevée, O. Soppera, D. Gigmes, **Y. Guillaneuf**
9:20 Break
9:30 – 2262. Conjugation and bioconjugation from α-functional polymers obtained by nitroxide-mediated polymerization (NMP) initiated by N-hydroxysuccinimidyl- or azlactone-functionalized alkoxyamines. V. DELPLACE, S. Harrisson, Y. Guillaneuf, S. Pascual, L. Fontaine, **J. NICOLAS***
9:50 – 2263. Radical–triplet pair interactions as probes of long-range polymer motion in solution. **M. Forbes**
10:10 – 2264. Inhomogeneity of intermolecular magnetic interactions in liquid crystalline phases of nitroxide radicals. **Y. Uchida**
10:40 – 2265. Preparation and magnetic properties of nitroxide radical liquid crystalline gels. **Y. Takemoto***, Y. Uchida, K. Suzuki, S. Shimono, T. Kato, J. Yamauchi, R. Tamura
11:00 – 2266. Further development of nitroxide spin probe technique for comprehensive determination of structural and dynamic characteristics of ordered soft media. **A.K. Vorobiev***, D. Pomogailo, N. Chumakova

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Supramolecular Assemblies at Surfaces: Nanopatterning, Functionality, Reactivity (#346)

Organized by: D. Perepichka, F. Rosei, A. Wee, W. Chen, P. Weiss
Presiding: A.T. Wee

8:00 – 2267. Selective C-H activation and C-C coupling on metal surfaces. Q. Li, H. Zhang, B. Yang, K. Sun, **L. Chi**
8:30 – 2268. On-surface polymerization – a versatile synthetic route to novel 2D organic materials. **M. Lackinger**
9:00 – 2269. Bromine-functionalized pyrene derivatives on Au(111): self-assembly and on-surface polymerization. **B.V. Tran**, T. Pham, F. Song, M. Nguyen, M. Kivala, L. Gade, M. Stoehr
9:20 – 2270. Molecular-assembly mechanism enables simultaneous fabrication and connection of (3,1)-chiral-edge graphene nanoribbons. **P. Han***, K. Akagi, F. Federici Canova, H. Mutoh, S. Shiraki, K. Iwaya, P.S. Weiss, N. Asao, T. Hitosugi
9:40 Coffee break
9:55 – 2271. Comparative study of two perylene derivatives on Cu(111): Insight into the bonding mechanism. **M. Enache***, M. Matena, J. Björk, J. Lobo-Checa, T. Jung, M. Persson, L. Gade, M. Stöhr
10:15 – 2272. Covalent modification of graphene and graphite using diazonium chemistry: Tunable grafting and nanomanipulation. **J. Greenwood***, S. De Feyter*
10:35 – 2273. Photoresponsive supramolecular assemblies composed of photochomic diarylethenes: Investigation of concentration dependence of surface coverage at a liquid/solid interface using a nucleation–growth model. **T. Hirose**, S. Yokoyama, D. Frath, T. Sakano, K. Matsuda*
10:55 – 2274. Thermodynamic self-assembly of 2D/3D nanoarchitectures constructed on solid/liquid interfaces. **M. Kunitake***
11:25 – 2275. Patterning and cross-linking of self-assembled monolayers. **M.B. Zimmt***, Y. Yang, J. He, C. Fang, R. Shelp

Hawaii Convention Center
316C

Fundamentals and Applications of Nanomaterials for Energy Technologies (#348)

Organized by: S. Jin, G. Yu, T. Minegishi, S. Maldonado, J. He
Presiding: S. Maldonado, T. Wu

8:00 – 2276. On the effect of thiol-capped Au-NPs into molecular photovoltaic devices: Functionalization, size, and positional effects. C. Sartorio, S. Cataldo, S. Scaramuzza, V. Amendola, **B. Pignataro**
8:15 – 2277. Solar energy conversion via block copolymer nanostructure. **S. SUN***, T. Nguyen, M. Hasib, D. Wang
8:30 – 2278. Drastic enhancement of miscibility in p/n blends with liquid crystalline semiconductors toward organic photovoltaics. L. Sosa-Vargas, Y. Higuchi, T. Nakao, D. Okuda, A. Fujii, M. Ozaki, **Y. Shimizu***
8:45 – 2279. From 3D to 1D nanostructured $CH_3NH_3PbI_3$ for high efficiency perovskite solar cells. **N. Park**
9:15 – 2280. Nano oxides for hybrid perovskite photovoltaic and nonvolatile memory applications. **T. Wu***
9:45 break
10:00 – 2281. Size-controlled synthesis of $<$ZnS-$AgInS_2$ solid solution nanoparticles and their visible-light-driven photocatalytic activity. **T. Torimoto***, Y. Kamiya, T. Kameyama, S. Kuwabata
10:30 – 2282. Prolonged hot electron dynamics in plasmonic metal-semiconductor (Au-TiO_2) heterostructures with implications for solar photocatalysis. **W. Wei**
11:00 – 2283. Basic study to synthesize binary, ternary, and quaternary tin sulfide semiconductor nanoparticles in aqueous solution. **T. Mabuchi***, S. Yokoyama, H. Takahashi, K. Tohji
11:15 – 2284. Low-temperature solution deposition of nanostructured antimony sulfide and selenide thin films for photovoltaics. **C.L. McCarthy***, R. Brutchey

*** Principle Author**

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11:30 – 2285. Effect of particle size of $La_5Ti_2CuS_5O_7$ on the photoelectrochemical properties. **J. LIU**, T. Hisatomi, G. Ma, T. Minegishi, Y. MORIYA, M. Katayama, J. Kubota, K. Domen*

Hawaii Convention Center
316B

Multi-scale & Synergistic Supramolecular Systems in Material and Biomedical Sciences (#357)

Organized by: S. Aoki, H. Chiu, K. Soga, N. Gianneschi, X. Bengang
Presiding: N. Gianneschi, B. XING

8:00 – 2286. Materials and system developments for OTN-NIR fluorescence bioimaging. **K. Soga**
8:25 – 2287. Using tumortropic monocytes to deliver magnetic nanoparticle/chlorin e6-encapsulated oxygen microbubbles to tumor hypoxia for improved efficacy of the combined hyperthermia and photodynamic therapy. **H. Chiu***, W. Huang, P. Wu
8:50 – 2288. NIR light mediated lanthanide upconversion platforms for biomedical imaging: How far can they go?. **B. XING***, X. Ai, J. Aw, F. Liu
9:15 – 2289. 3D printed bionic nanomaterials. **M. McAlpine**
9:35 – 2290. Development of aquacatalytic systems based on self-assembly of amphiphilic palladium NNC-pincer complexes and their application to the C-C bond forming reactions in water. **G. Hamasaka**, F. Sakurai, Y. Uozumi*
9:55 Break
10:00 – 2291. Biomimetic communication between functional molecules via photocontrolled ions in polymeric nanodomains. R. Bofinger, J. Thevenot, S. Lecommandoux, R. Oda, **N.D. McClenaghan***
10:20 – 2292. Two different mechanisms in highly efficient chromatographic separation of cyclic porphyrin trimers by use of modified silica-gel columns. **A. Satake***, A. Asaishi, K. Shirai
10:40 – 2293. Hierarchical and dynamic supramolecular systems. **S. Stupp***
11:05 – 2294. Liposomal spherical nucleic acids: A new approach to immunomodulatory therapies. **C.A. Mirkin***

Hawaii Convention Center
319A

Synthesis, Structure and Functionalities of Ferroelectrics and Multiferroics (#432)

Organized by: Z. Ye, C. Brown, T. Kiguchi
Presiding: P. Janolin

8:00 – 2295. Incipient relaxor KLT: Anomalous relaxation and phonon lifetimes. **P.M. Gehring***, C. Stock, G. Xu, D. Lamago, D. Reznik, M. Russina, J. Wen, L. Boatner
8:25 – 2296. Slow localized mode in the polar cluster of relaxor ferroelectrics near morphotropic phase boundary. **M. Matsuura***, G. Xu, Z. Xu, P.M. Gehring, H. Endo, K. Shibata
8:50 – 2297. Elastic ionoc polarization scenario in the dipolar glass and relaxors. **J. Dec***, W. Kleemann, Z. Trybula, S. Miga
9:05 – 2298. Lead-free relaxor ferroelectrics for electrocaloric cooling. **G. Suchaneck***, G. Gerlach
9:20 – 2299. Heterogeneity and relaxors: A synchrotron X-ray scattering study. **K. OHWADA***
9:45 Break
10:00 – 2300. Nonequilibrium behavior of uniaxial relaxor ferroelectrics with tungsten bronze structure. **S. Kojima**, K. Matsumoto, J. Dec, W. Kleemann
10:25 – 2301. Phase transitions in relaxor ferroelectric materials with tungsten bronze type structures. **S. Schmid**, T.A. Whittle
10:40 – 2302. Nanodomain structure and properties of PZT single crystals as compared with relaxor ferroelectrics. **Z. Ye***, A. Bokov
11:05 – 2303. Polarization rotation and domain wall dynamics in PZT crystals. **A. Bokov***, S. Gorfman, Y. Xie, A. Davtyan, N. Zhang, A. Zozulya, M. Sprung, U. Pietsch, C. Gutt, Z. Ye
11:20 – 2304. Comparison of the neutron diffuse scattering from PMN-PT and PZT. M. Krogstad, P.M. Gehring, S. Rosenkranz, F. Ye, Z. Ye, **D. Phelan**
11:35 – 2305. Structure and lattice dynamics of PZT crystals. **S. Vakhrushev***, D. Andronikova, Y. Bronwald, A. Bosak, D. Chernyshov, R. Burkovsky, I. Leontyev, Z. Ye

Hawaii Convention Center
322AB

Self-organization: Novel Mesogens and Applications (#447)

Organized by: H. Eichhorn, E. Choi, T. Hegmann, Y. Shimizu, K. Zhao
Presiding: H. Eichhorn

8:00 Opening Remarks
8:05 – 2306. Functionalization of polymerizable liquid crystalline semiconductors based on nanosegregation. **M. Funahashi***
8:35 – 2307. Playing with nanosegregation in discotic crown ethers: From molecular design to OFETs and nanofibers. **S. Laschat***
9:05 – 2308. Nanosegregated assembly of electron donor–acceptor binary discotic mesogens for organic electronics. **T. Sakurai***, Y. Tsutsui, S. Yoneda, S. Seki*
9:25 – 2309. Discotic dyads show segregated donor and acceptor superstructure and high charge carrier mobilities. **K. Zhao***, Y. Gao, L. An, W. Yu, J. Xu, Q. Zeng, H. Monobe, Y. Shimizu, B. Heinrich, B. Donnio
9:45 – 2310. Complex 3D architectures composed of discotic macromolecules. **T. Kajitani**, D. Hashizume, K. Motokawa, M. Takata, T. Fukushima*
10:05 Break
10:10 – 2311. 2D and 3D self-organization of organic semiconductors. **E. Mena-Osteritz***, P. Bäuerle
10:40 – 2312. Liquid crystalline composites as organic semiconductors. K. Kawano, S. Nawamoto, H. Nishikawa, H. Monobe, **Y. Shimizu***
11:00 – 2313. Hierarchical liquid crystalline structure in high proton conductive sulfonated polyimide films. **S. Nagano**, M. Hara, Y. Nagao
11:20 – 2314. Design and electrochemical transformation of redox-active metallomesogens. **H. Chang***

Hawaii Convention Center
Halls I, II, III

Materials & Nanoscience General Posters
10:00 – 12:00

Organic Materials
2315. Investigation of new chemical family of *n*-$C_xH_{(2x+1)}NEt_3BEt_3Me$ showing ionic plastic crystals (x = 4-7) and liquid crystals (x = 8-18). Y. Yamada, E. Kashimoto, S. Hirakawa, **H. Honda***
2316. Formation and reactivities of quinones derived from dopamine (DA) and 3,4-dihydroxy-phenylalanine (DOPA) derivatives: Versatile building blocks for functionalised materials?. S. Santhanakrishnan, W.Y. Cheah, **C.L. Chai***
2317. Thermal properties of 2-bromo-5-chlorothiophene. **R. Kuwashima***, H. Fujimori, A. Nagoe, T. Sugimoto
2318. Thermodynamics of micellization of sodium dodecyl sulfate and dodecyl trimethyl ammonium bromide. **A. Solano-Domínguez***, D. Nivón-Ramírez, L. Reyes-García, R. Gómez-Balderas
2319. Favorable effects of superficially deacetylated chitin nanofibrils on the wound healing process. **R. Izumi**, K. Azuma, S. Ifuku
2320. Phase behavior and viscosity enhancement of nonamphiphilic fluorocarbon-hydrocarbon hybrid compounds in supercritical CO_2. **Y. Sato**, S. Ogiwara, S. Ono, C. James, A. Yoshizawa, M. Sagisaka*
2321. Improved interface and CO_2 permeability by dual-functional amphiphilic PDMS-*g*-POEM comb copolymer micelles. **S. Kim***, J. Jung, J. Lee, C. Park, J. Kim*
2322. Thermal behavior of a liquid crystal, EBBA, confined within 1- and 3D pores. **N. Kinjo***, N. Kondo, T. Yoshimi, H. Fujimori
2323. Phase transition behaviors of liquid crystal, *n*CB, by DSC-Raman simultaneous measurements. **N. Kondo**, T. Yoshimi, H. Fujimori

Processing
2324. Stretching processing of hydroxyapatite/poly(ε-caprolactone) composite scaffolds. **K. Komatsu**, S. Umemoto, H. Minbu, T. Kawase, T. Tanaka*
2325. Preparation of photocatlytic thin films of tricalcium phosphate by doping Ti(IV) and Zn(II) ions. **N. Yoshida***, Y. Nakamura, T. Okura
2326. New preparation method of nanowires containing various organic molecules. **J. Nishijo***
2327. Preparation of hybrid films of layered silicon/germanium and organic material. **H. TACHIBANA***, R. AZUMI
2328. Photocatalytic degradation of bisphenol A in aqueous solution with modified ZnO. N. Hoshiyama, **H. Katsumata***, T. Suzuki, S. Kaneco

Electronic and Photonic Applications
2329. Net-patterned photocathode with Pt-sputtering for solid-state dye-sensitized solar cells with enhanced light reflection. **D. Kim***, C. Lee, J. Lim, D. Kim, J. Kim*
2330. Optical/electrical properties of electrochromic device dependent on cell distance and electrolyte concentration. **C. Ah***, S. Cho, T. Kim, J. Song, H. Ryu, Y. Kim, H. Yu
2331. Conformation-insensitive ambipolar charge transport in a diketopyrrolopyrrole(DPP)-based co-polymer containing acetylene linkages. **H. Yun**, H. Choi, M. Kim, K. Cho, Y. Kim*, S. Kwon
2332. Novel class of organic semiconductors for solution processed organic electronics. **K. Park**, K. Cheon, Y. Lee, J. Lee, H. Song, D. Chung, S. Kwon, Y. Kim*
2333. Synthesis of phenanthro[1,10,9,8-cdefg]carbazole-based conjugated polymers for organic solar cell applications. **J. Lee**, H. Yun, K. Park, E. AHN, Y. Kim*
2334. Comparative studies on the relations between composition ratio and charge transport of diketopyrrolopyrrole(DPP)-based random copolymers. **M. Sung**, H. Yun, K. Park, Y. Kim*, D. Chung
2335. Polymer nanolayer for advancing the electrical stability of OTFT. **C. Cho**, J. Baek, Y. Cheon, J. Lee, Y. Kim*
2336. Preparation of metal supported graphene substrate for STM. **H. Tanaka***, M. Taniguchi
2337. Fabrication of polypyrrole wrinkle topographies via a swelling-deswelling process for potential uses in tissue engineering. **J. Lee**, M. Aufan
2338. Tunable colloidal photonic crystals immobilized in soft hydrogels. **Y. Naoi**, T. Kanai*, T. Sawada
2339. Effect of different electron acceptors in carbazole-based double branched organic dyes on the performance of dye-sensitized solar cells. **J. Cho**, C. Son, S. Thogiti, D. Lee, J. Kim*
2340. Comparison of mono- and di-branched carbazole-based organic dyes for the p-type dye-sensitized solar cells. **N. Jung**, E. Kim, K. Ahn, J. Kim*
2341. Charge carrier mobilities in $CH_3NH_3PbI_3$ perovskites from first-principles calculation. **T. Zhao**, D. Wang, Z. Shuai
2342. Fabrication of organic fluorescent dye/layered double hydroxide thin film on quartz crystal microbalance. **S. Aisawa***, M. Sawasato, J. Sang, H. Hirahara
2343. Novel UV protection agents based on optical stop band of colloidal photonic crystals. **T. Oki**, T. Kanai*
2344. Well defined conducting polymer (pedot/pss) microparticles. **S. Chuaychob**, P. Kanatharana, P. Thavarungkul, C. Thammakhet, M.W. Mak*
2345. Tubular solids of lanthanide-doped polyoxometalates in micrometer-scale: Synthesis and NIR-luminescent properties. **G. LI***, J. Peng*
2346. Graphene nanoribbon formed by templated sonochemistry. **S. Ju**
2347. Negative photoconductivity of graphenen investigated by ultrabroadband optical pump terahertz probe spectroscopy. **M. Yamashita***, S. Ikeda, C. Otani
2348. Different structure ZnO particles enhanced the electrochemical property of graphene oxide by organic conjugation. **L.L. Zhong**
2349. Aggregation-induced emission (enhancement) and blue OLED application based on new oxazoline containing heteroleptic iridium(III) complexes. W. Che*, D. Jin*, T. Yang*, **D. Zhu**, Z. Su
2350. Plasmonic properties of gold nano clusters assembled with thiol compounds. **N. Uehara***, C. Haneishi
2351. Synthesis of POSS-based aggregation induced fluorescent materials. **H. Zhou***
2352. Design and synthesis of a fluorescent chemosensor for the selective detection of heavy metal cations. **Y. Son**
2353. Synthesis of H^+-conductive Narpsio glass-ceramics. **Y. Takahashi***, N. Yoshida, K. Yamashita, T. Okura
2354. Synthesis and evaluation of ionic conductivity of alkaline-doped Narpsio glass-ceramics. **Y. Ota**, N. Yoshida, K. Yamashita, T. Okura
2355. Electrical biosensor with nanomesh silicon channel via block copolymer lithography. **H. Jin**, C. Jeong, S. Kim*
2356. Optically switchable smart windows with integrated photovoltaic devices. **D. Ko**
2357. Synthesis and characterization of organic semiconductors on organic thin film transistors and organic photovoltaic cells. **M. Kim***, T. An*, H. Kim, M. Sung, C. Cho, J. Baek, K. Park, C. Park, Y. Kim*
2358. Conductive polymer composites with segregated structures. **H. Pang**, Z. Li *
2359. Development of dye-sensiteized solar cell based on circularly arranged porpyrin array thin film. **S. Asaoka***, A. Kobayashi, Y. Tanio, T. Tokuoka, M. Aotani
2360. Phenothiazine-based multichromophoric organic dyes for dye-sensitized solar cell application. **Y. Lee**, S. Thogiti, Y. Han, J. Kim*
2361. Polymer with high hole mobility for efficient bulk heterojunction solar cells. **Y. Cheon***, X. Liu, S. Lee, Y. LEE, Y. Kim
2362. Nobel donor-acceptor type copolymer for solar cells. **H. Kim**, Y. Ha, S. Lee, Y. Kim*
2363. Crystalline properties and performances of devices are influenced by solvent boiling point. **S. Park**, E. AHN, Y. LEE, Y. Kim*
2364. Synthesis of bulk heterojunction for organic solar cell. **Y. Ha**, H. Kim, S. Lee, Y. Kim*

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2365. In-situ electrical conductivity of Li_xMnO_2 nanowires as a function of "x" and size in energy storage device. **M. Le**, R. Penner
2366. UV-irradiation treatment of photoelectrode for the flexible dye-sensitized solar cells. **T. Kim**, B. Jang, S. Kim, J. Kim*
2367. New ionic plastic crystals formed by cage type cations of 1-methyl-4-aza-1-azoniabicyclo[2,2,2]octane and 1-ethyl-4-aza-1-azoniabicyclo[2,2,2]octane with anions of BEt_3Me and BEt_4. S. Hirakawa, Y. Kotani, **H. Honda***
2368. Preparation and characterization of photoresponsive p-n junction films. **K. Koga***, T. Suzuki

Inorganic Materials

2369. Hydrothermal growth of high crystalline CdS spheres with pebble surface. N. KIM, H. MAENG, C. Ah, **H. Yu**
2370. Effect of different synthetic routes on the structural, morphologica,l and magnetic properties of Ce-doped LaFeO3 nanoparticles. **b.s. randhawa***
2371. Insight on superparamagnetic behavior of pure and Ag-doped zinc ferrite nanomaterials. **h. kaur***
2372. Fabrication and properties of transparent functional silica glass using SiO_2/PVA mesoporous nanocomposite. **S. Fujino***
2373. Borate based advanced materials. **D. Neiner***, L. Harrower, M.K. McCray, B. Yonke, D.M. Schubert
2374. Preparation of Mg-Al layered double hydroxide/hydroxyapatite nanocomposite and Its sorption behavior with cadmium, lead and phosphate ions. **Y. Watanabe***, H. Yamada, K. Fujinaga, S. Oshima, Y. Komatsu
2375. Subsurface imaging of cobalt cores encapsulated within polystyrene nanoparticles using force modulation microscopy. **S.M. Deese**, A.L. Francis, A.M. Taylor, J. Pyun, J.Y. Chan, J.C. Garno
2376. Low-temperature formation of α-alumina from polyhydroxoaluminum composite gels containing ascorbic acid and oxalic acid. **T. Yamaguchi**, N. Mukouyama, S. Taruta
2377. Magnetoferritin nanoparticles for targeting and visualizing tumour tissues. **M. Liang**
2378. Synthesis and their properties of $K_2SiF_6:Mn^{4+}$ phosphors by coprecipetation method. **B. Bang**, K. Choi, K. Choi, C. Kim*
2379. Influence of the sintering density of Al_2TiO_5 by sintering method. **S. Yamagata**, D. Yokota, A. Nagoe, T. Sugimoto, H. Fujimori
2380. Anisotropic growth-induced synthesis of dual-compartment Janus mesoporous silica nanoparticles for bimodal triggered drugs. **D. Zhao* Hybrid Materials**
2381. Long-term stability of nanosilica/poly-(ethylene glycol) reversible gel. **Y. Hirose**
2382. Effect of metal substitution on the physical properties in the organic-inorganic hybrid tin iodide cubic perovskites. **K. Kobayashi**, T. Inabe, J. Harada, Y. Takahashi, H. Hasegawa
2383. Influence of structural ordering on magnetic properties of iron oxide nanoparticles imbedded in a polymer matrix. **P. Daniel**
2384. Fabrication of organic/inorganic composite micropatterns by anionic UV curing process. **A. Asai**, M. Furutani, K. Arimitsu*
2385. Characterization of spatially confined nanoclusters of porphines using conductive-probe atomic force microscopy. **X. Zhai**, P. Derosa, J.C. Garno
2386. Hydroxyapatite deposition on polyimide films containing carboxyl group in a biomimetic solution. **Y. Saegusa**
2387. Fabrication process of covalently bonded CNT-on-CF composite fabrication of covalently bonded carbon nanotubes on carbon fibers and their application to nylon 6,6 composites. **J. Kim***, E. Choi, Y. Jo, c. Kim
2388. Unique photoisomerization behavior of a dicationic azobenzene derivative adsorbed electrostatically at the two anionc sites on a clay nanosheet. **T. Shimada***, T. Umemoto, S. Takagi

Self-assembled Structures

2389. Protein- and carbohydrate-conjugated self-assembled nanodots for biological imaging applications. **S. Hsieh***, M. Kang, P. Lin
2390. Biomimetic peptide self–assembled nanostructure–Pd complex (PEP_{Pd}) cross coupling reactions in aqueous phase as recyclable catalyst. **S. Kim**, N. LEE, J. Ryu, S. LEE*
2391. Preparation of cellulose nanofibers from watermelon peel and the composite with silver nanoparticle for endowing antifungal property. **R. Noda***, S. Ifuku
2392. Surface self-assembly of 4-(chloromethyl)phenyltrichlorosilane within exposed sites of Si(111) studied in toluene at selected temperatures. **P. Chambers**, N. Kuruppu, J.C. Garno
2393. Quantitative evaluation of sound-induced alignments of supramolecular nanofibers formed from perylenebisimide derivatives. **Y. Hotta**, A. Tsuda

Applications

2394. Synthesis of new acrylamide-based block copolymers and their application to nanolithography. Y. Han*, **I. Byun**
2395. Synthesis and properties of niobium borides by metal flux method. **s. okada***, y. takashi, y. kunio, s. toetsu, m. takao
2396. Water treatment using a wire mesh-supported TiO_2 photocatalyst. **K. Fujii***, T. Sugita, M. Mori, H. Itabashi
2397. Oxygen behavior during deoxidation of titanium powder using calcium deoxidizer. **J. LIM***, J. Oh, K. Roh, C. Suh
2398. Utilization of an anion-exchange type TiO_2 photocatalyst for water purification. **K. Kobayashi**, T. sugita, M. Mori, H. Itabashi
2399. Development of novel membrane materials using vertically aligned carbon nanotube for seawater desalination. J. Jung, S. Lee, **J. Sohn**, J. Yoon
2400. UV and laser irradiation of functionalized gold nanoparticles as a potent antibacterial agent against the *escherichia coli* . **s. govindaraju**
2401. Influence of halogen substitutions on rates of charge tunneling across SAM-based large-area junctions. **H. Yoon***, G. Kong, M. Kim
2402. Direct crosslink adhesion of polyamide and acrylonitrile butadiene rubber. H. Hirahara, **R. Sato**, S. Aisawa, J. Sang
2403. Controlled release of antibiotics from etched titanium surfaces coated with hydroxyapatite microcapsules and polycaprolactone. **T. Shimada**, Y. Nishino, I. Kimura, M. Taniguchi, T. Tanaka*
2404. Synthesis of hollow nanoshere layered double hydroxide as cellular delivery vector. S. Aisawa*, **H. Takemura**, J. Sang, H. Hirahara
2405. Adhesion of natural rubber and carbon steel plate. H. Hirahara, **K. Miura**, S. Aisawa, J. Sang, J. Oravec
2406. Adsorption behavior of zearalenone by commercial and organophilic clays. S. Aisawa, **H. Yamazaki**, J. Sang, S. Endo, M. Sekine, N. Takahashi, K. Sakao, E. Narita, H. Hirahara
2407. Synthesis and NO_x adsorption of MgO rich spinel Al_2MgO_4 powder by coprecipitation method. **s. okada***, y. takashi, y. kunio, s. toetsu
2408. Grafting of polyNIPAAm onto chitin nanofiber surface through atom transfer radical polymerization. **S. Tomiyama***, S. Ifuku
2409. Novel biological adhesives consists of carboxymethyl chitin derivative and chitin nanofiber. **J. Uchiyama***, M. Morimoto
2410. Structure of ice in poly-N,N,-dimethylacrylamide hydrogel. **Y. Takeuchi**, Y. Sekine, T. Ikeda-Fukazawa
2411. Synergistic effects of bioinspired subnanoscale catalysts on the WO3 nanofiber and their superior detection capability toward biomarker VOCs. **S. KIM***
2412. Ozone nano-bubble water: Fundamental properties and washing effects. **Y. Yamaguchi***, Y. Nakamura
2413. Applications of nanodiamond composite materials. **T. Ogata***, S. Kim, T. Negi, K. Honda, S. Kurihara
2414. Improvement of contamination resistance of PET surface by atmospheric pressure plasma jet treatment. **K. Gotoh***, E. Shobuke, Y. Kobayashi
2415. Controlling of NBR surface chemical functional properties during the curing process. **J. Sang**, S. Aisawa, H. Hirahara, K. Mori
2416. Development of novel DNA aptamers for the detection of circulating tumor cells using terahertz chemical microscopy. **E.M. Hassan**, M.C. DeRosa*, W. Willmore, T. Ozaki
2417. Novel method to evaluate surfactant potency by TLC. **K. Chen**, C. Indou, Y. Yamashita, K. Sakamoto
2418. Synthesis and Cs-adsorption behavior of phyllosilicates in saponite – phlogopite system. **H. Yamada**, S. Yokoyama, Y. Watanabe, K. Morimoto, S. Suzuki, T. Yaita, T. Hatta
2419. Versatility of novel alkali metal chalcogenide ligands in colloidal nanoparticles. **S. Lee**, S. Baek, S. Kim*
2420. Specific solvent produces specific phase Ni nanoparticles: A pulsed laser ablation in solvents. **H. Jung***, M. Choi
2421. Synthesis and characterization of conjugated polymers for organic solar cell applications. **S. Lee**, E. AHN, S. Park, Y. Kim*
2422. Fabrication of monodisperse microbubbles using glass capillary microfluidic devices. **A. Matsuo**, T. Kanai*
2423. Preparations of cationic surfactant protected dendritic gold nanoparticles by tartaric acid reduction. **M. Takezaki**, S. Shibata, K. Miyoshi, T. Tominaga
2424. Synthesis of multinuclear pt-thiolate complexes. **K. Ishihara**, T. Imaoka, K. Yamamoto
2425. Solubilization of water in supercritical CO_2 by nonamphiphilic fluorocarbon-hydrocarbon hybrid compounds. **S. Ogiwara**, S. Ono, Y. Sato, C. James, A. Yoshizawa, M. Sagisaka*
2426. Silicon quantum dot porous nanocarrier for ultrasensitive high explosives detector. **J. Kim**, H. Sohn*
2427. Effect of halogen substitution on electronic properties in organometal halide hybrid perovskites. **H. Hasegawa***, Y. Takahashi, J. Harada, T. Inabe*
2428. Study of adhesion between thermoplastic resin and metal using injection molding. H. Hirahara, **R. Kumagai**, S. Aisawa, J. Sang
2429. Dynamic mechanical responses of interfacial water probed by amplitude-modulation atomic force microscopy. **T. Nyu**, T. Hayashi*
2430. Synthesis of carbon nanospheres/copper composite particles by electroless plating method. S. Aisawa, **T.T. Nguyen**, H. Hirahara, J. Sang
2431. Adsorption behavior of silane coupling agent by the quartz crystal microbalance method and the nano thermal analysis. H. Hirahara, **S. Hiyama**, S. Aisawa, J. Sang
2432. Mechanochemical synthesis of noble metal nanoparticles aided by $P[N(SiMe_3)_2]_3$. **N.C. Boyde**, T.P. Hanusa*
2433. Metal-substituted epsilon iron oxide nanoparticles exhibiting high-frequency electromagnetic wave absorption. **M. Yoshikiyo***, A. Namai, S. Ohkoshi
2434. Development of highly-efficient synthetic method of functional disulfide compounds and their applications to battery electrodes. **S. Balasbramaniam**, K. Ida, Y. Ishimizu, N. Tanifuji
2435. Atomization phenomenon of water with a surfactant. **H. Iwafuji***, A. Nagoe, T. Sugimoto, H. Fujimori, D. Yamada, S. Saisyo
2436. Thermal properties of benzene confined within mesoporous silica. **N. Tomita***, A. Nagoe, H. Fujimori
2437. Raman investigation on electric transport property of n-type 4H-SiC crystals co-doped with Al and N. **A. Minemura**, T. Mitani, H. Fujimori
2438. Change of thermal expansion coefficient of $Al_{2-x}Fe_xTiO_5$. **T. Sugimoto**, S. Yamagata, H. Fujimori
2439. Structures observation of titanate nanosheets, titanate nanotubes, and metal-doped nanotubes by HR-TEM. **T. Suzuki***, S. Okamoto
2440. Synthesis and characterization of perovskite photocatalyst. **K. Saito**, T. Suzuki
2441. Switching behaviors of a porous alumina capacitor fabricated by anodization as a low temperature process. **K. Takase***, Y. Tanimoto, S. Otsuka, T. Shimizu, S. Shingubara
2442. Mössbauer study of $Sr_3Co_{2-x}Zn_xFe_{24}O_{41}$ Z-type hexaferrite. **T. Kikuchi***, M. Kobune, M. Nakanishi, T. Fujii
2443. Synthesis of titanium dioxide nanomaterials for advanced applcations. **H. Bayraktar**
2444. Preparation of core-shell microspheres with hybrid shell composed of multiple inorganic materials. **H. Yamamoto**, N. Ryu, S. Nagaoka, M. Takafuji*, H. Ihara*
2445. DSC and Raman spectroscopy simultaneous measurements of a liquid crystal, MBBA. **T. Yoshimi***, H. Fujimori, S. Hagiwara

Saturday Afternoon

Hawaii Convention Center
317A

Organic, Inorganic and Hybrid Nanoparticles: Synthesis, Characterization, and Applications (#23)

Organized by: L. Bronstein, F. Winnik, K. Akiyoshi
Presiding: Z. Nie, J. Pyun

13:00 – 2446. Materials synthesis in organic solvents: From metal oxide nanoparticles to films, aerogels, metallic foams, and organic inorganic hybrids. **M. Niederberger***
13:25 – 2447. Nanoparticle-stabilized nanocapsules for proteinand nucleic acid delivery. **V.M. Rotello**
13:50 – 2448. Synthesis and colloidal polymerization of inorganic nanoparticle monomers. **J. Pyun**
14:15 – 2449. Directing the symmetry of stellated metal nanocrystals through seed selection. **S.E. Skrabalak**
14:40 – 2450. Hybrid porous materials: Properties and applications. **L. De Cola**, E.A. Prasetyanto, L. Maggini, I. Cabrera Puig
15:05 Intermission
15:20 – 2451. In how far can we make nanoparticles mimic molecules?. **Z. Nie**
15:45 – 2452. Self-assembly of complex terpolymer solution morphologies. **A.H. Mueller**, T.I. Loebling, **A.H. Groeschel**, O. Ikkala
16:10 – 2453. Determination of the effective particle density of sterically-stabilised diblock copolymer nanoparticles. **S.P. Armes**
16:25 – 2454. Functionalized BN materials and their potential applications. **Q. Weng***, Y. Bando, D. Golberg*

*** Principle Author**

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Hawaii Convention Center
316A

Chemistry and Applications of Graphene (#39)

Organized by: Y. Chen, R. Haddon, K. Loh
Presiding: X. Bao, Z. Bao, H. Cheng, P.V. Kamat

13:00 – 2455. Mass production of graphene and its application for anti-corrosion coatings. S. Pei, K. Huang, W. Ren, **H. Cheng***
13:20 – 2456. Interface of graphene and organics. **Z. Bao**
13:40 – 2457. Copper- and Nickel decorated graphene as highly sensitive electrocatalysts for non-enzymatic oxidation of glucose for biosensor applications. **D. Qazzazie***, M. Beckert, R. Mülhaupt, O. Yurchenko, G. Urban
13:55 – 2458. Degradation of aqueous glyphosate over graphene-based sunlight-driven photocatalyst. M. Feriani, K. Belkacemi, **S. Hamoudi***
14:10 – 2459. Conduction limitations of fully reduced chemically converted graphene. **S.V. Petersen***, B.W. Laursen, W. Hu
14:25 Break
14:45 – 2460. Cationic graphene-based nanohybrid for water purification. **M. Chan-Park**
15:05 – 2461. Catalysis over graphene and 2D materials. **X. Bao***
15:25 – 2462. Efforts are underway to introduce luminescent quantum dots into the multifunctional catalyst mat and further enhance the capability of detection and removal of low concentrations of chemicals from water and air. **P.V. Kamat***, R. Alam, V. Bridewell
15:45 – 2463. Reduced water vapor transmission rate of graphene gas barrier films for flexible organic field-effect transistors. **K. Choi***, B. Hong
16:00 – 2464. Controlled growth of a graphene charge-trapping layer for organic nonvolatile memory transistors. **S. Park***, Y. Park*, T. Choi, J. Seo
16:15 – 2465. Fe-catalyzed etching of graphene layers. **G. Cheng***, I. Calizo, A. Hight Walker

Hawaii Convention Center
321A

Metal-oxo Clusters: Molecular Design from Monomers to Infinity (#79)

Organized by: M. Nyman, Y. Li, T. Ozeki, C. Ritchie
Presiding: G.R. Patzke

13:00 – 2466. Polyoxometalate assemblies and their elaboration. **C. Ritchie***, M.R. Healey, H. Karoui
13:20 – 2467. Molecular cluster batteries of nano-hybrid materials between POMs and nanocarbons. **K. Awaga***
13:40 – 2468. Electron transfer properties through monolayers of polyoxometalates covalently immobilized on electrodes. F. VOLATRON, C. RINFRAY, S. RENAUDINEAU, G. IZZET, **A. PROUST***
14:05 – 2469. Magnetic POMs in molecular spintronics and quantum computing. **E. Coronado**, J. Baldovi, S. Cardona-Serra, A. Gaita, J. Clemente Juan
14:35 – 2470. Mixed-metal hybrid polyoxometalates with amino acid ligands: structural and electronic versatility. **C. Boskovic***, F. Akhlaghi Bagherjrei, M. Vonci, C. Ritchie, R. O'Hair, J. Zhang, G. Bryant, X. Lopez, J. Poblet
14:55 – 2471. Localized and delocalized excited states in Ti6 and Ti17 polyoxotitanate clusters. J. Bao, J. Benedict, J.R. Miller, **P. Piotrowiak***
15:15 – 2472. Photoreduction process of nucleotide-coordinated polyoxomolybdates. **E. Ishikawa***
15:30 Flash Posters
15:40 – 2473. Using Fourier transformed AC voltammetry to provide new insight into electrocatalysis with polyoxometalates. **A.M. Bond***, J. Zhang, S. Guo, Y. Liu
16:05 – 2474. Redox-induced selective uptake-release of cations in porous ionic crystal based on polyoxomolybdates. **S. Uchida***, R. Kawahara, S. Seino
16:25 – 2475. The iron Keggin ion from water. **M. Nyman**, O. Sadeghi
16:45 – 2476. Cation-induced conformational changes in uranyl-peroxide nanoclusters and their effect on anion molecular dynamics. **M. Dembowski**, W.H. Casey, P.C. Burns

Hawaii Convention Center
321B

Luminescent Nanomaterials: Properties, Mechanisms, and Applications (#101)

Organized by: F. Vetrone, S. Kohei, D. Ma, W. Huang, L. Huang, X. Peng

13:00 – 2477. PEOlated silica nanocapsules via interfacial templating condensation for bioimaging. **X. Li**, Y. Zhang, S. Wong, Y. Chieng
13:40 – 2478. Synthesis of silica nanoparticles modified chemically with terbium complexes through Schiff base formation and their fluorescence properties in water. **Y. Nakahara***, Y. Tatsumi, I. Akimoto, S. Osaki, M. Doi, K. Kimura
14:00 – 2479. Luminescent biohybrid nanomaterials from nanocellulose and carbon dots (CDs). J. Guo, K. Junka, **E.I. Filpponen***, J. Laine, O.J. Rojas
14:20 – 2480. Nanodiamond-based quantum biosensors. **K. Briggman***, M. May
14:40 – 2481. Preparation of P-g-C_3N_4 nanodots and its fluorescence detection of Cu^{2+}. **X. Chen**
15:00 – 2482. Drug release in polyester thin films: Release kinetics regulated by NIR stimulation through photoactive nanocomposite additives. **T. Cheng**, .F. Ortiz, R. Naccache, F. Vetrone, R.S. Marks, T.W. Steele*
15:40 – 2483. Engineering of multicolor highly luminescent carbon nanodots for long-term bioimaging of plant cell physiological processes. **L. Alexandre**, R. Sekiya, M. Yoshikawa, Y. Moriyasu, S. Nakabayashi
16:00 – 2484. Nanophosphors as sensitive reporters in point-of-care diagnostics. A.S. Paterson , B. Raja , G. Garvey, A. Buell , K. Kourentzi, **R.C. Willson***
16:20 – 2485. Luminescent properties of europium-doped $(H_3O)Y_3F_{10}$ nanocrystals. **A.M. Ritcey***, D. Boudreau, C. Caron, B. Richard

Hawaii Convention Center
319B

Development of Nano Devices and Nanotechnologies for Environmental Monitoring and Remediation (#124)

Organized by: S. Al-Abed, D. Dionysiou, H. Choi, A. Bezbaruah, J. Gardea-Torresdey, W. Choi, M. Litter, T. Lim, B. Pan
Presiding: S. Al-Abed

13:00 – 2486. TiO_2 nanoparticles coated with polyoxometalate water oxidation catalysts: New systems for sustained light-induced water oxidation. **S.M. Lauinger**, J. Sumliner, Q. Yin, Z. Xu, E.N. Glass, T. Lian, C.L. Hill*
13:20 – 2487. Generation of reactive oxygen species on metal-doped SnO_2 electrocatalysts: Development, applications, and implication. **H. Park***
13:40 – 2488. Monitoring of biological toxins in harmful algal blooms: From current approaches to future strategies. H. Zamankhan, **H. Choi***
14:00 – 2489. Degradation of cyanotoxins by ferrite-based nanomaterials. B. Ren, Y. Huang, C. Han, V. Sharma, K. O'Shea, **D. Dionysiou***
14:20 Break
14:30 – 2490. Peptide array platform for detecting the presence of naphthenic acids in petroleum process affected water. **S. Bhattacharjee**, K. Kaur
14:50 – 2491. Interference lithography (IL) generated microarray as surface-enhanced Raman spectroscopy (SERS) substrates for pharmaceutical products in water detection. **K. Hong**, J. Menezes, A.G. Brolo*
15:10 – 2492. Femtomolar chemical detection on a metal-dielectric-CNT surface by surface enhanced Raman spectroscopy. **H. Park**, A.O. Altun

Hawaii Convention Center
320 Theatre

Functional Molecular Materials and Devices (#128)

Organized by: R. Kato, H. Mori, J. Schlueter, B. Powell, S. Lo, H. Fujii, T. Mori, J. Takeya
Presiding: C. Rovira, S. UJI

13:00 – 2493. Ferroelectricity in quasi-2D organic charge-transfer salts. **M. Lang***
13:25 – 2494. Phase control and quantum critical behavior of ferroelectric charge-transfer complexes. **S. Horiuchi**, K. Kobayashi, R. Kumai, F. Kagawa, Y. Tokura
13:50 – 2495. Fluorescent ferroelectrics of hydrogen-bonded alkylamide-substituted pyrene derivatives. **T. Akutagawa***
14:15 – 2496. Noncovalent interactions in molecular quantum magnets. **J.L. Manson***
14:35 – 2497. Spin crossover with thermal hysteresis (memory): The importance of scan rate and relaxation rate studies. **S. Brooker***, R. Kulmaczewski, J. Olguin, J. Kitchen, H. Feltham, R. Miller, G. Jameson, S. Narayanaswamy, J. Tallon
14:55 break
15:10 – 2498. Conductivity and magnetic ordering in multi-orbital radicals. **R.T. Oakley***
15:35 – 2499. Controlled under pressure: Magnetic resonance studies of molecular materials. **S. Hill***, K. Thirunavukkuarasu, S. Winter, R.T. Oakley
16:00 – 2500. Designing of quantum spin magnets by π-conjugated organic radicals. **Y. Hosokoshi***
16:20 – 2501. Light-induced radical trapping and large thermal hysteresis in magnetically bistable organic radicals. H. Phan, A. Dragulescu-Andrasi, K. Lekin, S. Winter, R.T. Oakley, **M. Shatruk**

Hawaii Convention Center
315

Carbon Nanotubes: Preparation, Characterization and Applications (#227)

Organized by: S. Maruyama, R. Weisman, J. Liu, Y. Lee, J. Zhang
Presiding: Y. Lee, S. Maruyama

13:00 – 2502. Purification of horizontally aligned arrays of single walled carbon nanotubes. **J. Rogers**
13:30 – 2503. Exploring the growth of graphene and related 2D materials for electronic applications. **H. Ago***
14:00 – 2504. Bio-electronics applications of carbon nanotube thin films. **Y. Ohno**
14:30 – 2505. Carbon nanotube electronics – more and more than Moore. **L. Peng***, Z. Zhang, S. Wang, X. Liang
15:00 break
15:20 – 2506. Interaction of water molecules with single-walled carbon nanotube. **Y. Homma**, S. Chiashi, T. Yamamoto
15:50 – 2507. Carbon nanotube-based remarkably durable polymer electrolyte fuel cell. **N. Nakashima***, I. Hafez, M. Berber, T. Fujigaya
16:20 – 2508. Floating catalyst CVD synthesis of SWNTs for thin film applications. **E.I. Kauppinen***

Hawaii Convention Center
318A

Advances in Bioinspired and Biomedical Materials (#245)

Organized by: K. Healy, Y. Ito, P. Messersmith, X. Chen, I. Kang
Presiding: K. Healy

13:00 – 2509. Design, synthesis, and folding of sequence-defined peptoid polymers into bioinspired nanoarchitectures. **R. Zuckermann**
13:40 – 2510. Synthetic copolyampholytes inspired by a mussel foot protein. **S. Seo**, S. Das, P. Zalicki, R. Mirshafian, C. Eisenbach, J.N. Israelachvili, J. Waite, K. Ahn*
14:00 – 2511. Design of discrete DNA-modified gold nanoparticle assemblies with a beads-on-a-string-like structure and their interparticle distance changes depending on terminal base-pairing. **Y. Akiyama**, H. Shikagawa, N. Kanayama, T. Takarada*, M. Maeda
14:20 – 2512. Bioactive carriers for intracellular delivery of biologic and small molecule drugs. **P. Stayton**
15:00 Coffee Break
15:20 – 2513. Bioinspired encapsulation of Jurkat cell within titania artificial shell. **E. Ko***, W. Youn, I. Choi*
15:40 – 2514. Comparison of cytokines secretions from macrophage cultured on hydroxyapatite and carbonated apatite dense ceramics. **K. Igeta***, K. Nozaki, M. Aizawa, K. Yamashita, A. Nagai
16:00 – 2515. Microbial encapsulation in alginate/polydopamine core/shell microbeads. **B. Kim***, I. Choi*
16:20 – 2516. Alternative approaches for prevention of *Pseudomonas aeruginosa* biofilm formation on urinary catheters. **T. Tzanov**, M. Fernandes*, K. Ivanova, A. Francesko

Hawaii Convention Center
317B

Challenge for Rare Element-free Functional Materials (#291)

Organized by: H. Hosono, D. Ginley, Y. Lee

13:00 – 2517. Searching for rare element-free rare earth permanent magnets. **m. sagawa**
13:30 – 2518. Permanent magnets free from rare elements. **K. Hono***
14:00 – 2519. Large perpendicular magnetic anisotropy in noble metal-free manganese nitride epitaxial thin film. **A. Chikamatsu***, X. Shen, K. Shigematsu, Y. Hirose, T. Fukumura, T. Hasegawa
14:20 – 2520. Electrically controlled electromagnetic phase conversion in magnetic oxide at room temperature. **T. Katase***, Y. Suzuki, H. Ohta*
14:40 Break
14:50 – 2521. Computational materials discovery. **A.R. Oganov**
15:20 – 2522. Thermodynamic and other related properties of titanium-dioxide systems. **Y. Aoki***, S. Saito

*** Principle Author**

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15:40 – 2523. Computational crystal structure prediction of mixed valence tin oxide photocatalysts. **N. Umezawa**, J. Wang, H. Hosono
16:00 – 2524. Computational and experimental identification of earth-abundant ternary nitrides. Y. Hinuma, T. Hatakeyama, Y. Kumagai, Y. Muraba, H. Sato, H. Hiramatsu, I. Tanaka, H. Hosono, **F. Oba***
16:20 – 2525. On the existence and characterization of molecular electrides. **M. Garcia Borràs***, V. Postils, M. Solà, J. Luis, E. Matito
16:40 – 2526. Structural and spectroscopic characteristics of C12A7 electride glass: A DFT study. **L.E. Johnson***, P.V. Sushko, H. Hosono

Hawaii Convention Center
318B

Nitroxide Radicals: Synthesis and Functional Bio-/Nanomaterials (#309)

Organized by: A. Smirnov, S. Bottle, R. Tamura
Presiding: K. OKADA, R. Tamura

13:00 – 2527. New aspects of nitronyl nitroxides in materials science. **K. OKADA**
13:30 – 2528. Nitroxide-copper clusters as building blocks for thermo/photoswitchable nanomaterials. **M.V. Fedin***
14:00 – 2529. Evaluation of β value of π-conjugated molecular wires by probing exchange interaction between two nitroxide radicals. **K. Matsuda***
14:30 – 2530. Control of phase transition behaviors of nitroxide radical paramagnetic liquid crystals. **T. Akita***, Y. Uchida, N. Nishiyama
14:50 Break
15:05 – 2531. Air-stable carbon-centered neutral radicals: Challenges for electrodeactive materials. **Y. Morita***, H. Nobukuni, T. Murata, M. Keishima, R. Tsuji
15:35 – 2532. Construction of molecular self-assemblies carrying a nitronyl nitroxide radical and effect of selective deuteration. **N. Yoshioka***, Y. Emura, T. Saito, N. Ozora, Y. Miura
16:05 – 2533. Adding redox-active nitroxides to the surface of carbon-based materials. **S.E. Bottle***, J.P. Blinco, A. O'Mullane, H. Zhu
16:35 – 2534. Spin probe and label studies of alumina-based functional materials and systems. **E.G. Kovaleva***, L.S. Molochnikov, L.F. Hatmullina, D.P. Stepanova, A. Smirnov, K.V. Kozhikhova, M.A. Mironov, A.V. Pestov

Hawaii Convention Center
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Supramolecular Assemblies at Surfaces: Nanopatterning, Functionality, Reactivity (#346)

Organized by: D. Perepichka, F. Rosei, A. Wee, W. Chen, P. Weiss

13:00 – 2535. Testing functional molecular assemblies by single-molecule manipulation. **L. Grill***
13:30 – 2536. Create and manipulate quantum states on surface using molecules. **N. Lin**
14:00 – 2537. Synchronization in self-assembled molecular machine networks. **S.W. Hla**
14:30 – 2538. Spin state of Iron phthalocyanine (FePC) on metal surfaces. **M. Kawai***, N. Tsukahara, N. Takagi
14:50 – 2539. Modulating charge transport mechanisms by tuning the architectures of supramolecular assemblies. A. Vilan, A. Pawlicki, B. Ewers, C. Drain, **J. Batteas**
15:10 Coffee break
15:20 – 2540. Electric-field-induced phase transformations at nanoscale. **O. Ivasenko**, Y. Fang, K. Cui, S. Lee, Z. Li, S. Mertens, S. De Feyter*
15:40 – 2541. Single molecule chemistry for surface assembly of DNA nanostructures. **T. Ye***, G.R. Abel, X. Hao
16:00 – 2542. Anthraquinone and pentaquinone pores on Cu(111): network formation through substrate electron confinement and its impact on guest dynamics. **L. Bartels**
16:30 – 2543. Design and manipulation of functional molecular nanosystems at interfaces. **J.V. Barth**

Hawaii Convention Center
316C

Fundamentals and Applications of Nanomaterials for Energy Technologies (#348)

Organized by: S. Jin, G. Yu, T. Minegishi, S. Maldonado, J. He
Presiding: S. Jin, W. Wei

13:00 – 2544. Water splitting on particulate and/or plate type photocatalysts. **K. Domen***
13:30 – 2545. Solar hydrogen production using carbon quantum dots and a molecular catalyst. **B. Martindale**, G. Hutton, C.A. Caputo, E. Reisner*
13:45 – 2546. Semiconductor nanowires for artificial photosynthesis of value-added chemicals. **P. Yang**
14:15 – 2547. Solar energy conversion and electrocatalysis using earth-abundant nanomaterials. **S. Jin**
14:30 break
14:50 – 2548. Graphene and C_3N_4-based electrocatalysts for energy conversion. **S. Qiao***
15:20 – 2549. Metal-free, heteroatom-doped carbon nanomaterials as sustainable electrocatalysts for fuel cells and water splitting. **T. Asefa***
15:35 – 2550. Electrochemical nanotechnologies: Batteries and electrocatalysts. **Y. Cui**
16:05 – 2551. Nanoparticle-assisted electrochemical synthesis of ammonia from water and nitrogen under atmospheric pressure. **K. Kim**, H. Yoon*, J. Han*
16:20 – 2552. Block copolymer template-directed synthesis of mono- and bimetallic nanoparticle catalysts. **D. Rider**

Hawaii Convention Center
316B

Multi-scale & Synergistic Supramolecular Systems in Material and Biomedical Sciences (#357)

Organized by: S. Aoki, H. Chiu, K. Soga, N. Gianneschi, X. Bengang
Presiding: S. Aoki, H. Chiu

13:00 – 2553. Stimuli-responsive materials for biological and materials applications. **B.S. Sumerlin**
13:25 – 2554. New approach for targeted assembly - copolymer blending vs. precision synthesis. **R.K. O'Reilly***
13:50 – 2555. De novo synthesis of artificial phospholipid membranes. **N.K. Devaraj**
14:10 – 2556. Transferring light energy into rotation of non-absorbing polymers through hydrogen and halogen bonds. **J. Vapaavuori**, I. Heikkinen, V. Dichiarante, G. Resnati, P. Metrangolo, R. Sabat, C. Bazuin, A. Priimagi, C. Pellerin
14:30 – 2557. Air-liquid interfacial self-assembly of conjugated block-copolymers into ordered nanowire arrays. **S. Park***, M.M. Cativo
14:50 Break
14:55 – 2558. Selective binding of guest alkyl termini by p-tert-butylcalix[5]arene in the solid state. **R. Sekiya***, Y. Kajiki, T. Haino
15:15 – 2559. Assembly and application of Janus nanosheets. B. Rodier, P. Wei, Q. Luo, S. Burton, E. Mosher, **E. Pentzer**
15:35 – 2560. Self-assembled benzimidazolium salts and their strong antimicrobial properties. **C. Elie***, A.R. Schmitzer
15:55 – 2561. Lanthanide-based nanoparticles as new candidates for nanothermometry. **E. Hemmer***, M. Quintanilla, F. Légaré, F. Vetrone
16:20 – 2562. Porphyrin supramolecular assembly: From nano to micro, and back. **G. Zheng**

Hawaii Convention Center
319A

Synthesis, Structure and Functionalities of Ferroelectrics and Multiferroics (#432)

Organized by: Z. Ye, C. Brown, T. Kiguchi
Presiding: P.M. Gehring

13:00 – 2563. Insights into the local structure of ferroelectrics via pair distribution function studies. **J.L. Jones***, T. Usher, I. Levin, E. Aksel, J. Forrester
13:25 – 2564. Understanding the morphotropic phase boundary in samarium-modified bismuth ferrite . **N. Valanoor***
13:50 – 2565. Defect induced phase states in perovskite nanoparticles. **I. Golovina***
14:05 – 2566. Correlation between antiferroelectric-like and ferroelectric components in the local region of polar materials. **Y. Liu**
14:25 Break
14:35 – 2567. Synthesis and characterization of (K, Na)NbO_3 Lead-free piezoelectric nanocrystals. **J. Li**, L. Cheng, Y. Xu, K. Wang
15:00 – 2568. One pot synthesis of nano ferroelectric materials by abnormally accelerated solid state reaction. **K. Toda**
15:20 – 2569. Development of ferroelectric oxides with oxygen tetrahedra. **H. Taniguchi***
15:45 – 2570. Functionalities of dielectric/ferroelectric stacked layers. **C. Hwang***
16:10 – 2571. High piezoelectric properties of KNN-based piezoelectric ceramics: Preparation, characterization, and mechanism. **J. Zhu***, D. Xiao, J. Wu

Hawaii Convention Center
322AB

Self-organization: Novel Mesogens and Applications (#447)

Organized by: H. Eichhorn, E. Choi, T. Hegmann, Y. Shimizu, K. Zhao
Presiding: T. Hegmann

13:00 – 2572. Synthesis and self-assembly of novel dibenz[a,c]anthracenes: Influence of structure on mesomorphic properties. **K. Maly***, K. Psutka, J.A. Paquette
13:20 – 2573. Low symmetry triazine derivatives for crystal and liquid crystal engineering. **H. Taing**, H. Eichhorn*
13:40 – 2574. Dynamically self-assembled nanoparticles as tunable metamaterials. **E. Gorecka***
14:10 – 2575. Liquid crystal directed nanoassemblies. **L.S. Hirst***
14:40 – 2576. Cholesteric liquid crystals: Polymer + nanoparticles. **T.J. Bunning***, I. de sio, N. Tabirian, S. Serak, T.J. White
15:00 – 2577. Enhancement of luminol emission intensity in cholesteric liquid crystalline microcapsule. **Y. Iwai***, Y. Uchida, N. Nishiyama
15:20 – 2578. Porous biocompatible liquid crystal elastomer and their use as spatial cell culture scaffolds. **E. Hegmann***, R. Clements, E. Freeman, C. Malcuit, J. Mc.Donough, L. Korley
15:40 – 2579. Design of novel amphiphilic mesogens and their complex mesophase morphologies. **X. Cheng**
16:10 – 2580. Patterning of mechanoinduced change in photoluminescent color on side chain liquid-crystalline polymer containing low molecular weight liquid-crystalline mechanochromic compound. **M. Kondo***, T. Nakanishi, S. Miura, N. Kawatsuki
16:30 – 2581. Self-organized polymer patterns obtained on the periodically deformed liquid crystals as reaction media. **S. Kang***

Saturday Evening

Hawaii Convention Center
317A

Organic, Inorganic and Hybrid Nanoparticles: Synthesis, Characterization, and Applications (#23)

Organized by: L. Bronstein, F. Winnik, K. Akiyoshi
Presiding: J. Texter

19:00 – 2582. Temperature-responsive properties of poly(*N*-isopropylacrylamide) nanoparticles bearing a perylenediimide group around the chain center. **S. MACHIDA***, Y. UCHIHASHI, N. Ikeda
19:15 – 2583. Synthesis and assembly of hybrid anisotropic particles. **N. Wu**, S. Wang
19:30 – 2584. Synthesis of size-tunable polymeric nanoparticles by means of an elongational flow device and their incorporation in hybrid polymeric materials. W. Yu, N. Visaveliya, I.U. Khan, **C.A. Serra**, M. Köhler, R. Muller, M. Bouquey, I. Kraus, M. Schmutz
19:45 – 2585. 2D ordered array of PEGylated ferritin. **M. Uenuma**, C. He, N. Okamoto, i. yamashita, Y. Uraoka
20:00 – 2586. New class of colloidal crystals. **J. Texter**
20:15 – 2587. Synthesis and functional evaluation of Eu-Mn complex nanoparticles for dual photoacoustic and magnetic resonance imaging probes. **Y. Kimura**, T. Kurimoto, Y. Imai, H. Imai, T. Matsuda, A. Toshimitsu, T. Kondo*
20:30 – 2588. Room temperature synthesis of graphene – Mn_3O_4 composite using different solvent system for supercapacitor application. **S. Syed Abdulrahim***, D. Sappani, V. THIRUMALAI, P. Balaya*, S. Valiyaveettil*

Hawaii Convention Center
321A

Metal-oxo Clusters: Molecular Design from Monomers to Infinity (#79)

Organized by: M. Nyman, Y. Li, T. Ozeki, C. Ritchie
Presiding: M. Bonchio

19:00 – 2589. Self-assembly of polyoxometalates for flexible ionic organic frameworks. **L. Wu***
19:20 – 2590. Distortions in decavanadates and how that may impact interactions with biological interfaces. I. Sanchez-Lombardo, S. Alvarez, N. Levinger, **D.C. Crans***
19:40 – 2591. Polyoxometalates as a novel class of artificial proteases. **T.N. Parac-Vogt***, K. Stroobants, G. Absillis, H. Ly, A. Sap
20:10 – 2592. Recent developments in polyoxo-noble-metalate chemistry. P. Yang, Z. Lin, **U. Kortz***
20:30 – 2593. Understanding the assembly of gigantic polyoxometalate clusters with information theory and symmetry. **L. Cronin***

*** Principle Author**

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Hawaii Convention Center
Halls I, II, III

Development of Nano Devices and Nanotechnologies for Environmental Monitoring and Remediation (#124)

Organized by: S. Al-Abed, D. Dionysiou, H. Choi, A. Bezbaruah, J. Gardea-Torresdey, W. Choi, M. Litter, T. Lim, B. Pan

Poster Session
19:00 – 21:00

2594. Application of nanosized ferric oxides-based adsorbent for phosphate removal and recovery from biotreated effluent. **Y. Zhang**, B. Pan*
2595. Nanozerovalent iron: Preparation using natural antioxidants and reactivity toward the degradation of trichloroethylene. **J. Scott***, K.P. Weber, J. Ring, M. Chaung, K. Naylor
2596. Atmospheric aerosol measurement using Recovery Sonde System. **Y. Park***
2597. Colorimetric probe to determine Pb^{2+} using functionalized silver nanoparticles. K. Noh, Y. Nam, **K. Lee***
2598. Removal of adhered uv-curable resin to the microstructure of mold by high hydrostatic pressure treatment. **T. Minamide**, A. Shimizu, U. Kajiwara
2599. Resistive response of carbon nanotube membrane for the detection of chlorophenols. **W. Den**, E. Kanchanatip, N. Grisdanurak
2600. Colorimetric detection of zinc ion in aqueous solution using label-free silver nanoparticles. S. Lee, **Y. Nam**, K. Lee*
2601. Cerium and lanthanum-modified, magnetically separable nanocatalysts for water treatment. C. Han, J. Lalley, X. Li, **M. Nadagouda***
2602. Potential application of green nano-TiO_2 on the photocatalytic degradation of azo dyes present in tannery effluents: Effect of nanoparticle concentration and size. J. Ibarra-Sanchez, J.A. Reyes-Aguilera, C. Molina, **G. de la Rosa***

Hawaii Convention Center
Halls I, II, III

Functional Molecular Materials and Devices (#128)

Organized by: R. Kato, H. Mori, J. Schlueter, B. Powell, S. Lo, H. Fujii, T. Mori, J. Takeya
Presiding: R. Kato

Poster Session
19:00 – 21:00

2603. Designing molecular printboards: A photolithographic platform for recodable surfaces. **D. Abt**, B.V. Schmidt, O. Pop-Georgievski, A. Quick, M. Wegener, D. Danilov, W. Wenzel, N.Y. Kostina, M. Bruns, C. Rodriguez-Emmenegger, C. Barner-Kowollik
2604. Thermo- and photo-responsive coloring phenomena in a long-chain amidoamine derivative/toluene/water system. **K. Akazawa**, M. Nakagawa, Y. IMURA, T. Kawai
2605. Influence of different modification ways on the sedimentation behavior of boron nitride applied in coating systems. **N. Andraschek***, G. Riess, W. Kern
2606. Structural study on fused heterocyclic ladder oligomers. P. Pham, **M.M. Bader**
2607. Molecular rectification of ferrocenyl-terminated self-assembled monolayers formed on Au(111) and Si(111). **A. Cheng***, S. Sugiura, T. Ichii, T. Utsunomiya, H. Sugimura
2608. Approaching sub 100 K band-like transport in organic single-crystal transistors. **J. Cho***, H. Minemawari, H. Watanabe, T. Yamada, S. Inoue, J. Tsutsumi, S. Arai, T. Hasegawa, T. Mori
2609. Electrically switchable surface with adherable, bactericidal, and nonfouling properties. **I. Choi**, W. Yeo*
2610. Chiral-optical switching in a mixture system of photo-responsive rod-like molecule and achiral bent-core molecule. **S. Choi**
2611. Metallic state of single-component π molecular crystals under high pressure. **H. CUI**, R. Kato
2612. From blue to red, the way to tailor exciplex based TADF emitters. **P. Data**, P. Pander, A. Monkman
2613. Single-crystal linear conjugated polyenes through photoinduced inclusion polymerization: A possible organic superconductor. **S.A. Dinca**, D. Allis, M.B. Sponsler, B. Hudson
2614. Air-stable ambipolar organic transistors based on layered molecular conductors (dibenzopyrrolopyrrole)(dimethyldicyanoquinonediimine). **C. Fujisue***, T. Mori, T. Kawamoto, T. Kadoya, T. Higashino
2615. Preparation, characterization, and fabrication of organic thin films of porphyrin with carboxyl and phosphonate and groups. **Y. Funaki**, S. Uemura, A. Sawano, C. Pac, H. Moriyama*
2616. Spin dynamics for donor-acceptor type covalent organic framework (COF). **K. Furukawa***, T. Nakamura, D. Jiang
2617. Intensify adhesivity between epoxy and EC tag supported metal surface. **R. Furuno**, Y. Takatsuji, T. Haruyama
2618. Synthesis and property of C5-azobenzene-functionalized locked nucleic acid uridine as a photoswitchable nucleic acid material. **O. Hasegawa**
2619. Air-stable ambipolar and n-channel organic transistors with hydrogen-bond and sulfur-sulfur networks. **T. Higashino***, S. Kumeta, S. Tamura, Y. Ando, K. Ohmori, K. Suzuki, A. Filatre-Furcate, D.M. LORCY, T. Mori
2620. Structural characteristics of new quantum spin liquid candidate κ-$(ET)_2Ag_2(CN)_3$. **T. Hiramatsu***, Y. Shimizu, M. Maesato, A. Otsuka, H. Yamochi, H. Ito, H. Kishida, Y. Yoshida, G. Saito
2621. Development of piceno[4,3-*b*:9,10-*b'*]dithiophene (PiDT) and dialkyl substituted PiDTs (C_n-PiDTs): Synthesis, characterization, and application to organic field-effect transistors. **K. Hyodo**, R. Toyama, H. Mori, Y. Nishihara*
2622. Carrier doping in a molecule-based spin ladder, Li_2[(18]crown-6)$_3$[$Ni(dmit)_2]_2(H_2O)_4$, by using solid state ion exchange. **K. Ichihashi**, S. Nishihara*, D. Konno, K. Maryunina, A. Sasaki, S. Wimperis, S. Kawaguchi, Y. Kubota, K. Inoue*, T. Akutagawa, T. Nakamura
2623. Morphological control of aggregates formed from mixtures of ferrocene-containing surfactants using electrochemical methods. **A. Ikeda**, Y. Takahashi, Y. Kondo*
2624. Synthesis of polynorbornene dendrimers to apply to novel thiol-ene UV curable resins. **R. Imanishi**, K. Aoki
2625. Discovery of thermally-resistant gold-colored crystals formed from an azobenzene derivative. **Y. Imazu**, Y. Takahashi, Y. Kondo*
2626. Mott insulator κ-$(ET)_2CF_3SO_3$ having quasi-1D triangular spin lattice exhibiting superconducting transition under pressure. **H. Ito***, T. Asai, Y. Shimizu, Y. Yoshida, G. Saito
2627. Analysis of sublimation purification process of organic semiconductor materials. **T. Iwao**, Y. Yamaguchi, Y. Tsuji*
2628. New patterning process of Poly (3,4-ethylenedioxythiophene)/poly(styrenesulfonate) electrodes by using the doctor blade coating system. **Y. Jang**, K. Kim
2629. Novel solvent effects of dendritic polycinnamates on the photochemical behaviors based on the dendimer conformation in dilute solutions. **K. Kagamihara**, K. Aoki
2630. Correlations between magnetism and conductivity in quasi-one-dimensional π–d molecular conductors $(DIETSe)_2FeBr_{4x}Cl_{4(1-x)}$. **G. Kawaguchi***, M. Maesato, T. Komatsu, H. Kitagawa, T. Imakubo, A. Kiswandhi, D. Graf, J. Brooks
2631. Molecular coating of molds and dies for polymer processing. **B. Kaynak***, S. Waschke, G. Grundmeier, W. Kern
2632. Photoresponsive carbohydrate based amphiphilic surfactant for liquid crystal alignment. **D. Kim***, K. JEONG*
2633. Dynamic and mechanical manipulation of fluidic species using a hierarchical wrinkle structure. **T. Kimura**, Y. IMURA, H. Endo, T. Kawai
2634. Energy transfer through circular porphyrin arrays arranged along normally oriented cylindrical phase segregation interface in thin film. **A. Kobayashi**, Y. Tanio, T. Tokuoka, M. Aotani, S. Asaoka*
2635. Preparation and redox-responsive behavior of ferrocene-modified nicroparticles. **N. Kobayashi**, Y. Takahashi, Y. Kondo*
2636. Effect of chemical structures of amino acid-based diacetylene gelators on gelation and photopolymerization behaviors. **Y. Kobayashi**, N. Tamaoki, K. Aoki
2637. Flame inhibition mechanisms of vanadocene. **Y. Koshiba***, T. Takahashi, H. Ohtani
2638. Functionalized phage nanoparticles: Versatile ultrasensitive reporters for the detection of proteins and viruses. **K. Kourentzi**, M. Adhikari, S. Dhamane, J. Litvinov, H. Goux, J. Kim, H. Chen, G. Garvey, M. Crum, A. Hagstrom, U. Strych, J. Conrad, R.C. Willson*
2639. Structure and physical properties of axially substituted tetramethylporphyrin radical crystals. **M. Kurokawa**, H. Hasegawa, Y. Takahashi, J. Harada, T. Inabe
2640. Transport noise measurements in dimer-Mott insulator β'-$(BEDT\text{-}TTF)_2ICl_2$. **M. Kurosu**, B. Hartmann, J. Müller, J. Kudo, S. Iguchi, H. Taniguchi, T. Sasaki
2641. Synthesis, structure, and emission property of polymethylene-vaulted *trans*-bis(2-iminoimidazolato)platinum(II) complexes. **N. Le***, N. Komiya, T. Naota
2642. Solution processable star-shaped molecules with a triazine core and branching thienylenevinylenes for bulk heterojunction solar cells. **R. Lee***, C. Huang
2643. Influence of electron donor groups in aryltriene chromophores for molecular rotors. **S. Lee**, S. Lee, J. Choi, C. Lee, O. Kwon*
2644. New kind of materials for Organic light-emitting diode with solution-processed. **X. Liu***, Y. LEE, S. Lee, Y. Cheon, Y. Kim
2645. Organic field-effect transistors based on isoindigo derivatives. **N. Masuda***, T. Higashino, T. Kadoya, M. Ashizawa, T. Kawamoto, H. MATSUMOTO, T. Mori
2646. Synthesis and photochemical behaviors of novel dendritic polycinnamates with various p-alkoxy chains in dilute solutions. **Y. Masuda**, Y. Tani, K. Aoki
2647. Introduction of asymmetry in charge transfer complexes based on axially substituted iron phthalocyanine for constructing new molecular ferroelectrics. **M. Matsuda***, M. Nishi, N. Hanasaki
2648. Magnetic properties of (tetramethylporphyrinato)cobalt(II) crystals and thin films. **S. Matsuno**, H. Hasegawa, Y. Takahashi, T. Inabe*, H. Tseng, S. Heutz
2649. Current-induced mutual conductivity change along orthogonal crystal axes in an ion-radical salt of cyclophane-type donor. **M.M. Matsushita***, D. Tonouchi, K. Awaga, T. Sugawara
2650. Functionalized isoindigo small molecules for use a electron acceptors in OPV devices. **S. McAfee**, J.M. Topple, I.G. Hill, G. Welch*
2651. Structures and proton conductivities of novel organic anhydrous co-crystals consisting of imidazole derivatives and dicarboxylic acids. **H. Mori***, K. Suzuki, J. Yoshida, A. Ueda
2652. Development of catechol-fused TTF-based organic conductors: Modulation of hydrogen-bonding interactions by chemical modification of TTF skeleton. J. Yoshida, A. Ueda, A. Nakao, R. Kumai, H. Nakao, Y. Murakami, **H. Mori**
2653. Development of photo-switchable oligonucleotides containing C5-azobenzene-substituted 2'-deoxyuridine analogs. **S. Mori**, K. Morihiro*, Y. Kasahara, S. Tsunoda, S. Obika*
2654. Distyrylthieno[3,2-b]thiophene based red luminescent organic single crystal and its balanced ambipolar field-effect performance. **S. Mu***, S. Takaishi, M. Yamashita
2655. Synthesis and photochemical behaviors of novel photodimerizable dendrimers with stilbene and cinnamate units at their terminal positions. **S. Nakada**, Y. Tani, K. Yamauchi, K. Aoki
2656. Dinaphthobenzo[1,2-*b*:4,5-*b'*]difurans: Synthesis, properties, and application to organic field-effect transistors. **K. Nakano***
2657. Calorimetry organic charge transfer complexes under external pressures. **Y. Nakazawa***, R. Yoshimoto, S. Yamashita, H. Akutsu
2658. Novel odd/even effect of alkylene chain length of diacetylene gelators on molecular packing modes in gel states to affect subsequent photopolymerization behaviors. **K. Narazaki**, N. Tamaoki, K. Aoki
2659. New single crystal growth method for a charge-transfer complex using photoirradiation. **M. Nishi**, M. Matsuda, H. Hasegawa, N. Hoshino, T. Akutagawa
2660. Polarization switching and domain formation of inorganic-organic lead halide perovskite thin film solar cells. **S. Oh**, G. Kim, B. Nguyen, W. Jo*
2661. Crystal structure and physical properties of $[Ni(dmit)_2]^-$ salt with (*p*-phenylenediamine)$_2(H^+)_3$(DCH[18]crown-6)$_3$ double-decker type supramolecular cation. **Y. Ohshima***, K. Kubo, S. Noro, T. Akutagawa, T. Nakamura
2662. Chalcogen-bridged V-shaped organic semiconductors: The effect of the bridged chalcogene atoms. **T. Okamoto***, C. Mitsui, M. Yamagishi, K. Nakahara, J. Soeda, H. SATO, A. Yamano, J. Takeya
2663. Spin susceptibility of a Mott insulator k-$(ET)_2Ag_2(CN)_3$ with triangular lattice under pressure. **A. Ono**, Y. Shimizu, M. Itoh, M. Maesato, A. Otsuka, H. Yamochi, T. Hiramatsu, Y. Yoshida, G. Saito
2664. Confinement and jamming: The result of merging the complex world of conjugated polymers, fungal Janus surfactants and colloids. **C. Rosu***, N. Kleinheinz, D. Choi, C. Tassone, J. Fu, M. Srinivasarao, P.S. Russo, E. Reichmanis
2665. Photoswitching devices consisting of a metal-nanoparticle. **S. Ryuzaki***, K. Terada, N. Saito, K. Okamoto, K. TAMADA*
2666. Photo-excited electron-pass from swingable molecular layer to semiconductor electrode. **T. Sakakura**, Y. Takatsuji, N. Murakami, T. Haruyama
2667. Peptides: A step toward natural organic light emitting materials in electronic applications. **R. Sammynaiken***, R. Bauer, G. Chang, M. Reaney, P. Jadhav
2668. Organic transistors based on charge-transfer complexes of BTBT analogs. **R. Sato***, M. Dogishi, T. Higashino, T. Kadoya, T. Kawamoto, T. Mori

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2669. Charge conduction properties at the contact interface between electron donor and acceptor single crystals. **T. Shimada***, Y. Takahashi, J. Harada, H. Hasegawa, T. Inabe
2670. Antiferromagnetic order at 101 K in Mott insulator (BEDT-TTF)$Ag_4(CN)_5$ with diamond lattice. **Y. Shimizu***, A. Ono, M. Itoh, A. Otsuka, M. Maesato, H. Yamochi, T. Hiramatsu, Y. Yoshida, G. Saito
2671. Large-scale synthesis of novel photoreactive dendrimers with multiple azobenzene units and their photoisomerization behaviors in films. **M. Shimoyama**, K. Aoki
2672. Structure-property relationships in biobased polyimide copolymers derived from 4-aminocinnamic photodimer and various tetracarboxylic dianhydrides. **H. SHIN**, S. TATEYAMA, T. Kaneko
2673. Materials design based on the concept of coupling density. **K. Shizu**, M. Uejima, H. Tanaka, T. Sato, K. Tanaka, H. Kaji, C. Adachi*
2674. Light-induced superconductivity in an organic Mott insulator utlizing a photoactive electric double layer. **M. Suda***, R. Kato, H.M. Yamamoto
2675. Structural stability of bismuth-niobium-oxide films in solution process. **A. Sugiyama**, T. Mitani, A. Goto, H. Shimauchi
2676. Development of high conductive PEDOT-PSS composite rigid film using polymerizable polar monomer. **K. Sunata**, M. Horikawa, T. Shirosaki, H. Sakurai, S. Nagaoka, H. Ihara
2677. Photopatterning of pi-conjugated polydiacetylene polymers by using organogelators with excellent photopolymerizability. **D. Takahashi**, K. Narazaki, N. Tamaoki, K. Aoki
2678. Synthesis and properties of novel donor-accepter pai-conjugated dyes with high molecular planarity. **K. Takahashi**, D. Izutsu, M. Wakayama, N. Tanaka, K. Mitsuke, M. Hashimoto
2679. Formation of a highly ordered thin film of ferroelectric on a molecular crystal. **M. Takehisa***, Y. Takahashi, J. Harada, H. Hasegawa, T. Inabe
2680. Effect of structural deformation on charge transport in organic single-crystal semiconductors. **J. Takeya***, H. Matsui, T. Kubo, R. Hausermann
2681. Fabrication of color microlens array utilizing polymer electrodeposition. **T. Tanaka**, K. Satoh, S. Hatakeyama, M. Yamamura, S. Murakami, H. Enomoto, Y. Sakurai
2682. Synthesis of novel dendritic polycinnamates with rigid tails to apply to photoreactive films with high photodimerizable efficiency. **Y. Toyooka**, Y. Tani, K. Yamauchi, K. Aoki
2683. Synthesis and semiconducting properties of oxacenes containing a benzo[2,1-*b*:3,4-*b'*]difuran skeleton. **A.M. Truong**, K. Nakano*
2684. Synthesis and physical properties of 1,4,5,8-naphthalenediimide-based conductors. **K. Ueno**, H. Iguchi*, M. Yamashita*
2685. Effect of chemical structures of aromatic terminals of the amino-acid based diacetylene gelators on the gelation and photopolymerization behaviors. **M. Ueta**, Y. Kobayashi, N. Tamaoki, K. Aoki
2686. Synthesis of novel p-conjugated oligomers containing a thieno[3,4-*b*]thiophene unit with a 4-substituted phenyl ester and their application to solution-processed organic solar cells. **Y. Wada***, Y. Asada, T. Yamamoto, T. Ikai, K. Maeda, T. Kuwabara, K. Takahashi, S. Kanoh
2687. Triethoxysilylalkyl-fluorinatedphenylmethanimine self assembled monolayers as molecular rectifiers. **M.E. Welker***, O. Jurchescu*, Z. Lamport, A. Broadnax, L. Mendenhall
2688. Temperature-mediated polymorphism in 7,14-bis((trimethylsilyl)ethynyl)dibenzo-[*b,def*]-chrysene: Single crystal X-ray determination of two distinct packing motifs and the impact on charge transport. **R.M. Williamson**, G.E. Collis*, O. Jurchescu*, V. Coropceanu*, J. Bredas, A. Fonari, Y. Shu, K. Goetz, L. Stevens
2689. Roll-to-roll fabrication of conductive polymer nanosheets and their application as skin-contact electrodes. **K. Yamagishi***, T. Fujie, A. Zucca, V. Mattoli, F. Greco, S. Takeoka
2690. Switching of transfer characteristics of organic field effect transistor by phase transitions. **S. Yokokura***, Y. Takahashi, H. Hasegawa, J. Harada, T. Inabe, H. Okamoto, M.M. Matsushita, K. Awaga
2691. Coronene-based cation radical salts with segregated columns. **Y. Yoshida***, K. Isomura, H. Kishida, Y. Kumagai, M. Mizuno, M. Sakata, T. Koretsune, Y. Nakano, H. Yamochi, M. Maesato, G. Saito
2692. Thermodynamics study of magnetic properties in bilayer Mott insulators. **R. Yoshimoto**, S. Yamashita, Y. Nakazawa, T. Kusamoto, R. Kato
2693. Self-healing electronic nanodevices. **L. Zhang**, X. Chen
2694. Electrical transport property of nano carbon superconductors. **Y. Matsuda***, S. Heguri, K. Tanigaki

Hawaii Convention Center
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Carbon Nanotubes: Preparation, Characterization and Applications (#227)

Organized by: S. Maruyama, R. Weisman, J. Liu, Y. Lee, J. Zhang
Presiding: H. Cheng, S. Maruyama

19:00 – 2695. Selective growth of semiconducting single-walled carbon nanotubes. J. Li, P. Li', **J. Liu**
19:30 – 2696. Development of n-type carbon nanotubes for thermoelectric materials. **T. Fujigaya**, N. Nakashima, T. Fukumaru, H. Wenxin
19:50 – 2697. Carbon nanotubes for energy storage. **Y. Lee**

Hawaii Convention Center
318A

Advances in Bioinspired and Biomedical Materials (#245)

Organized by: K. Healy, Y. Ito, P. Messersmith, X. Chen, I. Kang
Presiding: Y. Ito

19:00 – 2698. Bioinspired design of dynamic and self-healing polymers. **Z.M. Guan***
19:40 – 2699. Liquid transport regularity of freeze-dried gel-like capillaries. **K. Sugaya**, D. Ishii
20:00 – 2700. Rationally designed dynamic protein hydrogels with reversibly tunable mechanical properties. **H. Li***, N. Kong
20:20 – 2701. Novel approach for creating functional silk fibroin-based materials. **T. Hashimoto**, Y. Nakamura, H. Ishikawa, T. Kameda, Y. Tamada, H. Kurosu
20:40 – 2702. Injectable nanocomposite scaffold with In situ solidification and pore formation for bone tissue engineering. **P. Zhang***, N. Zhang, J. Liu, X. Chen

Hawaii Convention Center
Halls I, II, III

Challenge for Rare Element-free Functional Materials (#291)

Organized by: H. Hosono, D. Ginley, Y. Lee

Poster Session
19:00 – 21:00

2703. Low-temperature synthesis of alkali niobate-based nanocomposites by solvothermal solidification method. **K. Fukasawa**, S. Ueno, K. Nakashima, S. Wada*
2704. Preparation and dielectric property of barium titanate ceramics by solvothermal solidification method. **H. Kawashima**, S. Ueno, K. Nakashima, S. Wada
2705. Preparation of insulator/lanthanum nickel oxide composite ceramics by solvothermal method and their dielectric properties. **Y. Sakamoto**, S. Ueno, K. Nakashima, S. Wada*
2706. Microstructure dependence of piezoelectric properties for barium titanate ceramics prepared from different starting materials for energy harvesting application. **G.P. Khanal**, E. Kobayashi, S. Ueno, K. Nakashima, S. Wada*
2707. Development of new Bi-based dielectric materials with high-dielectric constant and DC-bias-free properties by nano-domain engineering. **H. Maruyama**, S. Ueno, K. Nakashima, I. Fujii, S. Wada*
2708. Preparation of new piezoelectric ceramics by a solvothermal solidification method under DC electric-field. **Y. Endo**, S. Ueno, K. Nakashima, S. Wada*
2709. Development of defect-less Bi-based piezoelectric materials with nano/macro complex domain configuration for piezoelectric enhancement. **R. Iizuka**, S. Ueno, K. Nakashima, I. Fujii, Y. Kuroiwa, C. Moriyoshi, S. Wada
2710. Widened process window in fabrication of Nb-doped anatase TiO_2 transparent conductive thin films by two-step annealing. **S. Nakao***, Y. Hirose, T. Hasegawa

Hawaii Convention Center
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Supramolecular Assemblies at Surfaces: Nanopatterning, Functionality, Reactivity (#346)

Organized by: D. Perepichka, F. Rosei, A. Wee, W. Chen, P. Weiss
Presiding: F. Rosei

19:00 – 2711. Surface-confined self-assembled Janus tectons: A versatile platform for the noncovalent functionalization of graphene. P. DU, D. KREHER, F. MATHEVET, F. CHARRA, **A. ATTIAS***
19:30 – 2712. Self-assembly of heptazine derivatives at solution–electrode interfaces under electrochemical control. **S. Uemura***, Y. Nakamura, M. Kunitake
19:50 – 2713. Local conformational switching of supramolecular networks at the solid/liquid interface. **F.P. Cometto***, K. Kern, **M. Lingenfelder***
20:10 – 2714. Surface modified with supramolecular assemblies and its electrochemical responsiveness. **J. Yuan***
20:30 – 2715. *Je t'aime . . . moi non plus*, or how molecular self-assembly reveals the electronic properties of metal-organic interfaces. **G. Costantini***

Hawaii Convention Center
319A

Synthesis, Structure and Functionalities of Ferroelectrics and Multiferroics (#432)

Organized by: Z. Ye, C. Brown, T. Kiguchi
Presiding: T. Kiguchi

19:00 – 2716. High piezoelectric thin films on a Si substrate from molecular-designed precursor solution. **H. Suzuki***, T. Arai, T. Ohno, N. Sakamoto, N. Wakiya
19:25 – 2717. Sol-gel grown PMN-PT films for tunable bulk acoustic wave resonators. **D. Suvorov***, A. Veber, Š. Kunej, M. Spreitzer
19:40 – 2718. Ferroelectric orthorhombic $Me_xFe_{2-x}O_3$ (*Me* = Al, Sc, In) thin films. **Y. Hamasaki**, A. Konishi, H. Moriwake, S. Yasui, M. Itoh, T. Taniyama
19:55 – 2719. Ferroelectricity in HfO_2-based epitaxial thin film. **T. Shimizu**, K. Katayama, T. Shiraishi, T. Kiguchi, S. Nakamura, T.J. Konno, H. Funakubo*
20:20 – 2720. Effect of gold nanoparticles on microstructure and dielectric properties of 0.93PZN-0.07BT ceramics. **A.N. Ananta**, P.N. Pakawanit*, A.N. Ngmjarurojana, A.N. Rugmai
20:35 – 2721. Domain structure and piezoelectric response of self-assembled tetragonal Pb(Zr,Ti)O_3 nanorods. **T. Yamada***, D. Ito, O. Sakata, T. Kiguchi, T. Shiraishi, T. Shimizu, M. Yoshino, H. Funakubo, T. Nagasaki

Hawaii Convention Center
Halls I, II, III

Self-organization: Novel Mesogens and Applications (#447)

Organized by: H. Eichhorn, E. Choi, T. Hegmann, Y. Shimizu, K. Zhao
Presiding: H. Eichhorn

Poster Session
19:00 – 21:00

2722. Three-chain triphenylene discotic liquid crystals: Perfluoroalkyl induced highly ordered lamellar columnar architectures. **K. Zhao**, P. Hu, B. Wang
2723. Alignment control of anisotropic dye molecules induced by photopolymerization with spatially gradient light. **M. Aizawa**, K. Hisano, A. Shishido*
2724. Preparation of room temperature columnar liquid crystals using single hydrogen bonding of isoquinoline derivatives. I. Son, J. Kim, **J. Lee***
2725. Structural chemical study on high thermal conductivity mechanism of the phenylbenzoate twin-mesogen epoxy polymer. Y. Itoh*, **N. Nishimura**, T. Kawai
2726. Synthesis of liquid crystalline gold nanoparticles and measurement of their physical properties. **I. Yuta**, K. Kaneko, T. Hanasaki
2727. Synthesis and investigating thermal properties of supramolecular complexes containing nucleic acid bases. **S. YOSHIKAI**, K. Kaneko, T. Hanasaki
2728. Comparison of photoinduced molecular reorientation in bulk and at the near-surface of photoalignable liquid crystalline polymeric films. **Y. Taniguchi**, Y. Inada, M. Kondo, Y. Haruyama, S. Matsui, N. Kawatsuki*
2729. Nanostructure of amphiphilic diblock copolymer thin film composed of hydrophobic side-chain liquid crystalline segment having perylenediimide mesogens. **S. Tsujimura**, M. Otonari, S. Asaoka*
2730. Segregation of smectic phases in the binary mixture of rod-like polymers with different diameters. **K. Itsuki***, T. TANAKA, K. OKOSHI
2731. Depletion effect on formation of microsegregated smectic phase. **T. TANAKA***, K. Itsuki, K. OKOSHI
2732. Study on high thermal conductivity mechanism of biphenyl benzoate twin-mesogen epoxy polymer. Y. Itoh*, **T. Suzuki**, T. Kawai
2733. Synthesis and physical properties of H-shaped liquid crystalline siloxane dimers. **A. Mori**, M. Hatta, T. Shimada, K. Kaneko, T. Hanasaki

*** Principle Author**

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2734. Mechanochromic photoluminescence behavior of liquid-crystalline rodlike oligothiophene derivatives. **T. Nakanishi***, M. Kondo, N. Kawatsuki
2735. Facile fabrication of photoalignable films fabricated from polymethacrylate with 4-oxybenzaldehyde side groups and 4-methoxyanilline composites. **K. Miyake**, M. Kondo, N. Kawatsuki*
2736. Effect of methyl substituents on the mechanochromic photoluminescent behavior of β-cyano-4-stilbazole derivatives connected with tolane moiety. **S. Miura***, M. Hashimoto, M. Kondo, N. Kawatsuki
2737. Self-organization and cross-linking of tetraazaporphyrin derivatives. **H. Eichhorn***, M. Ahmida, S. Dufour, C.E. DeWolf
2738. Comparison of photoinduced phase transitions of simple azobenzene derivatives to those of triphenylene-azobenzene derivatives. **R. Minobe**, D. Tanaka, Y. Shimizu, K. Uchida*
2739. Unusual photoswitching behavior of helical twisting power from dimeric chiral azobenzene dopants in cholesteric liquid crystal. **Y. Kim**, N. Tamaoki*
2740. Liquid crystalline properties and photochemical behaviors of amphiphilic nematic liquid crystalline diblock copolymers containing photo-crosslinkable mesogens. **S. Kubo***, S. Kobayashi, N. Kawatsuki, M. Nakagawa
2741. Synthesis and physico-chemical properties of perfluoroalkyl compounds incorporating a hexamethylene spacer. **M. Kiriki**, H. OKAMOTO*, Y. MORITA
2742. Electrorheological effect of side-on liquid crystalline silsesquioxanes in a nematic solvent. **K. Kaneko**, M. Hatta, T. Shimada, T. Hanasaki
2743. Thermal amplification of the photoinduced orientation of copolymethacrylate films comprised of 4-oxybenzaldhyde and benzoic acid side groups doped with 4-methoxyanilline. **R. Fujii**, M. Kondo, N. Kawatsuki*
2744. Molecular alignment by photopolymerization induced diffusion. **K. Hisano**, W. Nakano, A. Shishido*

Sunday Morning

Hawaii Convention Center
317A

Organic, Inorganic and Hybrid Nanoparticles: Synthesis, Characterization, and Applications (#23)

Organized by: L. Bronstein, F. Winnik, K. Akiyoshi
Presiding: L. Prodi, E. Zubarev

8:00 – 2745. Fluorescent conjugated polymer nanoparticles of controlled shape, size, colour and surface functionality. **M.L. Turner***, D. Muenmart, A.B. Foster, A. Harvey, J.A. Esquivel Guzman, H. Willcock, R. O'Reilly, M. McCairn, J.M. Behrendt
8:15 – 2746. Synthesis and characterization of organically modified nanosilicon. J.A. Irvin*, **D.J. Irvin***, L. Wood, K.L. Williams, M.A. Solano, S.K. Collings
8:30 – 2747. Photoresponsive DNA brush surface for the reversible aggregation of gold nanoparticles. **N. Kanayama***, S. Kishi, T. Takarada, M. Maeda
8:45 – 2748. Dye-doped silica nanoparticles as luminescent organized systems for nanomedicine. **L. Prodi***, E. Rampazzo, N. Zaccheroni
9:10 – 2749. Energy-gap engineering of nanosilicon toward efficient light emitters. **N. Shirahata**
9:35 – 2750. Evaporative self-assembly as a powerful tool for creating functional superstructures. **E. Zubarev***
10:00 Intermission
10:15 – 2751. Toward an understanding of halogen mediated chemistry of colloidal germanium nanocrystals. **S.M. Kauzlarich***
10:40 – 2752. Detecting, visualizing, and measuring the chirality of chiral ligand capped gold nanoparticles using nematic liquid crystal phases. **T. Hegmann***
10:55 – 2753. Preparation, characterization, and application of chiral molecule-stabilized noble-metal colloids. **M. Takase***, S. Kimura, B. Ohtani
11:10 – 2754. Air-stable anisotropic monocrystalline nickel nanorods for aeronautical applications. **G.L. Drisko***, P. Fazzini, P. Fau, M. Kahn
11:25 – 2755. Synthesis, characterisation, and application of novel high attachment density nanoprticles. D. Mangos, C. Hassam, T. Nakanishi, **D.A. Lewis***
11:40 – 2756. Silicon nanoparticles: New surfaces through mechanochemistry. **M. Fink***

Hawaii Convention Center
316A

Chemistry and Applications of Graphene (#39)

Organized by: Y. Chen, R. Haddon, K. Loh
Presiding: Y. Chen, X. Gao, R. Kaner

8:00 – 2757. Nucleic acid nanotechnology for biosensing and therapy based on graphene oxide: Toward practical applications. **D. Min**
8:20 – 2758. Multiple addition reactions of π-conjugated nanocarbons. **X. Gao***
8:40 – 2759. Thick and thin film polymer-graphene nanocomposites: Surface functionalization, characterization, and applications. **Y. Park***, S. Mun, J. Park
8:55 – 2760. Flexible graphene electrode-based organic photovoltaics with record-high efficiency. **H. Park***, S. Chang, X. Zhou, J. Kong, T. Palacios, S. Gradecak
9:10 – 2761. Controllable molecular intercalation of carbon nanotubes: Toward high-yield and low-acid-use production of graphene nanoribbons. **J. Liao***, Y. Li, K. Lin, W. Chiang
9:25 Break
9:45 – 2762. Graphene-based supercapacitors for integrated energy storage. **R. Kaner***, M. El-Kady, J. Hwang, L. Wang, Y. Shao, M. Li, H. Wang, W. Sun
10:05 – 2763. Bulk 3D graphene materials. **Y. Chen**
10:25 – 2764. Applications of super-aligned carbon nanotube film in graphene research. **P. Liu***, K. Jiang
10:45 – 2765. Graphene flakes and their applications for energy storages and transparent flexible conductive films. **H. Lee***
11:05 – 2766. Roll-to-roll production and etching-free transfer of graphene for high-performance flexible transparent electrodes. **B. Deng**, z. Liu, H. Peng*
11:20 – 2767. Roll-to-roll continuous patterning and transfer of graphene via dispersive adhesion. **T. Choi***, S. Park*, J. Seo, B. Hong

Hawaii Convention Center
321A

Metal-oxo Clusters: Molecular Design from Monomers to Infinity (#79)

Organized by: M. Nyman, Y. Li, T. Ozeki, C. Ritchie
Presiding: C. Ritchie

8:00 – 2768. Polyoxoxmetalate complexes with coordinated main group elements (Pb and Bi). **S.A. Adonin***, L. Udalova
8:20 – 2769. Chemical and electrochemical condensation of polyoxometalates with nanocrystals for solution processed electrochromic "smart windows". **D.J. Milliron***, A. Llordes, G. LeBlanc, Y. Wang
8:40 – 2770. Vanadium-based polyoxometalate as cathode-active materials for Li-ion batteries. **P.A. Aparicio***, T. Yamada, X. Lopez, H. Yoshikawa, J. Poblet, S. Irle, K. Awaga
9:00 – 2771. Oxohydroxometal clusters: Speciation, film properties, and nanopatterning. **D.A. Keszler**
9:25 – 2772. Reversible light-driven polymerization of polyoxometalate tethered with coumarin molecules. **Y. SONG**
9:45 – 2773. Probing ion-pairing trends of polyoxometalates with counter-cation ^{133}Cs NMR. **D.J. Sures***, S. Sahu, A. Navrotsky, M. Nyman
10:05 – 2774. Selective uptake of Cs^+ by porous ionic crystals based on redox of polyoxometalates. **S. Seino***, R. Kawahara, S. Uchida
10:25 – 2775. High-nuclear vanadoniobate $\{Nb_{48}V_8\}$ double-decker wheel. **X. Wang**
10:45 – 2776. Hafnium-oxo clusters: The atomic structure behind high-resolution patterning. **S. Goberna Ferron***, J. Son, M. Nyman, W.H. Casey
11:05 – 2777. Polyoxotungstates in photocatalysis. **J. Poblet**
11:35 – 2778. Macroion-Macroion attraction - the roles of counterions, co-ion, and water structures. **T. Liu**

Hawaii Convention Center
321B

Luminescent Nanomaterials: Properties, Mechanisms, and Applications (#101)

Organized by: F. Vetrone, S. Kohei, D. Ma, W. Huang, L. Huang, X. Peng

8:00 – 2779. Nanoheaters and nanothermometers playing together toward applications in hyperthermia. **L. Carlos***
8:40 – 2780. Nanothermometry in the second biological window based on temperature dependent near-infrared fluorescence of rare-earth doped ceramic nanophosphors. **M. Kamimura***, T. Matsumoto, S. Suyari, K. Soga
9:00 – 2781. Lanthanide-doped nanostructures for near-infrared nanothermometry. **E. Hemmer***, M. Kamimura, F. Légaré, K. Soga, F. Vetrone
9:20 – 2782. New routes for old pals: A triple RE^{3+}-doped multicolour $NaGdF_4$ nanoprobe for in vitro (980nm-VIS) and in vivo (793nm-NIR) imaging and sensing. W.F. da Silva, **A. Benayas**, B. del Rosal, R. Naccache, F. Sanz-Rodriguez, F. Vetrone
9:40 – 2783. Shaping lanthanide luminescence in core-shell nanoparticles. **F. WANG***
10:20 – 2784. Application of near infrared luminescent materials for biophotonics. **K. Soga**, M. Kamimura
10:40 – 2785. Dual wavelength upconversion through excitation energy trapping in core-shell nanoparticles. **N. Johnson**, S. He, A. Almutairi*
11:00 – 2786. Engineering lanthanide-doped multifunctional nanoparticles for biomedical diagnostic and therapeutic applications. **S. He**, N. Johnson, A. Almutairi
11:20 – 2787. Lanthanide-doped upconverting nanocrystals as exceptional single-molecule imaging probes and biosensors. **B.E. Cohen***, E. Chan, D. Gargas, P. Schuck

Hawaii Convention Center
320 Theatre

Functional Molecular Materials and Devices (#128)

Organized by: R. Kato, H. Mori, J. Schlueter, B. Powell, S. Lo, H. Fujii, T. Mori, J. Takeya
Presiding: H. Fujii, J. Schlueter

8:00 – 2788. Probing the Mott physics in molecular conductors via thermal expansion. **M. de Souza**
8:25 – 2789. Playing with donor and acceptor molecules. **C. Rovira***
8:50 – 2790. Charge ordering in oxo-bridged dinuclear ruthenium mixed-valence complex by magnetic resonance investigation. **T. Nakamura***, M. Yoshida, M. Kondo, S. Masaoka
9:10 – 2791. Combining intra- and intermolecular charge-transfer: towards organic multiferroics. F. Di Maiolo, C. Sissa, **A. Painelli***
9:35 – 2792. Using crystallographically layered materials as templates for new multiferroics. **C.D. Ling***
9:55 break
10:10 – 2793. Cool surprises with fluoride-bridged systems. **K.S. Pedersen***, J. Bendix, R. Clerac, H. Weihe, G. Lorusso, M. Evangelisti
10:30 – 2794. Single-chain magnets with very high blocking temperature and record coercivity. **M.G. Vaz***, R.A. Cassaro, M.A. Novak, P.M. Lahti
10:50 – 2795. Effect of optical switching on the spin states of electronically bistable magnetic materials: Photoresponsive metal clusters. **N.L. Frank***, A. Kurimoto, B. Wright, T. Borchers
11:10 – 2796. Role of intermolecular interactions for functional spin crossover molecular materials. **K. Takahashi***, K. Fukuroi, M. Okai, K. Kawamukai
11:30 – 2797. Electronic structure of one-electron oxidized mixed-valence metal salen complexes. **H. Fujii**
11:55 closing

Hawaii Convention Center
315

Carbon Nanotubes: Preparation, Characterization and Applications (#227)

Organized by: S. Maruyama, R. Weisman, J. Liu, Y. Lee, J. Zhang
Presiding: J. Liu, S. Maruyama

8:00 – 2798. Carbon nanomaterials for biological and energy applications. **H. Dai**
8:30 – 2799. Potential bioapplication of carbon nanohorns. **M. Yudasaka***
9:00 – 2800. Advanced carbon-based nanotubes/nanocages for energy conversion and storage: Synthesis, performance, and mechanism. **Z. Hu**
9:30 – 2801. Semiconducting SWCNT: Materials, inks, and printed thin film transistors. **P.R. Malenfant***, j. Ding, Z. Li, J. Lefebvre, F. Cheng, C. Homenick, J. Dunford, N. Du, J. Ouyang, G. Lopinski, R. James, C.T. Kingston, B. Simard, J. Humes, J. Kroeger, W. Lee, J. Sun, G. Cho
9:50 break
10:10 – 2802. Dry-processable carbon nanotubes for functional devices and composites. J. Di, Y. . Zhu, **Q. Li**
10:40 – 2803. Toughness of carbon nanotube and graphene hybrid fibers . **S. Kim**
11:10 – 2804. Carbon nanotube-silver hybrid architecture for stretchable composites and fibers. **S. Baik***
11:40 – 2805. Industrialization of boron nitride nanotubes: Synthesis, chemistry, assemblies, and composites. **B. Simard**, K. Kim, C. Kingston, M.J. Jakubinek, C. Homenick, Y. Martinez-Rubi, H. Shin, B. Ashrafi, J. Guan, S. Lin, S. Denommee, R. Iannitto, S. Walker, M. Daroszewska, M. Plunkett

Hawaii Convention Center
318A

Advances in Bioinspired and Biomedical Materials (#245)

Organized by: K. Healy, Y. Ito, P. Messersmith, X. Chen, I. Kang
Presiding: X. Chen

8:00 – 2806. Design of bioactive materials for tissue regeneration. **J. Chang***

*** Principle Author**

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8:40 – 2807. In vitro design of nanoparticles using an artificial 3D-blood vessel wall models for atherosclerosis treatment. **M. Matsusaki***, P. Chetprayoon, M. Akashi
9:00 – 2808. Surface modification of nHA nanorods hydroxyapatite for use in tissue engineering scaffolds. A. haider*, **I. Kang**
9:20 – 2809. Amino acid-based poly(ester amide)s: Tunable materials for tissue engineering and drug delivery. **E.R. Gillies***, K. Mequanint, D.K. Knight, A. Soleimani
9:40 Coffe Break
10:00 – 2810. Tailoring minimalist self-assembling peptides for localised viral vector gene therapy. A. Rodriguez, K. Bruggeman, C.L. Parish, R.J. Williams, **D.R. Nisbet***
10:20 – 2811. Cryptic site surfaces for the design of chemo and cyto mechano-responsive systems. **P. SCHAAF**
11:00 – 2812. Synthetic cell penetrating peptides for drug delivery and stem cell applications. **W.H. Suh***
11:20 – 2813. Strategies for the incorporation of cellobiose dehydrogenase into chitosan formulations: Antimicrobial systems for medical applications. **G. Tegl***, B. Thallinger, B. Beer, G.S. Nyanhongo, G.M. Guebitz
11:40 – 2814. Bioinspired synthesis of multifunctional metal nanoparticles for biomedical applications. **Y. Tan***, J. Lim, Y. Yu, X. Su

Hawaii Convention Center
317B

Challenge for Rare Element-free Functional Materials (#291)

Organized by: H. Hosono, D. Ginley, Y. Lee
Presiding: Y. Lee

8:00 – 2815. Low temperature preparation of barium titanate-based nano-complex ceramics by solvothermal solidification method and their dielectric and piezoelectric enhancement. **S. Wada**
8:20 – 2816. Low-temperature preparation of high-capacitance metal/insulator composite capacitors with boundary layer structure. **S. Ueno***, Y. Sakamoto, K. Nakashima, S. Wada
8:40 – 2817. Piezoelectric Langasite single crystals for high temperature sensors. **K. Shimamura***, X. Fu, E. Villora, Y. Oshima, Y. Noguchi, M. Miyayama, N. Ohashi
9:00 – 2818. Fabrication and optical characterization of plasmonic array of titanium nitride nanoparticles. **R. Kamakura***, Y. Daido, S. Murai*, K. Fujita, K. Tanaka
9:20 Break
9:30 – 2819. 2D carbides of transition metals: A new class of functional materials. **Y. Gogotsi***
10:00 – 2820. Synthesis of potassium niobate nanocubes using microwave-assisted solvothermal method. **K. Nakashima***, S. Ueno, S. Wada
10:20 – 2821. Progress on the applications of super-aligned carbon nanotube films. **Y. Wei**, P. Liu, S. Fan, K. Jiang
10:50 – 2822. Stabilities and electronic structures of bilayer graphene doped with B and N atoms: A first-principles study. **Y. Fujimoto***, S. Saito
11:10 – 2823. Electronic and optical properties of newly discovered crystal structures of g-C_3N_4 by ab initio evolutionary structure search. **J. Wang***, N. Umezawa
11:30 – 2824. Graphene vs. carbon nanotubes: Fundamentals and applications electronics. **Y. Lee**

Hawaii Convention Center
318B

Nitroxide Radicals: Synthesis and Functional Bio-/Nanomaterials (#309)

Organized by: A. Smirnov, S. Bottle, R. Tamura
Presiding: T. Smirnova, D.D. Thomas

8:00 – 2825. Nitroxide-loaded lipid nanoparticles provide MRI contrast in vivo. **B.W. Muir***
8:40 – 2826. Nitroxide-radical containing polymers for novel nanotherapeutics. **T. Yoshitomi**, Y. Nagasaki*
9:00 – 2827. Multifunctional in vivo EPR profiling of the chemical tumor microenvironment using advanced nitroxide and trityl probes. **V.V. Khramtsov***
9:30 Break
9:45 – 2828. Mechanism of (acid-catalyzed) radical-trapping antioxidant activity of nitroxides. **E.A. Haidasz**, D. Meng, R. Amorati, K. Ingold, L. Valgimigli*, D. Pratt*
10:15 – 2829. Multifunctional assessment of tissue pO_2, pH and inorganic phosphate (Pi) by phosphanated trityl probe: Interstitial Pi as a new prognostic factor in tumorigenesis. **A. Bobko**, T.D. Eubank, I. Dhimitruka, J.L. Zweier, V.V. Khramtsov
10:45 – 2830. Grafting nitroxide radicals on nanodiamond surface using click chemistry. **S. Takahashi***
11:15 – 2831. Spin labeled tachykinin neuropeptides for in-vivo imaging and determination of copper binding. **l.j. berliner***, c. jones
11:45 Concluding Remarks

Hawaii Convention Center
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Supramolecular Assemblies at Surfaces: Nanopatterning, Functionality, Reactivity (#346)

Organized by: D. Perepichka, F. Rosei, A. Wee, W. Chen, P. Weiss
Presiding: S. De Feyter, F. Rosei

8:00 – 2832. Supramolecular gateways to single molecule electronic properties. **E. Borguet***
8:30 – 2833. Supramolecular assemblies on surfaces from cyano-functionalized molecules. **M. Stoehr***
9:00 – 2834. Stoichiometry and electronic structure of bidimensional donor/acceptor superlattices on metal surfaces. **R. Otero***
9:30 – 2835. Doping of graphene through physisorbed self-assembled monolayers. R. Phillipson, J. Teyssandier, L. Verstraete, I. Asselberghs, S. De Gendt, **J. Adisoejoso***, S. De Feyter
9:50 – 2836. N-heterocyclic carbenes on gold: Forming an ultrastable self-assembled monolayer N-heterocyclic carbenes on gold with applications in surface plasmon resonance sensors. **H. Horton***, C. Crudden, Z. Li
10:10 Coffee break
10:20 – 2837. Graphene nanoribbons produced by 2-zoned chemical vapor deposition. **H. Sakaguchi***
10:50 – 2838. Template-assisted self-assembly of MoSx molecular wires and nanoribbons. **K.P. Loh**
11:20 – 2839. Processes at the solution-solid interface: Desorption rates and activation energy for metal free octaethylporphyrin at the phenyloctane/graphite interface. **A. Bhattarai***, K. Hipps, U. Mazur
11:40 – 2840. Anion sensing supramolecular monolayers. **J. Lehr**, T. Lang, O. Blackburn, T. Barendt, S. Faulkner, P. Beer, J. Davis*

Hawaii Convention Center
316C

Fundamentals and Applications of Nanomaterials for Energy Technologies (#348)

Organized by: S. Jin, G. Yu, T. Minegishi, S. Maldonado, J. He
Presiding: F. Wang, G. Yu

8:00 – 2841. 3D nanostructure electrodes for Li and Na ion batteries. **Y.I. Chen***
8:30 – 2842. Nanostructured ternary metal fluorides as new cathodes for rechargeable lithium batteries with high energy density and cycling efficiency. **F. Wang***, S. Kim, J. Graetz
8:50 – 2843. Preparation of metallic monolith using polymer template and its application to battery electrodes. **K. Mitamura***, M. Watanabe, S. Watase, K. Matsukawa
9:05 Break
9:15 – 2844. New vistas in electrochemical energy storage enabled by nanomaterials. **L. Nazar***, D. Kundu, X. Liang, R. Black, Q. Pang
9:45 – 2845. Nanostructured materials for energy storage. **J. Liu**
10:15 – 2846. High-energy lithium-sulfur batteries: From theoretical understanding to nanomaterials design. **Z. Seh**, W. Li, Y. Cui*
10:30 – 2847. Binder free graphene–sodium niobate nanotube/nanorod composite electrodes for supercapacitors. W. Perera, i. munaweera, M. Trinh, Y. Gao, J.p. Ferraris, Y. Chabal, **K. Balkus***
10:45 – 2848. Facile synthesis of strongly coupled carbon nanofiber-metal oxide coaxial nanocables as high performance anode materials for lithium-ion batteries. **G. Zhang**
11:00 – 2849. Preparation of ultrafine polyacrylonitrile-based carbon nanofibers embedded with polyvinylpyrrolidone functionalized graphene by electrospinning. A. Moayeri*, **A. Ajji**

Hawaii Convention Center
316B

Multi-scale & Synergistic Supramolecular Systems in Material and Biomedical Sciences (#357)

Organized by: S. Aoki, H. Chiu, K. Soga, N. Gianneschi, X. Bengang
Presiding: S. Aoki, N. Gianneschi

8:00 – 2850. Systematic study of the structure-function relationship in Archaea-inspired bolaform lipids. G. Leriche, Y. Kim, T. Koyanagi, T. Schroeder, K. Diraviyam, K. Gao, M. Gilson, D. Sept, M. Mayer, **J. Yang***
8:25 – 2851. Anomalous water molecules and mechanistic effects of water nanotube clusters confined to molecular porous crystals. **M. Tadokoro***
8:50 – 2852. Modulating biomaterial-surface interactions using light. **R. Naik***
9:10 – 2853. Synthesis of functionalized [2]rotaxanes from macrocyclic phenanthroline-Cu complexes. **S. Saito***, K. Ikeyatsu, Y. Matsuoka, Y. Mutoh
9:30 Break
9:35 – 2854. Design and synthesis of heteroleptic cyclometalated iridium(III) complexes that exhibit unusual dual color phosphorescence. **S. Kumar**, Y. Hisamatsu, S. Aoki*
9:55 – 2855. Rolling DNA-based motors with superdiffusive transport. **K. salaita***
10:15 – 2856. Self-assembled and stimuli responsive protein-binders. **J. Jayawickramarajah***, X. Su, X. Chu, M. Zhu
10:40 Closing Remarks

Hawaii Convention Center
319A

Synthesis, Structure and Functionalities of Ferroelectrics and Multiferroics (#432)

Organized by: Z. Ye, C. Brown, T. Kiguchi
Presiding: J. Li

8:00 – 2857. Structure and dynamic behaviors of ferroelectric domains. **x. pan**
8:25 – 2858. Atomic-resolution analysis of structure and morphology of PMN-PT epitaxial thin films. **T. Kiguchi***, C. Fan, T. Shiraishi, T.J. Konno
8:50 – 2859. Investigation of various domain wall alignments in epitaxial $PbTiO_3$ thin films on conducting $LaNiO_3$ grown by pulsed laser deposition. **H. Jin**, S. Oh, W. Jo*
9:05 – 2860. Electron microscopic study on dynamics of nanoscale ferroelectric domains in $Pb(Mg_{1/3}Nb_{2/3})O_3 – PbTiO_3$. **Y. Sato**
9:20 – 2861. Electronic transport in ferroelectric nanostructures. **A. Gruverman***
9:45 Break
9:55 – 2862. Order, disorder, and ferroic properties. **P. Janolin***, R. Faye, C. Cochard, H. Liu, O. Guedes, B. Dkhil, S. Prosandeev, L. Bellaiche
10:20 – 2863. Broadband dielectric spectroscopy of A-site substituted relaxor ceramics. **J. Banys***, S. Svirskas, M. Dunce, E. Birks, M. Antonova, A. Sternberg
10:35 – 2864. Phase transition driven by pulsed electric field in epitaxial piezoelectric thin films. **S. Yasui***, Y. Ehara, T. Shiraishi, T. Shimizu, H. Funakubo, M. Itoh, Y. Imai, H. Tajiri, O. Sakata, I. Takeuchi
10:50 – 2865. Aurivillius phase $Bi_4Ti_3O_{12}$-n$BiFeO_3$ (n = 1-5) single crystals compared with ceramics. **H. Kimura***, T. Jia, R. Tanahashi, H. Zhao
11:05 – 2866. Coupled ferroelectric and magnetic orders in PbFe1/2Nb1/2O3. **C. Stock**, H. Luo, B. Roessli

Hawaii Convention Center
322AB

Self-organization: Novel Mesogens and Applications (#447)

Organized by: H. Eichhorn, E. Choi, T. Hegmann, Y. Shimizu, K. Zhao
Presiding: E. Choi

8:00 – 2867. Thermally reversible distortion of ABA triblock copolymer having main-chain liquid crystalline polyester as a central block. **M. Koga**, K. Abe, Y. TOMINAGA, M. Tokita*
8:20 – 2868. Photodeformation of liquid crystal polymers triggered by upconversion luminescence. **Y. Yu***, Z. Jiang, W. Wu, L. Qin
8:50 – 2869. Improving and extending the dynamic optical response of polymer stabilized cholesteric liquid crystals with materials chemistry. **T.J. White***, K. Lee, V.P. Tondiglia, T.J. Bunning
9:10 – 2870. Rational molecular design for bicontinuous cubic mesogens 1,2-bis(4′-*n*-alkoxyaryloyl)hydrazines. **S. Kutsumizu***, Y. Yamada, I. Tokiwa, A. Kawafuchi, T. Sugimoto, T. Udagawa, Y. Miwa
9:30 – 2871. Synthesis and mesomorphism of dimesogenic molecules with hockey stick-shaped mesogens. **E. Choi***, H. Kim, H. Kim
9:50 Break
9:55 – 2872. Achiral straight-rod liquid crystals indicating local biaxiality and ferroelectric switching behavior in the smectic A and nematic phases. **K. Kishikawa***, T. Inoue, N. Hasegawa, M. Takahashi, M. Kohri, T. Taniguchi, S. Kohmoto
10:15 – 2873. Emergence of chirality in chemically nonchiral nematic dimers. **G.H. Mehl***

*** Principle Author**

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10:45 – 2874. Design of "de Vries-like" liquid crystals for fast electro-optical applications. **R. Lemieux***
11:15 – 2875. Effect of dipolar interactions on chiral liquid-crystal systems. **T. Nozawa***, P. Brumby, K. Yasuoka
11:35 – 2876. Design of new chiral smectic C* lyotropic liquid crystals. **C. Schubert**, R.P. Lemieux, F. Giesselmann
11:55 Closing Remarks

ENRG

Area 9 – Chemistry of Clean Energy Conversion, Storage, and Production

Tuesday Morning

Hyatt Regency Waikiki
Makai Bllrm

Chemistry of Automotive Emission Control Catalysis: Current R&D and Future Challenges (#21)

Organized by: C. Peden, D. Kim, M. Shen, W. Epling
Presiding: B. Epling, C. Peden

8:00 – 1. Approaches and advances to the challenges of treating lean emissions at low temperatures. **T.J. Toops***, J.E. Parks, E. Kyriakidou, A.J. Binder
8:40 – 2. CO removal from automotive emission over thermally durable CeO_2-supported Cr-Cu catalyst. **H. Yoshida**, Y. Okabe, N. Yamashita, S. Hinokuma, M. Machida*
9:00 – 3. Three-way catalytic performance of $RuCo/Al_2O_3$ enhanced by preparation using a galvanic method. **J. Ohyama***, H. Ishikawa, Y. Mahara, A. Satsuma
9:20 – 4. Surface structure dependence of SO_2 interaction with CeO_2 nanoshapes with well-defined facets. U. Tumuluri, M. LI, S. Dai, **Z. Wu**
9:40 – 5. Catalytic combustion reaction on Mn-modified hexagonal $YbFeO_3$. **R. Tada***, S. Hosokawa, K. Teramura, T. Tanaka
10:00 – 6. Pulsed arc-plasma deposition of noble metal nanoparticles for automotive catalytic reactions. **S. Misumi**, S. Hinokuma, H. Yoshida, M. Machida*
10:20 – 7. Recycling valuable metals from automobiles: Separation of precious metals in simple extraction steps using ionic liquids. **N. Papaiconomou***, E. Chainet, I. Billard, L. Svecova
10:40 – 8. Multilayer and zoned monolithic catalysts for lean NOx reduction. **M. Harold***

Hyatt Regency Waikiki
Kou Ballrm

Nano Catalysis for Clean Energy and Environmentally Friendly Chemical Production (#81)

Organized by: A. Dalai, N. Abatzoglou, B. Davis, A. Uddin, J. Kozinski, G. Yadav, A. Tavasoli
Presiding: N. Abatzoglou, A. Dalai

8:00 Opening Remark-Nano Catalysis for Clean Energy-I
8:02 – 9. Nanoscale nickel phosphide catalysts for hydrodenitrogenation and hydrodesulfurization: In situ preparation at low temperature. **M.E. Bussell**, S. Danforth, A. d'Aquino, B.J. Morgan, T. Clinkingbeard
8:22 – 10. Iron-functionalized carbon nanofilaments for hydrogen sulfide removal applications. **C. Fauteux-Lefebvre***, N. Abatzoglou
8:42 – 11. Design of silica-based metal complex catalysts for activation of CH_4 and CO_2. **A. Karkamkar***
9:02 – 12. Novel NiMo supported catalysts over an enwrapped composite of ZSM-5/KIT-6 for deep hydrodesulfurization. **A. Duan***, H. Wu, S. Song, d. Qi, Z. Zhao
9:22 – 13. Effects of EDTA on the activity of a NiMo catalysts supported on different mesoporous metal oxides for hydrotreating of heavy gas oil. **S. Badoga**, A. Dalai, J. Adjaye
9:42 – 14. Class of high performance non-platinum oxygen reduction electrocatalysts based on cheap carbon blacks. **W. Xu**
10:02 Break
10:17 Opening Remark-Nano Catalysis for Clean Energy-II
10:20 – 15. New insights for catalytic deoxygenation mechanisms induced by cobalt and nickel. **Y. Zheng**, H. Zhang, **H. Lin**
10:40 – 16. Confined nanocatalysis in carbon nanotubes. **X. Pan***, F. Zhang, T. Cui, X. Li, J. Yang, X. Bao*
11:00 – 17. Catalytic SO_3 decomposition over supported vanadates for solar thermochemical water splitting. **T. Kawada**, A. Ikematsu, M. Sueyoshi, S. Muraoka, S. Hinokuma, M. Machida
11:20 – 18. Valorization of a mining residue as a nanometric spinel catalyst for hydrocarbons reforming. **N. Abatzoglou***, M. Chamoumi, F. Larachi, M. Iliuta
11:40 – 19. Modification of metal catalysts with organic and inorganic thin films for energy applications. **J. Medlin**

Hyatt Regency Waikiki
Ekahi

Progress Toward a Lignocellulosic Biorefinery (#144)

Organized by: A. Stipanovic, A. Varma, Y. Sung
Presiding: A. Stipanovic

8:00 Arthur Stipanovic
8:05 – 20. Advances in low recalcitrance plants and tailored pretreatments. **A. Ragauskas**
8:45 – 21. Inducible extreme expression of cellulases in poplar. C. Poovaiah, Y. Xiao, L. Northern, **H. Coleman***
9:10 – 22. Exploring glycosidase inhibitors as a tool to screen and assay glycan-degrading enzymes. **M. Zierke**, T. Rasmussen, K. Li, S.G. Withers*
9:30 – 23. Supramolecular interactions and nanoscale forces in plant cell walls: Insights from the molecular theory of solvation. **S. Stoyanov**, A. Kovalenko
9:50 – 24. Ambidexterous heteropolysaccharides affect on preparation of cellulose nanofibrils from different plant sources. **S. Fu***, Q. Meng , L.A. Lucia
10:10 – 25. Elucidation of cell wall deconstruction by environmentally benign pretreatments using solution- and solid-state NMR spectroscopy. **K. Cheng***, A. Stipanovic*
10:30 – 26. Improving the quality of lignin produced in fractionation of hardwoods based on HWE. M.J. Goundalkar*, C. Gong, P.S. Dongre, D.B. Corbett, C. Wood, C. Jing, O. Therasme, A. Nagardeolekar, T.E. Amidon, **B.M. Bujanovic**
10:50 – 27. Making sense out of chaos - catalyst design for the conversion of biorefinery lignin to high value chemicals. **J.J. Bozell***, C. Njiojob, B. Biannic, T. Elder
11:10 – 28. Solvent-induced decrystallization and dissolution of cellulose for efficient biomass utilization. M. Ghasemi, M. Tsianou, **P. Alexandridis***
11:30 – 29. Hydrothermal pretreatment of palm oil empty fruit bunch with palm oil mill effluent: The effect of temperature. **N. Syaftika**, Y. Matsumura*

Hyatt Regency Waikiki
Elima

Dynamical Processes of Light Harvesting Surfaces (#178)

Organized by: G. Thornton, M. Henderson, H. Onishi, C. Li, G. Herman
Presiding: M.A. Henderson, G. Thornton

8:00 Opening Remarks
8:05 – 30. Ultrafast electron photoexcitation and relaxation pathways in TiO_2 photocatalysis. **H. Petek***, A. Argondizzo
8:45 – 31. Elementary processes in photocatalysis of methanol and water on TiO_2(110). **X. Yang***
9:15 – 32. Hydroxyl induced unoccupied state on rutile TiO_2(110). **Y. Zhang**, D.T. Payne, C.L. Pang, H.H. Fielding, G. Thornton*
9:45 – 33. Photocatalysis on TiO2: Insights from first principles simulations. **A. Selloni**
10:15 – 34. Energy and dipole dependence of heterogeneoeuse electron transfer dynamics. **L. Gundlach***, J. Nieto-Pescador, B. Abraham
10:45 – 35. X-ray studies of catalysis in artificial photosynthesis. **A. Nilsson**
11:15 – 36. Photocatalysis for hydrogen production over metal supported TiO2. A. Khan, A. Schneider, K. Wahab, S. Bashir, S. Chaieb, J.A. van Bokhoven, **H. Idriss***

Hyatt Regency Waikiki
Maloko Bllrm

Water-phase Catalysis for Energy and Chemicals Production (#182)

Organized by: M. Wong, C. Zhang, S. Jeong
Presiding: L.C. Grabow, M.S. Wong

8:00 Opening Remarks (5 min)
8:05 – 37. Vapor-phase cyclohexene epoxidation by H_2O_2 over mesoporous TS-1. S. Kwon, N. Schweitzer, R.Q. Snurr, **P.C. Stair**
8:23 – 38. Role of defect sites in the hydrolysis of cellulose and oligosaccharides over activated carbon catalysts. **C. Sievers**, G. Foo
8:48 – 39. Hydrolysis of woody biomass by enzyme-mimicking carbon catalyst. **A. Fukuoka***, H. Kobayashi
9:06 – 40. Impact of water on the dehydration of alcohols. **J. Lercher**
9:31 Break (15-min)
9:46 – 41. Lewis acid containing molecular sieve catalysts for converting sugars in aqueous media. **M.E. Davis**
10:11 – 42. Stability and application of zeolite catalysts in condensed aqueous phase. **T. Ennaert**, P. Jacobs, B. Sels*
10:29 – 43. Catalytic conversion and production of glycerol in aqueous and organic media. **Y. Suh***
10:54 – 44. Magnetic resonance spectroscopy and diffusion experiments point to multiple roles for water in reactions catalyzed by zeolites. **J.L. White**, K. Chen, J. Kelsey, D. Resasco, L. Zhang
11:12 – 45. Kinetic inhibition by water of liquid-phase sugar isomerization reactions catalyzed by hydrophobic and hydrophilic Lewis acid zeolites. J.S. Bates, M.J. Cordon, J.W. Harris, J. Vega-Vila, W. Delgass, F. Ribeiro, **R. Gounder***

Hyatt Regency Waikiki
Mauka Bllrm

Artificial Photosynthesis: Reduction of Carbon Dioxide (#271)

Organized by: O. Ishitani, E. Fujita, S. Kang
Presiding: E. Fujita, S. Kang

8:00 Opening Remarks
8:05 – 46. Selective, efficient molecular catalysis for the CO_2/CO conversion in aprotic solvent and in pure water using reduced iron porphyrins. **M. Robert***
8:30 – 47. Bioinspired dinuclear iron catalysts for efficient and selective CO_2 reduction. **Y. Naruta***
8:55 – 48. New platforms and polyoxometalates as electron acceptors/donors for the photoreduction of carbon dioxide. **R. Neumann**
9:20 – 49. Photocatalytic CO_2 reduction systems using CO_2 capturing ability of Re(I) complexes. **T. Morimoto***
9:45 Break
9:55 – 50. Molecular mechanism of the photochemical CO_2 reduction sensitized by rhenium bipyridine complexes. **H. Inoue***
10:20 – 51. Experimental and theoretical investigation of hydride intermediates in photocatalytic CO_2 reduction by mononuclear $[Ir^{III}(tpy)(ppy)Cl]^+$ complexes. **M.Z. Ertem**, K. Garg, Y. Matsubara, S. Sato, J.T. Muckerman, E. Fujita
10:35 – 52. Rapid reduction of carbon dioxide to carbon monoxide by manganese(I) diamine electrocatalysts in the presence of Brønsted acids. B. Dhakal, B.A. Corbin, D.A. Kurtz, R.J. Hulme, **G.A. Felton**
10:50 – 53. Mechanistic role of redox non-innocent ligands in CO_2 reduction catalysis by $(bpy)M(CO)_x$ and $(tpy)M(CO)_y$ system. **M. Baik**
11:15 – 54. Carbon dioxide reduction by manganese bipyridine complexes: Lowering overpotentials and enhancing stability. M. Sampson, **C.P. Kubiak***
11:40 – 55. Design of a catalytic active site for electrochemical reduction of CO_2 to CO using aMn(I)-tricarbonyl based homogeneous electrocatalyst. **A.B. Bocarsly***, T.W. Shaw, J. Agarwal

Tuesday Afternoon

Hyatt Regency Waikiki
Makai Bllrm

Chemistry of Automotive Emission Control Catalysis: Current R&D and Future Challenges (#21)

Organized by: C. Peden, D. Kim, M. Shen, W. Epling
Presiding: D. Kim, M. Shen

13:00 – 56. H_2-SCR of NOx over novel Pd-Au/TiO_2 catalyst. **Z. Liu***, K. Duan, L. Ma
13:20 – 57. Molecular elucidation of NOx selective catalytic reduction in Cu-SSZ-13. C. Paolucci, A. Parekh, J. Miller, W. Delgass, R. Gounder, F. Ribeiro, **W.F. Schneider***
14:00 – 58. Possible reaction pathway for the selective catalytic reduction of NO with NH_3 on Cu/SSZ-13 zeolite at low temperatures. **W. Su***, J. Li
14:20 – 59. Recent advances in fundamental understanding of automotive NH_3-SCR reactions. **E. TRONCONI***
15:00 – 60. Al rich BEA* zeolites as deNOx catalysts. **J. Dedecek**, P. Sazama, B. Wichterlova, G. Sadovska, A. Vondrova, V. Pashkova
15:20 – 61. Approaching rational design of Cu- and Fe/CHA SCR catalysts. **F. Gao***, M. Kollar, Y. Wang, J. Szanyi, C. Peden
16:00 – 62. Precious metal doped barium cerates as NO_x catalysts. **K. Stamm Masias***, T.C. Peck

*** Principle Author**

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16:20 – 63. Rh supported on netal phosphates as an efficient automotive catalyst for NO_x reduction under slightly lean conditions. H.P. Buwono, S. Minami, S. Hinokuma, H. Yoshida, Y. Nagao, Y. Nakahara, T. Sato, H. Iwakura, **M. Machida***
16:40 – 64. Oxygen storage capacity of $Sr_3Fe_2O_{7-d}$. **K. Beppu***, S. Hosokawa, K. Teramura, T. Tanaka

Hyatt Regency Waikiki
Kou Ballrm

Nano Catalysis for Clean Energy and Environmentally Friendly Chemical Production (#81)

Organized by: A. Dalai, N. Abatzoglou, B. Davis, A. Uddin, J. Kozinski, G. Yadav, A. Tavasoli
Presiding: N.C. Pradhan, G.D. Yadav

13:00 Opening Remark-Environmentally Friendly Chemical Production-I
13:02 – 65. Production of hydrogen by dry reforming of ethanol over alumina supported nano-NiO/SiO_2 catalyst. B. Bej, **N.C. Pradhan***
13:22 – 66. Mechanochemical processing for Hydrogen production from sewage sludge. **S. Ishihara***, J. Kano
13:42 – 67. Consumption of CO_2 for value-added chemicals. **S. Park***
14:02 – 68. Synthesis of AgPd core Pd shell nanocatalysts loaded on TiO_2 by microwave heating in aqueous solution for efficient hydrogen production from formic acid. **M. Tsuji***, M. Hattori, D. Shimamoto, H. Ago
14:22 – 69. High-surface-area mixed metal oxide nanocatalysts for H_2 generation. **F. Kleitz***, H. Yen
14:42 – 70. Supported gold phosphine clusters for the selective oxidation of styrene. **D.P. Anderson**, V. Golovko, G.F. Metha, G. Andersson
15:02 Break
15:17 Opening Remark-Environmentally Friendly Chemical Production-II
15:20 – 71. Isopropyl esters in a fluidized catalytic bed. **D. Boffito***, F. Galli, C. Pirola, C.L. Bianchi, G.S. Patience
15:40 – 72. Auto-reduced Cu/CNTs catalysts designed for hydrogenation of dimethyl oxalate to synthesize ethylene glycol. **P. Ai**, G. Liu, M. Tan, G. Yang, Y. Yoneyama, N. Tsubaki*
16:00 – 73. Ruthenium catalyzed ammonia decomposition using alkaline-earth titanates as support materials. **T. Yago**, Y. Horiuchi, M. Matsuoka*
16:20 – 74. Cascade engineered synthesis of γ-valerolactone, 1,4-pentanediol and 2-methyltetrahydrofuran from levulinic acid by heterogeneous catalysis in water. **G.D. Yadav***, S. Patankar
16:40 – 75. Nanoparticle catalytic site tuning for CO2 reduction. **w. zhu**, y. zhang, h. zhang, A. Peterson, S. Sun

Hyatt Regency Waikiki
Ekahi

Progress Toward a Lignocellulosic Biorefinery (#144)

Organized by: A. Stipanovic, A. Varma, Y. Sung
Presiding: A.J. Varma

13:00 – 76. Wet explosion pretreatment as a major step into the future of biorefineries. **B.K. Ahring***
13:20 – 77. Sustainable carbonaceous materials and chemicals via biomass hydrothermal processing. **M. Titirici***, F. Pileidis
13:40 – 78. Electron Beam pretreatment of woody biomass for enhancing the production of biofuels. **A. Stipanovic***, K. Cheng, N. Bergey, M. Driscoll
14:00 – 79. Utilization of cellulose, hemicellulose, and lignin in woody biomass. **A. Yamaguchi***, O. Sato, N. Mimura, M. Shirai
14:20 – 80. Sterically protected and electronically activated azamacrocycle catalysts for lignin depolymerization: A new approach to biomass valorization. **M.S. Chorghade***
14:40 – 81. Catalytic and high frequency ultrasound-assisted conversions of edible and non-edible biomass to fuels. **Y.G. Adewuyi***
15:00 – 82. Low-cost ionic liquids for lignocellulose deconstruction. **J.P. Hallett**, A. Brandt
15:20 – 83. Decomposition and reaction behavior of cellulose in ionic liquid. **H. Miyafuji***
15:40 – 84. Homogeneous processing of biomass with ionic liquids: Pre-treatments to avoid decomposition and preserve molecular weight. S. Deb, S. Labafzadeh, A.P. Parviainen, M. Borrega, I. Kilpeläinen, **A.W. King***
16:00 – 85. Process improvements in the fermentation of biomass-derived sugars to ethanol biofuel using electron beam technology. **N. Bergey**, A. Stipanovic

Hyatt Regency Waikiki
Elima

Dynamical Processes of Light Harvesting Surfaces (#178)

Organized by: G. Thornton, M. Henderson, H. Onishi, C. Li, G. Herman
Presiding: G. Herman, H. Onishi

13:00 – 86. Photoinduced excitation and decay of polarons studied on a ms-time-scale using IR-spectroscopy: The cases of TiO_2 and ZnO. **C. Woell***
13:30 – 87. Novel method for determination of TiO_2 midgap states: Transient infrared absorption-excitation energy scanning spectrum and its application. **Y. Weng***
14:00 – 88. Photo-generated electrons and holes transfer across the anatase:rutile TiO_2 phase junction. **X. Wang**, S. Shen, A. Kafizas, J. Durrant, C. Li*, Z. Feng
14:15 – 89. Probing charge carrier dynamics in benzoporphyrin thin films by time-resolved THz spectroscopy. **K. Ohta***, S. Hiraoka, Y. Tamura, H. Yamada, K. Tominaga
14:30 – 90. Temperature dependence in the photodesorption of small molecules from the rutile TiO_2(110) surface. **M.A. Henderson***, G. Kimmel, N. Petrik
15:00 – 91. Hot electron-driven chemical and solar energy conversion on metal-oxide nanostructures. **J.Y. Park**
15:15 – 92. New insights into photochemistry of acetone on rutile TiO_2(110). **N. Petrik***, M.A. Henderson, G. Kimmel
15:30 Break
15:40 – 93. Linker rectifiers for covalent attachment of catalysts to semiconductor surfaces. W. Ding, M. Koepf, C. Koenigsmann, A. Batra, L. Venkataraman, C. Negre, G. Brudvig, R. Crabtree, C. Schmuttenmaer, **V. Batista***
16:10 – 94. Electron injection dynamics of Ru-based dye/TiO_2 system in the presence of different organic solvents: Role of solvent dipole moment and donor number. **A. Furube**, S. Mahanta, H. Matsuzaki, T.N. Murakami, R. Katoh, H. Matsumoto
16:40 – 95. Effect of interfacial energy alignment on the mechanism of electron injection in highly efficient dye-sensitized solar cells. **L. Han***, X. Yang, S. Zhang, A. Islam

Hyatt Regency Waikiki
Maloko Bllrm

Water-phase Catalysis for Energy and Chemicals Production (#182)

Organized by: M. Wong, C. Zhang, S. Jeong
Presiding: A. Fukuoka, Z. Zhang

13:00 – 96. Hydrogenolysis of glycerol in liquid water over bifunctional supported Pt-Re nanoparticles. D. Falcone, J. Hack, A. Klyushin, A. Knop-Gericke, R. Schlögl, **R.J. Davis***
13:25 – 97. Novel support materials for noble metal nanoparticle catalysts. **A.D. Quast***, M. Bornstein, I. Zharov, J.S. Shumaker-Parry
13:43 – 98. Advanced electron microscopy techniques for in situ liquid imaging of metal nanoparticles towards water-phase catalysis. **I. Arslan***, L. Parent, P. Abellan, T. Woehl, K. Jungjohann, G. Yang, J. Lercher
14:08 – 99. Hydrothermal conversion of biomass at supercritical conditions for gaseous fuel production: Results, new challenges, and developments. **C. De Blasio***, T. Kohl, M. Magdeldin, T. Westerlund, M. Järvinen
14:26 Break (15 min)
14:41 – 100. Bimetallic structure considerations in the catalytic production of aromatic amines. L.A. Pretzer*, K.N. Heck, J. Miller, **M.S. Wong**
15:06 – 101. Selectivity control of Au-catalyzed oxidation of glycerol in water. Z. Yuan, S. Liu, Z. Gao, **B. Xu***
15:24 – 102. Au-Pd alloyed single-atom-catalysts: A highly efficient catalyst for C-C and C-N coupling reactions in water. T. Zhang*, **A. Wang**, L. ZHANG, W. WANG
15:49 – 103. Transformation of carbohydrates into polyols on metal catalysts using metallic powder and water as the hydrogen source. **Y. Hirano***, K. Sagata, Y. Kita
16:07 – 104. Critical role of water in catalytic CO oxidation over Au/TiO_2 catalysts. **L.C. Grabow***, H. Doan, J. Saavedra, C. Pursell, B. Chandler*

Hyatt Regency Waikiki
Mauka Bllrm

Artificial Photosynthesis: Reduction of Carbon Dioxide (#271)

Organized by: O. Ishitani, E. Fujita, S. Kang
Presiding: H. Inoue, C.P. Kubiak

13:00 – 105. Reduction of CO_2 using photo-induced electrons and metal complexes bearing bases in the second coordination sphere and the alternative hydrogenation and hydride transfer reactions. **E. Fujita***, G. Manbeck, L. Duan, K. Garg, Y. Matsubara, J.T. Muckerman, Y. Himeda
13:25 – 106. Reactivity of metal-organic coordination networks for CO_2 activation. D. Hurtado Salinas, G. Ruano, K. Kern, **M. Lingenfelder***
13:40 – 107. Visible-light-driven photoconversion of carbon dioxide to formic acid using molecular metal catalysts and enzyme. **J. Kim**
14:05 – 108. Molecular architecture of supramolecular photocatalysts for CO_2 reduction in homogeneous and heterogeneous systems. **O. Ishitani**
14:30 – 109. Optimization of a dye/semiconductor/photocatalyst ternary system for carbon dioxide reduction. D. Won, J. Ji, **S. Kang***
14:55 Break
15:05 – 110. Monolithic semiconductor/metal-complex hybrid photocatalyst for solar CO_2 reduction coupled with H_2O oxidation. **T. Morikawa***, S. Sato, T. Arai, T.M. Suzuki
15:30 – 111. Photocatalytic reduction of carbon dioxide by carbon nitride with visible light. **K. Maeda***
15:55 – 112. Photocatalysts for the preferential reduction of carbon dioxide in the presence of water. S. Xie, Q. Zhang, **Y. Wang***
16:10 – 113. Photocatalytic and photoelectrochemical reduction of CO_2 using water as an electron donor. **A. Kudo***
16:35 – 114. Silver loaded titanate photocatalysts prepared by a flux method for reduction of carbon dioxide with water. **H. Yoshida***

Wednesday Morning

Hawaii Convention Center
Halls I, II, III

Chemistry of Automotive Emission Control Catalysis: Current R&D and Future Challenges (#21)

Organized by: C. Peden, D. Kim, M. Shen, W. Epling

Poster Session
10:00 – 12:00

115. Role of surface property of Rh/$AlPO_4$ catalyst in high tolerance to sulfur and phosphorous poisoning. **S. Minami**, H.P. Buwono, T. Hamada, Y. Hu, S. Hinokuma, H. Yoshida, M. Machida*
116. Selective catalytic reduction of NO with hydrocarbons: Effect of hydrogen and carbon monoxide addition for alumina catalyst. **A. Miyamoto***, N. Okazaki
117. Nature of Pd-Ru solid solution alloy nanoparticles for CO-oxidizing reaction. **H. Tomonaga**, K. Sato, T. Ishimoto, M. Koyama, T. Yamamoto, S. Matsumura, K. Kusada, H. Kobayashi, H. Kitagawa, K. Nagaoka*
118. Oxygen storage capacity of $FeNbO_4$ synthesized by a polymerized complex method. **R. Maeda**, S. Hosokawa, K. Teramura, T. Tanaka
119. Preparation of highly dispersed Pd particles loaded on Al_2O_3 support for combustion of CO and C_3H_6. **T. Nakano**, K. Sato, K. Nagaoka*
120. Selective catalytic reduction of NO on transition-metal modified hexagonal Yb-FeO_3 catalysts. **T. Shibano***, S. Hosokawa, K. Teramura, T. Tanaka

Hyatt Regency Waikiki
Kou Ballrm

Nano Catalysis for Clean Energy and Environmentally Friendly Chemical Production (#81)

Organized by: A. Dalai, N. Abatzoglou, B. Davis, A. Uddin, J. Kozinski, G. Yadav, A. Tavasoli
Presiding: D. He, K.K. Pant, M. Uddin

8:00 Opening remark-Environmentally Friendly Chemical Production-III
8:02 – 121. Catalytic hydrogenation of carbon dioxide to methane with ammonia. **M. Uddin***, Y. Honda, H. Kakuta, Y. Nishimura, Y. Kato, K. Takagi
8:22 – 122. Manganese modified Fe_3O_4 microsphere catalyst with effective active phase of forming light olefins from syngas. **Y. Liu**, J. Chen, J. Bao, Y. Zhang*
8:42 – 123. Estimation of catalytic cracking reaction of model compounds using zeolite-containing hierarchical silica and silica-alumina catalysts by Curie point pyrolyzer. **A. Ishihara***, M. Ninomiya, H. Nasu, T. Hashimoto
9:02 – 124. Evaluation of basicity of layered double hydroxides (LDHs) by Knoevenagel condensations. **S. Yonekawa***, K. Teramura, S. Hosokawa, T. Tanaka
9:22 – 125. Selective production of acetol from glycerol on combustion synthesized and activated Cu-Al_2O_3 catalyst. **G.D. Yadav***, G.P. Fernandes
9:42 Break

*** Principle Author**

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9:57 Opening Remarks- Syngas and Biofuels-I
10:00 – 126. Nanostructured metal phosphide catalysts for conversion of biomass to liquid fuels. **S. Habas***, F. Baddour, D. Ruddy, C. Nash, M. Griffin, J. Hensley, J. Schaidle
10:20 – 127. CO_2 reforming of CH_4 to syngas over over Nd modified Ni/SBA-15 catalysts. H. Liu, **D. He**
10:40 – 128. Catalytic activity of heterogeneous base and acid catalysts for biodiesel production from green seed canola oil. **C. Baroi**, A. Dalai*
11:00 – 129. Oxidation of copper-exchanged small-pore zeolites and the active site for methane conversion. **B. Ipek***, M.J. Wulfers, J.P. Smith, K.S. Booksh, C. Brown, R.F. Lobo
11:20 – 130. Comparative study of noble metal impregnated Fe-Co bimetallic catalyst for the conversion of syngas to liquid fuel. **.. Sonal***, **K.K. Pant**, S. Upadhyayula
11:40 – 131. Selective dehydrocyclization of *n*-heptane using zeolite-alumina composite supported NiMo catalysts. **A. Ishihara***, A. Itoh, H. Nasu, T. Hashimoto

Hyatt Regency Waikiki
Ekahi

Progress Toward a Lignocellulosic Biorefinery (#144)

Organized by: A. Stipanovic, A. Varma, Y. Sung
Presiding: J.J. Bozell

8:00 – 132. New developments in lignocellulose, cellulose, and nanocellulose: Biofuels to bioproducts using advanced nanotechnology. **A.J. Varma***
8:40 – 133. Practical methyl levulinate synthesis from wood biomass using aluminium-based hybrid acid catalysts. **K. Tominaga***, K. Nemoto, A. Yamada, Y. Yamamoto, k. sato
9:00 – 134. Electrochemical functional group interconversions on biomass-derived compounds using nickel electrocatalysts in aqueous media. **J. van Drunen**, G. Tremiliosi-Filho*
9:20 – 135. Seawater based biotechnology for biofuels and biomaterials production. **G. Chen***
9:40 – 136. Novel production of furfural from biomass based on hot water extracted pentoses. **C. Wood***, T.E. Amidon, B.M. Bujanovic
10:00 – 137. 5-(Chloromethyl)furfural (CMF) is the new HMF: Functionally equivalent but more practical in terms of its production from biomass. **M. Mascal***
10:20 – 138. Systematic investigation of chemical pretreatments for the enzymatic hydrolysis of Loblolly Pine wood. **L.A. Lucia***, R. Ghiladi, X. Du
10:40 – 139. Ultrasonic-assisted fractionation of bioproducts from oil palm fronds by alkaline pretreatment followed by simultaneous saccharification and fermentation. **K. Lee**, C. Ofori-Boateng*
11:00 – 140. 2G sugars to chemicals: Agri-industry of the future. **A. LALI**
11:20 – 141. Pink pigmented facultative methylotrophic strain (PPFMs) isolated from plant phyllosphere for the production of cellulase. C. Molina, G. Hernandez, J. Gonzalez, I. Valdez-Vazquez, Y. Sanchez-Ruan, **G. de la Rosa**

Hyatt Regency Waikiki
Elima

Dynamical Processes of Light Harvesting Surfaces (#178)

Organized by: G. Thornton, M. Henderson, H. Onishi, C. Li, G. Herman
Presiding: C. Li, G. Thornton

8:00 Break
8:20 – 142. Excited state dynamics at complex interfaces: Time-domain ab initio studies. **O. Prezhdo**
8:50 – 143. Effect of TiO_2 crystal orientation on the adsorption and photoinduced electron transfer: CdSe quantum dot-sensitization system. **T. Toyoda***, w. Yindeesuk, K. Kamiyama, S. Hayase, Q. Shen
9:20 – 144. Ultrafast charge transfer dynamics in Au/quantum dot/molecular adsorbate tri-composite system. **H.N. Ghosh***
9:50 – 145. Exciton transport, dissociation, and light-driven H_2 generation in semiconductor-metal colloidal nanorod heterostructures. **T. Lian**
10:20 Break
10:30 – 146. Charge separation promoted with phase junctions and cocatalysts in photocatalysis systems. **C. Li***
11:00 – 147. Morphology and interface control for stable and reproducible perovskite solar cells. **Y. Wu**, X. Yang, W. Chen, Y. Yue, A. Islam, L. Han
11:15 – 148. Time-resolved visible to mid-IR absorption study on the behavior of photogenerated electrons and holes in $LaTiO_2N$ visible light responsive water splitting photocatalysts. **A. Yamakata**, M. Kawaguchi, J. Kubota, K. Domen
11:30 – 149. Electron-hole recombination and surface reconstruction controlled by doping sites in Sr-doped $NaTaO_3$. **H. Onishi***

Hyatt Regency Waikiki
Maloko Bllrm

Water-phase Catalysis for Energy and Chemicals Production (#182)

Organized by: M. Wong, C. Zhang, S. Jeong
Presiding: C. Sievers, Z. Zhang

8:00 – 150. Water-phase solar fuel and solar chemical production. **J. BAEG***
8:25 – 151. Effective catalytic cycle of CO_2 hydrogenation/formic acid dehydrogenation by Ir complex in water. **N. Onishi**, S. Xu, Y. Manaka, Y. Himeda*
8:43 – 152. Opportunities for aqueous phase catalysis in water management. **M.A. Reynolds***
9:08 Break (15 min)
9:23 – 153. Synergistic co-processing of red mud with pyrolysis bio-oil: From neutralization to catalysis. **M. Schlaf***, E. Karimi, C. Gissane, V. Jollet
9:48 – 154. Novel catalysts for selective reactions and simultaneous separation in biphasic systems. **D.E. Resasco***
10:13 – 155. Transformation of 5-HMF to fine chemicals via homogeneous catalysis in aqueous solution. Z. Xu, B. Chung, P. Yan, **Z. Zhang**, M. Schlaf
10:31 – 156. Evaluating heterogeneous catalyst stability in supercritical water. **J. Jocz**, P. Savage*, L. Thompson*
10:49 – 157. Aqueous-phase catalytic conversion of cellulose and xylose. **E. Park**

Hyatt Regency Waikiki
Mauka Bllrm

Artificial Photosynthesis: Reduction of Carbon Dioxide (#271)

Organized by: O. Ishitani, E. Fujita, S. Kang
Presiding: M. Kanan, A. Kudo

8:00 – 158. Photocatalytic conversion of carbon dioxide to fuels using layered double hydroxide-based catalysts: Optimized performance and the reaction mechanism. **Y. Izumi**, N. Ahmed, M. Morikawa, S. Kawamura
8:25 – 159. Time and energy efficient synthesis and characterization of p-type semiconductor nanostructures for photoelectrochemical fuel generation. **C. Janaky***, D. Hursan, K. Rajeshwar
8:40 – 160. Photocatalytic and photoelectrochemical CO_2 reduction under solar light. **T. Ohno**
8:55 – 161. Inexpensive architectures for the production of fuels from carbon dioxide and sunlight. **J. Rosenthal***, J. DiMeglio, J. Medina-Ramos
9:20 – 162. Artificial photosynthesis: Photocatalytic conversion of CO_2 into renewable hydrocarbon fuel. **Y. Zhou***
9:35 – 163. Development of tailored heterojunction photocathodes for high efficiency artificial photosynthesis from CO_2 and water. **H. Park***
9:50 Break
10:00 – 164. Electrocatalytic CO2 reduction to fuels and chemicals: Insights into transition metal surfaces. **T.F. Jaramillo***, K. Kuhl, T. Hatsukade, E. cave, D. Abram, C. Hahn, J. Feaster, A. Jongerius, J. Kibsgaard
10:25 – 165. Hierarchical 3D Cu pillar and Sn dendrite as high performing electrocatalysts for CO_2 reduction. **S. Woo***, D. Won
10:40 – 166. Mechanistic insights into carbon dioxide reduction catalyzed by pure metal surfaces. **Y. Surendranath**, A. Wuttig
10:55 – 167. Photothermochemical approach to reverse the alkane combustion reaction: CO_2 to C5+ liquid hydrocarbons in one step. **F.M. MacDonnell***, B. Dennis, W. Chanmanee, M.F. Islam
11:20 – 168. Selective and efficient electrochemical reduction of CO_2 on CuO-derived Cu nanowires. **W. Smith**
11:35 – 169. C–C bond-forming reactions to reduce CO_2 emissions. **M. Kanan***

Hawaii Convention Center
Halls I, II, III

Artificial Photosynthesis: Bio-inspired Chemistry for Solar Fuel Production (#278)

Organized by: H. Hashimoto, Y. Amao, J. Zhang, T. Moore, B. Koivisto
Presiding: Y. Amao, H. Hashimoto, B.D. Koivisto, T.A. Moore, J. Zhang

Poster Session
10:00 – 12:00

170. Visible light reduction of ketones and aldehydes catalyzed by complexes based on Earth abundant elements and water as source of hydrogen atoms. **A. Call**, F. Acuña-Parés, J. Lloret-Fillol
171. Constructions and characterizations of mutants containing bacteriochlorophyll *c*, *d*, *e*, or *f* of the green sulfur bacterium *Chlorobaculum limnaeum*. **J. Harada**, Y. Shibata, M. Ryono, M. Teramura, K. Yamamoto, T. Mizoguchi, H. Tamiaki
172. Studies on electrocatalytic CO_2 transformation by half-metallocene group 9 metal complexes. **W. Han***
173. Design of visible light driven photocatalyst with a sulfocalixarene linker between zinc porphyrin and a Pt-TiO_2 for hydrogen evolution. **H. Imai**, T. Kamegawa, H. Yamashita*
174. Artificial light-harvesting antenna systems as models of chlorosomes using mesoporous silica. **T. Miyanaga***, S. Shoji, Y. Goto, S. Inagaki, H. Tamiaki
175. Real time observation of vibrational wavepacket motions in ultrafast electron transfer systems. **Y. Nagasawa***, Y. Yoneda, S. Nambu, E. Takeuchi, H. Miyasaka
176. Observation of 8-vinyl-12-ethyl-bacteriochlorophyll-*e* in a green sulfur bacterium cultured by intense red-light illumination. **C. Okada***, T. Mizoguchi, J. Harada, H. Tamiaki
177. Construction of artificial light-harvesting devices using isolated chlorosomes from photosynthetic green bacteria. **M. Ryono**, J. Harada, Y. Tsukatani, T. Mizoguchi, H. Tamiaki*
178. Reconstitution of amphiphilic zinc bacteriochlorophyll *a* derivatives to major antenna complexes of green sulfur photosynthetic bacteria toward hybridization of natural photosynthetic light-harvesting systems with artificial energy acceptors. **Y. Saga***, N. Takahashi, T. Miyatake, H. Tamiaki
179. Photocatalytic carbon dioxide reduction from organic-inorganic hybrid system. D. Won, J. Ji, **H. Son***
180. Luminescent properties of copper(I) iodido coordination polymers containing two bridging amine ligands. **S. Sugimoto**, N. Ogawa, S. Yamashita, H. Ohtsu, K. Nozaki, K. Tsuge
181. Photochemical oxygenation reaction of cyclohexene sensitized by novel Ru(II) porphyrin/clay nanosheet complex. **D. Tatsumi**, T. Tsukamoto, T. Shimada, S. Takagi
182. In-vitro assay to clarify the substrate specificity of demethoxycarbonylase involved in chlorosomal bacteriochlorophyll biosynthesis. **M. Teramura**, J. Harada, T. Mizoguchi, H. Tamiaki
183. Synthesis of chlorophyll derivatives possessing alkenyl groups at the peripheral positions and their photophysical properties. H. Tamiaki*, **K. Tsuji**, T. Miyatake
184. Synthesis of 20-substituted chlorophyll derivatives as models of bacteriochlorophylls-*c*/*d* and their self-aggregation. **A. Wada**, H. Tamiaki
185. Energy transfer between subunits of dimeric photosystem II monitored by femtosecond transient absorption spectroscopy. **Y. Yoneda***, T. Katayama, Y. Nagasawa, H. Miyasaka, Y. Umena

Hawaii Convention Center
Halls I, II, III

Chemistry of Clean Energy Conversion, Storage, and Production General Posters
10:00 – 12:00

186. Microstructures of hydrocarbon gas hydrates synthesized with and without promoters. **H. Ohno***, K. Mitsuhashi, A. Hachikubo, H. Shoji, H. Minami
187. On the mechanism of catalytic hydrogenation of thiophene on hydrogen transition metal oxides bronze. **H. Cheng ***
188. Comparative study on reaction mechanism of the MXene electrodes in non-aqueous Li^+ and Na^+ electrolytes. **H. Iinuma***, S. Kajiyama, R. Morita, K. Gotoh, M. Okubo, A. Yamada
189. Theoretical estimation of zinc isotope fractionation between mantle and core. **K. Asai**, M. Abe*, F. Moynier, Y. Zempo, M. Hada
190. Synthesis of organic dyes with benzimidazoles as electron transport chain for dye sensitive solar cell. **T. Iida**, M. Ota*, S. Ohata, H. Kajino
191. Synthesis and oxidative properties of ionic liquid-supported IBX. **A. Mihoya**, S. Koguchi
192. Anodic performances of electrodeposited Si films on structured Cu_xO_y Surfaces for Li ion battery. M. Matsunaga*, **Y. Uchida**, S. Kuno
193. Techno-economical evaluation of extractive fermentation by acetone, butanol, ethanol (ABE) production. **V.H. Grisales***, G. Olivar Tost
194. In vitro production of isoprenol using novel mevalonate pathway enzymes from thermoplasma acidophilum. **M.C. Cummins**, J. Vinokur
195. Photocatalytic chemoselective reduction of epoxides to alkenes in alcoholic suspensions of silver-loaded titanium(IV) oxide at room temperature without use of reducing gas. **H. Kominami***, S. Yamamoto, I. Kazuya, A. Tanaka, K. Hashimoto

*** Principle Author**

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196. Preparation and thermoelectric properties of highly oriented CNT/elastmer composites. **T. Mashio**, M. Ota*, K. Kanai, M. Ikeda
197. Binding mechanisms of cesium on clay minerals. **K. Baek***, J. Lee, E. Jeon, S. Ryu
198. Fischer-Tropsch synthesis over iron catalyst supported on ozone treated active carbon. **Y. Kawahara**, K. Koimiyama, k. asami
199. Preparation of silicon nanoparticles-containing porous carbon microspheres for lithium ion secondary battery anodes. **K. Arai**, M. Ota*, T. Ishibashi, M. Saitoh, N. Yoshizawa, K. Imoto, O. Tanaike, J. Miyawaki, y. Seong-Ho
200. Iron anode-mediated activation of persulfate. **K. Baek***, P. Jeon, S. Park, S. Shin
201. Synthesis of π-conjugated polarizable organic dyes with polycyclic aromatic ring as photosensitive group. **M. Tanaka**, M. Ota*, H. Kajino, T. Iida
202. Effect of the kinds of metal in metal-filled CNT/C composites on thermoelectric properties. **K. Kanai**, M. Ota*, K. Suzuki, R. Matsumoto
203. Deterioration behavior of Ni/TiO_2 catalyst for the selective CO methanation and its improvement method. **M. Fujiwara**, K. Tani, N. Shimoda, S. Satokawa
204. Dye-sensitized solar cells based on TiGA treated TiO_2 photoactive electrodes. **j. yamakawa**, Y. Shimoyama, R. Tsubota, K. Tomita, Y. Kunugi
205. Electrochemical reduction of carbon dioxide with EC tag (Cu) supported carbon electrode. **T. Namise**
206. Upgrading of new hydrocarbon biodiesel fuel (HiBD). **H. Kuboyama**, Y. Murakami, H. Tani, k. asami, K. Fujimoto, T. Vitidsant, P. Prasert Reubroycharoen, K. Wattanavichien
207. Catalytic reforming of glycerin with iron ore. **m. yoshida**, k. asami, y. mogi, h. saima
208. Effect of boron on electrostatic capacitance in electrodes for electric double layer capacitor. **S. Obokata**, M. Ota*, Y. Miyazawa, K. Suzuki, K. Arai
209. Slurry phase synthesis of new hydrocarbon biodiesel fuel (HiBD). **T. Hirakawa**, H. Tani, Y. Murakami, K. Fujimoto, k. asami
210. Naphtho[2,1-b:3,4-b']dithiophene(NDT)-based bulk heterojunction organic solar cells. **H. Song**, Y. Klm, Y. Cheon, M. Kim, J. Baek, D. Chung, C. Park, Y. Kim*
211. Impact of natural and artificial fluctuation in illumination intensity on the photosynthetic activity of *Synechocystis* PCC 6803. **J. Kwon***
212. Design and operation of selective CO oxidation reactor with a Ru/Al_2O_3 coated metallic structured catalysts for kW class PEMFCs application. **D. Seo***, W. Kim, Y. Hwang, W. Yoon
213. Improvement of cathode catalyst layers for PEFCs by the electrostatic inkjet method. **K. Takahashi***, M. Watanabe, M. Uchida
214. Hydration/dehydration reaction characteristics of natural calcium resources for chemical heat pump. **H. Ogura***, . Mitsui
215. Recycle disposable heating pads as a visible light active photocatalyst. **C. Wang***, M. Lee, C. Chen, C. Wang*, . Hsiao, D. Tsai
216. CNT supported Re catalyst for dimethyl ether direct-oxidation to dimethoxy dimethyl ether. **Q. Zhang**, W. Wang, Z. Zhang, Y. Tan*, Y. Han*
217. Salting-out of acetone, 1-butanol, and ethanol from a prefractionator. **S. Xie**, C. Yi, X. Qiu, D. Yang
218. Synthesis of N-defect and O-doping g-C_3N_4 and its visible light photocatalytic activity. **T. Mitsuyama**, H. Katsumata*, T. Suzuki, S. Kaneco
219. Photocatalytic degradation of bisphenolA over bismuth oxyiodides. **T. Sasaki**, S. Kaneco, H. Katsumata*, T. Suzuki
220. Production of nano carbon with direct alcohol reforming. **N. Hamaya***, N. Okazaki
221. Direct methane reforming: Effect of the addition of silica. **A. Otsuka***, N. Okazaki
222. Surface functionalization induced triboelectric charging sequence as a novel method to generate triboelectricity. S. Shin, m. lee, **J. Nah***
223. Comparative study on the sulfur tolerance of noble metal catalysts in methane steam reforming. **F. Watanabe**, I. Kaburaki, N. Shimoda, S. Satokawa*
224. Development of nanostructural controlled silver phosphate thin films as a photo-anode for water splitting under visible-l. **H. Katsumata***, T. Hayashi, T. Suzuki, Y. Fujita, S. Kaneco
225. Oxygen sorption/desorption properties of Sr-Ca-Fe-based perovskite oxides. **K. Izumihara**, A. TSUCHIDA, H. Ikeda, N. MIURA*
226. Synthesis of biodiesel fuel from gutter oil. **G. Nakagawa**, S. Yodoya, Y. Sawada*
227. Waste water treatment in biodiesel fuel process. **H. Kai**, D. Sugita, R. Watanabe, Y. Sawada*
228. Synthesis of structurally-defined, sulfophenylated oligophenylenes, and polyphenylenes for PEM fuel cells. **T. Skalski***, T.J. Peckham, S. Holdcroft
229. Kinetics study on synthesis of biodiesel fuel. **O. Yan**, A. Kodama, **Y. Sawada***
230. Suppression of aluminum corrosion in highly concentrated electrolyte. **C. Chiang***, Y. Yamada, K. Sodeyama, J. Wang, Y. Tateyama, A. Yamada
231. Chemical upgrading of low-rank coals by solvent treatment. **T. Takanohashi***, N. Sakimoto, Y. Harada, H. Fujimoto
232. Influence of Cu on the performance of K-LaZrO_2 catalysts for isobutanol synthesis. Y. Wu, S. Wang, H. Xie, J. Gao, S. Tian, Y. Han, **Y. Tan***
233. Halogen-free borate ionic liquids for tribological applications. **M.K. McCray**, Z. Huang, D.M. Schubert
234. Cycloaddition of CO_2 into epoxides over polymer supported ionic liquid catalysts. A. Jadhav*, R. Shavi, **J. Seo***
235. Detection of the intermediate species for oxygen evolution reaction on α-Fe_2O_3 using in-situ UV-vis absorption measurement. **K. Ishikawa**, T. Takashima, H. Irie*
236. Performance of photofuel cells using allophane–titania nanocomposite electrodes. **H. Nishikiori**, N. Furuichi
237. New cathode of high capacity and superior cyclability for Na-ion batteries: $Na[Ni_{0.4}Fe_{0.2}Mn_{0.4-x}Ti_x]O_2$. **X. Sun**
238. Life-prolonging technique of lubrication oil by continuously regenerating anti-oxidant with catalytic palladium membrane. **N. Itoh***, K. Ohshima, T. Sato, J. Shinoda, M. Kobesho

Wednesday Afternoon

Hyatt Regency Waikiki
Elima

Nano Catalysis for Clean Energy and Environmentally Friendly Chemical Production (#81)

Organized by: A. Dalai, N. Abatzoglou, B. Davis, A. Uddin, J. Kozinski, G. Yadav, A. Tavasoli
Presiding: N. Braidy, A. Dalai

13:00 Opening Remarks-Syngas and Biofuels-II
13:02 – 239. Performance and nanostructural analysis of a novel nickel alumina catalyst for dry reforming of methane. **N. Braidy***, J. Blanchard, N. Abatzoglou
13:22 – 240. Preparation of H-β zeolite–enwrapped Co/Al_2O_3 Fisher-Tropsch catalyst for high isoparaffins selectivity. **H.L. Nguyen**, Y. Yoneyama*, N. Tsubaki
13:42 – 241. Spontaneously activatable iron-based Fischer-Tropsch catalysts. **D. Chun***, G. Rhim, J. Park, H. Lee, J. Yang, S. Hong, H. Jung
14:02 – 242. Syngas hydrogenation: Effect of preparation variables on the performance of cobalt-nickel catalyst. **K. Ramasamy**, M. Gray, H. Job, y. wang
14:22 – 243. Effect of preparation condition change of Ni/Al_2O_3 structured catalyst on CO_2 dry-reforming performance. **T. Osuka**, Y. Kohno, R. Watanabe, C. Fukuhara
14:42 Break
14:57 Opening Remarks-Syngas and Biofuels-III
15:00 – 244. Doping effect of trivalent cation on the catalytic behavior and properties of Co-Ni-Mg-O solid solution catalysts in syngas production by methane reforming under high pressure. **K. Nagaoka***, Q. Han, G. Kitayama, T. Ishikawa, Y. Abe, Y. Hashimoto, K. Sato, Y. Takita, T. Wakatsuki, M. Kunisu, E. Suda, S. Inamoto
15:20 – 245. Hydrothermal synthesis of structure-type iron oxide catalyst for water gas shift reaction. **R. Watanabe**, S. Watanabe, C. Fukuhara
15:40 – 246. Selectivity control for CO methanation in hydrogen-rich gas containing a large amount of CO_2 over Ni/Al_2O_3 catalysts by vanadium addition. R. Inoue, **T. Miyao**, K. Higashiyama*, M. Watanabe
16:00 – 247. Hydrodeoxygenation of palm oil to biofuel over Ni_2P/MOR in a trickle bed reactor. J. Wittayakun, **S. Rakmae**, N. Viriya-empikul, K. Faungnawakij, P. Khemthong*
16:20 – 248. Oxorhenium catalyzed deoxydehydration for the diols and biomass derived polyols to alkenes and value added chemicals. **I. Ahmad***, S. Waseem

Hyatt Regency Waikiki
Ekahi

Theory and Computation for Efficient Utilization of Energy and Resources (#163)

Organized by: Q. Ge, W. Li, H. Cheng
Presiding: W. Li, J. Yang

13:00 – 249. Transition metal atom embedded graphene for capturing CO: A first-principles study. **J. Yang**
13:35 – 250. Size-dependent catalytic properties over metal nanoparticles: Simulation and experiment. **J. Wang***
14:05 – 251. Reduction and hydrogenation of CO_2 over In_2O_3-based catalysts. **Q. Ge**, J. Ye, C. Liu
14:35 – 252. Theoretical design new mixed solids for CO_2 capture applications. **Y. Duan***
14:55 Break
15:05 – 253. Structure-energy-activity relations in heterogeneous catalysis. **P. Sautet**, F. Calle Vallejo, D. Loffreda
15:40 – 254. First-principles calculation on syngas conversion. **W. Li***
16:10 – 255. Stochastic simulation: Understanding the CO activation mechanisms in Fischer–Tropsch synthesis on Fe(110) model surfaces. Z. Chen, H. Wang, **X. Xu**
16:40 – 256. On the mechanism of CO_2 reduction to methanol on CeO_2 (110) surface. **M. Haider***, N. Kumari, N. Sinha, S. Basu

Hyatt Regency Waikiki
Maloko Bllrm

Current Status and Future Prospect of Polymer Electrolyte Fuel Cells (#188)

Organized by: K. Miyatake, M. Tada, Y. Sung, B. Pivovar, M. Hickner
Presiding: K. Miyatake, S.J. Paddison

13:00 Opening remark
13:05 – 257. Structural aspects of PFSA ionomers as determined by STEM and simulations. **S.J. Paddison***
13:45 – 258. Evaluation of CeO_2, ZrO_2 and YSZ as degradation-mitigating additives for proton electrolyte membrane fuel cells. **T. Weissbach**, T.J. Peckham, S. Holdcroft*
14:05 – 259. Electronically stabilized, high-performance PEMs as fully hydrocarbon fuel cells. **B.D. Britton**, H. Lee, W. Huang, S. Holdcroft*
14:25 – 260. Synthesis of polyphenylene-based polymer electrolytes by catalyst transfer polycondensation (XII): Mass transport characteristics. **T. Oshima**, H. Takagi, M. Fujita, A. Ohira, Y. Takeoka, M. Rikukawa
14:45 – 261. Theory of polymer electrolyte membranes: Cradle to grave. **M. Eikerling**
15:25 – 262. Effect of the interfacial structure of proton conducting ionomers on the fuel cell performance. **T. Mochizuki**, J. Miyake, M. Uchida, H. Uchida, K. Miyatake*
15:45 – 263. Homogeneous coating of ionomer on electrocatalyst assisted by polybenzimidazole as an adhesive layer and its effect on fuel cell performance. **T. Fujigaya**, Z. Yang, N. Nakashima
16:05 – 264. Proton transport property at Nafion-Pt interface. **Y. Ono**, Y. Nagao*
16:25 – 265. Novel hydrocarbon ion-conducting polymers for proton exchange and anion exchange fuel cell membranes. **C. Bae***

Hyatt Regency Waikiki
Makai Bllrm

New Generation of Electrochemical Energy Storage and Conversion System: Materials, Interface and In-situ Techniques (#250)

Organized by: Y. Yang, S. Meng, A. Yamada, Y. Sun

13:00 – 266. Pseudocapacitance of MXene Ti_2CT_x nanosheets for high power sodium-ion hybrid capacitors. **M. Okubo***, X. Wang, S. Kajiyama, H. Iinuma, S. Oro, I. Moriguchi, A. Yamada
13:15 – 267. Implications and performance of various lithium ion battery chemistries during high precision coulometry. **A. Masias***, J. Marcicki, T. Coupar
13:30 – 268. Feasibility of stainless steels as current-collectors in high-performance lithium-ion batteries. **M. Morita***, M. Araki, K. Fujii, N. Yoshimoto
13:45 – 269. Effect of porous structure of carbon substrates for sulfur composite cathode on performance of Li-S batteries. **A. Ikoma***, S. Zhang, K. Ueno, K. Dokko, M. Watanabe
14:00 – 270. Thin nanosheet $Li_2FeP_2O_7$ cathode for high energy Li-ion battery. **D. S***
14:15 Break
14:30 – 271. Design of photoelectrode system for oxidative production of hydrogen peroxide in water splitting. **K. Fuku**, K. Sayama*
14:45 – 272. High efficiency planar heterojunction solar cells based on perovskite fabricated with two-step solution process. **C. Wu**
15:00 – 273. A peek at electrolyte-cathode interactions. **S.M. Russell**, A.v. Cresce, K. Xu
15:15 – 274. Low molecular weight cyclic organoboron electrolytes for Li ion batteries. **P. Joshi***, R. Vedarajan, N. Matsumi
15:30 – 275. Effects of additive components on the electrochemistry of $Mg(TFSA)_2$/triglyme electrolyte for rechargeable magnesium batteries. **N. Yoshimoto***, I. kim, T. Kimura, K. Fujii, M. Morita

*** Principle Author**

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15:45 – 276. In-situ characterization of tetrahydrofuran containing Grignard reagents in magnesium deposition and dissolution processes. **H. Inoue**, Y. Akita, H. Munakata, K. Kanamura*

Hyatt Regency Waikiki
Kou Ballrm

Artificial Photosynthesis: Bio-inspired Chemistry for Solar Fuel Production (#278)

Organized by: H. Hashimoto, Y. Amao, J. Zhang, T. Moore, B. Koivisto
Presiding: Y. Amao, H. Hashimoto, O. Ishitani, B.D. Koivisto, T.A. Moore, J. Zhang

13:00 – 277. Theoretical study of highly efficient CO_2 capturing processes using tricarbonyl diimine transition metal complexes. **J. Maeba**, M. Iwamura, K. Nozaki
13:15 – 278. Utilization of FTIR-ATR spectroelectrochemistry to evaluate the mechanism of aqueous CO_2 reduction on post-transition metal electrodes during CO_2 reduction. **J.E. Pander***, M.F. Baruch, A.B. Bocarsly
13:30 – 279. Photoelectrochemical CO_2 reduction using Ru(II)-Re(I) metal complex on semiconductor electrodes. G. Sahara, **H. Kumagai**, R. Abe, T. Morikawa, K. Maeda, O. Ishitani*
13:45 – 280. Role of surface-bound carbonates in the reduction of CO_2 on tin cathodes. **M.F. Baruch***, J.E. Pander, J.L. White, A.B. Bocarsly
14:00 – 281. Electrochemical reduction of CO_2 by Ni cyclam complex substituted with imidazolium type ionic liquid. **T. Nagai***, A. Katayama, T. Ozawa, T. Inomata, H. Masuda
14:15 – 282. Development of metal sulfide photocathodes with chalcopyrite structure for CO_2 reduction under visible light irradiation. **T. TAKAYAMA**, A. Iwase, A. Kudo
14:30 Break & Opening Remark for AP03 session
14:45 – 283. Strategies to enhance the light harvesting capacity of artificial light harvesting nano structures. **R. Cogdell***
15:15 – 284. Artificial light-harvesting antenna systems using self-assemblies of semi-synthetic chlorophylls. **H. Tamiaki***, S. Shoji
15:30 – 285. Molecular mechanism of action of the cyanobacterial orange carotenoid protein. **R.E. Blankenship***, H. Liu, J. King, H. Zhang, D. Niedzwiedzki, M.L. Gross
16:00 – 286. Photoinduced charge separation processes: From natural photosynthesis to organic photovoltaics. **O. Poluektov***
16:15 – 287. Artificial light harvesting model by a hexameric hemoprotein reconstituted with zinc porphyrinoid. **T. Hayashi***, T. Mashima, K. Oohora

Hyatt Regency Waikiki
Mauka Bllrm

Homogeneous Catalysis Methodologies for the Upgrading of Biomass Derived Molecules (#301)

Organized by: J. Gordon, R. Baker, T. Ikariya
Presiding: J. Gordon

13:00 – 288. Acid-, water- and high temperature-stable homogeneous catalysts for the hydrodeoxygenation of biomass derived sugars and sugar condensates to value-added alcohols, alkenes, and alkanes. **M. Schlaf**, R. Sullivan, E. Latifi, B.K. Chung, D. Soldatov
13:35 – 289. Challenges and opportunities in the selective transformation of biomass to chemical intermediates and materials. **R. Waymouth***
14:10 break
14:20 – 290. Homogeneous catalysis of hydrogenation and hydrogenolysis reactions. **K. Goldberg**
14:45 – 291. New catalytic reactions and catalysts for the deoxygenation of carbonyls. **A.D. Sadow***
15:10 break
15:20 – 292. Sulfuric acid as a catalyst for ring-opening of biobased bis-epoxides. **G.B. Bantchev***, K.M. Doll, G. Biresaw, K.E. Vermillion
15:45 – 293. Selective flow epoxidation and epoxide ring-opening of biorenewable terpenes for chemical manufacture. **W. Cunningham***, M. Hutchby, S.D. Bull, m. davidson
16:10 – 294. Catalytic conversion of biomass by transforming lignin first into aromatic fuels and chemicals. **M.M. Abu-Omar***
16:35 – 295. Adding value to biomass: Green gold!. **A. Sutton**, J. Gordon, P. Silks, R. Wu

Wednesday Evening

Hyatt Regency Waikiki
Kou Ballrm

Nano Catalysis for Clean Energy and Environmentally Friendly Chemical Production (#81)

Organized by: A. Dalai, N. Abatzoglou, B. Davis, A. Uddin, J. Kozinski, G. Yadav, A. Tavasoli
Presiding: A. Dalai, Y. Hu

19:00 Opening Remarks-Nanocatalysis-Structural Study-I
19:02 – 296. In situ X-ray absorption spectroscopy studies of Fe nanoprecursors and $Fe@Fe_xO_y$/Pd nanocatalysts. Y. Yao, A. Maclennan, **Y. Hu***, R. Scott*
19:22 – 297. Investigation of NH_3 poisoning mechanism and doping effect of Pt for CO preferential oxidation catalyst with using *in-situ* XAFS analysis. **K. Sato**, S. Zaitsu, K. Teramura, T. Tanaka, K. Nagaoka*
19:42 – 298. Characterization of a novel Ni/YSZ catalyst with strong tolerance to coke deposition for direct internal reforming (DIR) - SOFC. **W. Kawasaki**, Y. Kohno, R. Watanabe, C. Fukuhara
20:00 – 299. In-situ XAS monitoring the formation and the electrochemical behaviors of nanomaterials for energy applications. **C. Kongmark***, N. Kochaputi, P. Khemthong, S. Sangsuwan, P. Viravathana, V. Somsongkul, M. Arunchaiya
20:20 – 300. DFT investigation of the $Mo_3S_xH_y$ (x=5-9, y=0,2,4) clusters and their role in hydrodesulfurization catalysis. **J.D. Head***, C. Tanabe, K. Gotto, J. Siu, S. Mallory
20:40 – 301. Finite size effects in sub-monolayer catalysts. **L.C. Grabow***, H. Doan, Q. Yuan, S. Brankovic*

Hawaii Convention Center
Halls I, II, III

Progress Toward a Lignocellulosic Biorefinery (#144)

Organized by: A. Stipanovic, A. Varma, Y. Sung

Poster Session
19:00 – 21:00

302. Chemical and morphological characterization of depithed bagasse for the purpose of gasification using computer simulation. **A.I. Anukam***, S. Mamphweli, P. Reddy, E. Meyer, O. Okoh
303. Novel method to convert paper mill waste into valuable fermentable sugar. **B. Bhayani**
304. Improving levoglucosan synthesis from pyrolysis of functionalized glucose. **L. Chen***, J. Zhao, S. Pradhan , B.E. Brinson, G. Scuseria, Z. Zhang, M.S. Wong
305. Catalytic fast pyrolysis of biorefinery lignins for the production of low molecular weight phenolic compounds. **D.B. Corbett***, O. mante, B.M. Bujanovic
306. Increasing the value of the biorefinery: Lignin-furfural based novel green wood adhesives. **P.S. Dongre***, M. Driscoll, J. Smith, T.E. Amidon, B.M. Bujanovic
307. Characterization of amphiphilic lignin from cattle fecal as an emulsifier. **T. Fujiwara***, K. Iwabata, Y. Kanai, T. Ruike, Y. Seki, K. Sakai, H. Sakai, K. Sakaguchi, M. Abe
308. Direct production of L-malic acid from lignocellulose by consolidated bioprocessing with *Schizophyllum commune*. **K. Hoshino***, M. Takano, E. Nagane, M. Hatashita
309. Microscopic observation of morphological changes in woody biomass as treated with ionic liquid. **T. Kanbayashi**, H. Miyafuji
310. Mass transfer characteristics of cellulose during hydrothermal treatment. **H. Kawasaki**, Y. Matsumura*
311. Catalytic depolymerization of lignin using self-generated active hydrogen from supercritical ethanol. s. jeong, G. Jang, Y. Park, **D. Kim**
312. Lignin-based polyoxyethylene ether enhanced enzymatic hydrolysis of cellulose and lignocellulose by dispersing cellulase aggregates. **H. Lou***, X. Lin*, X. Qiu*
313. Properties and regeneration of tertiary amines used in the recovery of acetic acid from kraft–based dissolving pulp process prehydrolysis liquors. G. Yang*, **L. Lucia**, Z. Zhang, J. Chen, Y. Ni
314. Properties and regeneration of tertiary amine from recovery of acetic acid from prehydrolysis liquors produced by the kraft dissolving pulp process. **L.A. Lucia**, G. Yang, Q. Jiang, J. Chen, Y. Ni
315. Preparation and analysis of Chaga mushroom (*Inonotus obliquus*) extracts for antioxidant activity and free phenolic hydroxyl group content. **A. Nagardeolekar***, B.M. Bujanovic
316. Decomposition behavior of hemicelluloses in rice straw and rice husk as treated by hot-compressed water. **Y. Nakahara***, E. Minami, H. Kawamoto, S. Saka
317. Elucidation of the biooil properties produced by the developing Auger-type movable reactor. **S. Nishimura**, K. Ebitani*
318. Expression and characterization for cellulose degradation of the polysaccharide monooxygenase from *Coprinopsis cinerea*. **K. Seino***, K. Iwabata, Y. Kanai, T. Ruike, Y. Seki, K. Sakai, H. Sakai, K. Sakaguchi, M. Abe
319. Bioethanol production from $CaCO_3$-removed paper sludge by thermotolerant fermenting-fungus. **M. Takano**, K. Hoshino*
320. One-pot high-gravity bioethanol fermentation from choline-based ionic liquid pretreated corn stover. **F. Xu**
321. Structural characterization of solubilized noncarbohydrate compounds during acidic water flowthrough pretreatment of Poplar wood. **L. Yan**
322. Degradation products from lignocellulosics as treated with ionic liquid-water mixtures. **K. Yoshioka***, H. Miyafuji, H. Ohno, T. Yamada

Hawaii Convention Center
Halls I, II, III

Water-phase Catalysis for Energy and Chemicals Production (#182)

Organized by: M. Wong, C. Zhang, S. Jeong

Poster Session
19:00 – 21:00

323. Photocatalytic hydrogen evolution from glycerol aqueous solution. **Y. Mizukoshi***, H. Nakanishi, F. Hori, K. Okitsu, A. Iwase, Y. Maeda, N. Masahashi

Hawaii Convention Center
Halls I, II, III

Current Status and Future Prospect of Polymer Electrolyte Fuel Cells (#188)

Organized by: K. Miyatake, M. Tada, Y. Sung, B. Pivovar, M. Hickner
Presiding: K. Miyatake, B. Pivovar, Y. Sung, M. Tada

Poster Session
19:00 – 21:00

324. Development of organic/Inorganic hybrid PEMs functionalized gradient for PEFCs fabricated by EB grafting and sol-gel method. **t. takura**, A. Oshima, M. Washio
325. Effect of ketone vs. sulfone groups on the properties of Poly(arylene ether)-based proton exchange membranes. H. Lee, Y. Huang, B.D. Britton, T.J. Peckham, S. Holdcroft, **W. Huang**
326. Ladder-type aromatic block copolymers containing triphenylphosphine oxide moiety as proton conductive membranes. **Y. Zhang**, F. Hartanti, J. Miyake, M. Watanabe, K. Miyatake
327. Synthesis and properties of poly(phenylene)-poly(ether ketone) block copolymer electrolytes (V): Relationship between microstructure and ion exchange capacity. **S. Nagaya**, M. Fujita, Y. Takeoka, M. Rikukawa
328. Controlled synthesis of hydrophilic-hydrophobic diblock copolymers using two types of chain-growth polymerizations (I) - bifunctional initiator. **Y. Hoshikawa**, K. Ogu, M. Fujita, Y. Takeoka, M. Rikukawa
329. Synthesis and evaluation of graft-type hydrocarbon polymer electrolytes (II): Effect of graft density. **R. Ide**, M. Rikukawa, M. Fujita, Y. Takeoka
330. Synthesis of hydrocarbon ionomers and evaluation of MEA (V): Relationship between block chain length and electrochemically active surface area. **S. Miyata***, M. Fujita, Y. Takeoka, M. Rikukawa
331. Highly dispersed Pt NPs supported selectively on carbon black as effective cathode catalyst for polymer electrolyte fuel cells. **S. Yokoyama***, K. Motomiya, S. Tsuchida, T. Kojima, Y. Taniguchi, T. Hiramatsu, Y. Ueyama, M. Morita, H. Takahashi, K. Tohji
332. Improvement of barrier property of fuel cell membrane via layer by layer assembly and chemical modification. **C. Cho***
333. Electrocatalytic activity for oxygen reduction reaction of electrochemically constructed Ni-core Pt-shell nanoparticles. N. Aoki, T. Kondo*, M. Hirota, S. Shibata, A. Omachi, **M. Ueda**
334. Iron and copper co-doped oxygen reduction reaction catalysts. **T. Murotani**, M. Kato, I. Yagi*
335. Novel synthesis of Pt/rPGO by a pyrolysis method of graphene oxide and ORR property. **H. Hayashi**, K. Teramura, S. Hosokawa, T. Tanaka
336. Scale-up of Pd-Pt core-shell catalysts: Synthesis, characterization, and performance. **L. Yang**, D. Banham, S. Ye, S. Knights, E. Gyenge
337. In-situ time-resolved XAFS study on the degradation processes of Pt/C and Pt_3Co/C cathode catalysts in polymer electrolyte fuel cell by feed gas exchange cycles. **K. Higashi**, G. Samjeské, S. Takao, S. Nagamatsu, K. Nagasawa, O. Sekizawa, T. Kaneko, T. Uruga, Y. Iwasawa*

*** Principle Author**

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338. In-situ time-resolved XAFS study on the kinetic behavior of PEFC Pt/C (Ketjenblack, acetylene black, CNT) cathode catalysts in potential-jump transient response processes. **T. Kaneko***, K. Nagasawa, S. Takao, K. Higashi, S. Nagamatsu, G. Samjeské, O. Sekizawa, T. Uruga, Y. Iwasawa

339. Investigation of cathode catalyst degradation under hydrogen passivation start-up and shut-down process for fuel cell vehicle. **Y. Yamashita**, S. Itami, T. Eguchi, J. Takano, M. Kodama, K. kakinuma, M. Hara, H. Uchida, M. Watanabe, M. Uchida*

Hawaii Convention Center
Halls I, II, III

Artificial Photosynthesis: Reduction of Carbon Dioxide (#271)

Organized by: O. Ishitani, E. Fujita, S. Kang

Poster Session
19:00 – 21:00

340. Surface investigation of supported metal cluster catalysis for solar fuel synthesis. **G. Laufersky***, T. Nann, G. Andersson

341. Photons to formate: Solar driven conversion of CO_2 to solar fuels. **H. Pan***, M. Heagy

342. Novel microchannel reactor with fused glass beads waveguide for photocatalytic reaction. **H. Usami***, K. Ohta

343. Novel photoreduction systems of CO_2 based on various arylborane compounds. **E. Sakuda***, N. Ishizaki, M. Tanaka, S. Horiuchi, Y. Arikawa, K. Umakoshi, N. Kitamura*

344. Ru(II)-Re(I) supramolecular photocatalysts for efficient CO_2 reduction in water. **A. Nakada***, K. Koike, K. Maeda, O. Ishitani

345. Light induced CO_2 reduction on *p*-type semiconductor by zinc porphyrin and rhenium complex hybrid system. **D. Yamamoto**, Y. Ko, P.V. Nair, Y. Nabetani, H. Tachibana, H. Inoue*

346. Effect of composition between $SrTiO_3$ photocatalyst and carbon dioxide adsorbent. **M. SAKAI***, T. Itai, V. Kalousek, N. Toshima, K. Ikeue

347. Acceleration of electrocatalytic CO_2 reduction by adding PCET-inducing compounds. **T. Suzuki**, T. Takashima, H. Irie

348. Improvement of photocatalytic activity of hybrids with ruthenium complexes and carbon nitride for CO_2 reduction under visible light. **R. Kuriki***, O. Ishitani, K. Maeda

349. CO_2 reduction catalysts composed of modified cycloazaalkenes. **M.A. Habib***, B.K. Breedlove, M. Yamashita

350. Photocatalytic decomposition of CO_2 by layered double hydroxides. **K. Katsumata**, N. Matsushita, K. Okada

351. Photoelectrochemical reduction of carbon dioxide utilizing boron-doped g-C_3N_4 loaded with co-catalyst (Au, Ag, Rh). **N. Sagara**, S. Kamimura, T. Ohno*

352. Efficient photocatalytic CO_2 reduction system using rhenium complex intercalated into zirconium phosphate layered matrix. **M. Wen**, Y. Kuwahara, K. Mori, H. Yamashita*

353. Highly efficient, selective, and durable photocatalytic system for erduction of CO_2 to formic acid. **Y. Tamaki**, O. Ishitani*

354. Fabrication of co-catalyst loaded p-type $Cu_3Nb_2O_8$ photocathode toward photoelectrochemical reduction of carbon dioxide. **S. Kamimura***, T. Ohno

355. Photocatalytic reduction of CO_2 with H_2O on 3D ordered macroporous TiO_2-supported core-shell noble metal@CdS nanoparticles. j. jiao*, Y. Wei*, **Z. Zhao***, J. Liu, A. Duan, J. Li, G. Jiang

356. Electrochemical reduction of low concentration of CO_2 using Re(I) complexes as catalysts. **T. Nishikawa***, G. Sahara, Y. Tamaki, O. Ishitani

357. Photocatalytic reduction of CO_2 using Mn(I) diimine carbonyl complexes with various substituents. **H. Kamiyama**, H. Takeda, O. Ishitani*

358. Photocatalytic reduction of CO_2 over intercalated nanocomposites based on layered double hydroxides. **H. Jiang***, K. Katsumata*, N. Matsushita

359. Photocatalytic CO_2 conversion into CO in H_2O over layered double hydroxide containing transition metal ions. **Y. Hasegawa**, K. Teramura, S. Hosokawa, T. Tanaka

360. Photocatalytic conversion of CO_2 by H_2O over the rare-earth oxide-modified Ga_2O_3. **H. Tatsumi***, K. Teramura, S. Hosokawa, T. Tanaka

361. Investigation of photoelectrochemical property of $ZnGa_2O_4$-modified Ga_2O_3 for photocatalytic conversion of CO_2 by H_2O. **S. Kikkawa***, K. Teramura, S. Hosokawa, T. Tanaka

362. Syntheses of *meso*-substituted Iron porphyrin complexes and analyses of photoreaction by photoelectrochemical measurement. **Y. Okabe**, A. Fukatsu, M. Kondo, S. Masaoka*

363. A role of the Ag cocatalyst in the photocatalytic CO_2 reduction with water over Ga_2O_3. **M. Yamamoto**, T. Yoshida, N. Yamamoto, T. Nomoto, S. Yagi

364. Investigating the interactions of CO_2 with photocatalytic nanomaterial surfaces. **L.M. Reyes**, L. Hoch, T.E. Wood, G. Ozin*

365. Synthesis and characterization of copper(I) complexes having NAD model ligands. **M. Takaoka**, H. Ohtsu*, K. Tsuge, K. Tanaka*

366. Photocatalytic CO_2 reduction by *trans*(Cl)-Ru(bpy)$(CO)_2Cl_2$: A new mechanism for $CO/HCOO^-$ selectivity. **H. Ishida***, J. Itabashi, K. Kitamura, Y. Kuramochi

367. Simultaneous production of aniline and acetone, ethanol, and butanol (ABE). **V.H. Grisales**, G. Olivar Tost

Thursday Morning

Hawaii Convention Center
Halls I, II, III

Nano Catalysis for Clean Energy and Environmentally Friendly Chemical Production (#81)

Organized by: A. Dalai, N. Abatzoglou, B. Davis, A. Uddin, J. Kozinski, G. Yadav, A. Tavasoli
Presiding: S. Badoga, N. Mahinpey

Poster Session
10:00 – 12:00

368. Synthesis and catalytic activities of multimetallic clusters using a dendrimer template. **H. Koizumi***, M. Takahashi, T. Imaoka, K. Yamamoto

369. Preparation of copper-cobalt oxides catalyst for complete oxidation of low concentration benzene vapor at low temperature. **T. Kiso***, M. Uddin, Y. Kato

370. Catalytic upgrading of furfural over ZSM-5 and metal/ZSM-5 catalyst: Effect of catalyst particle size and metal type. **k. lee***, J. Lee, I. Lee, K. Hwang, J. Lee, J. Han

371. Effect of active carbon loading amount on the performance of microcapsule encapsulated with CaO catalyst and active carbon powders for the methanolysis of rapeseed oil under the light irradiation. R. Kadota*, **T. Furusawa**, F. Kurayama, M. Sato, N. Suzuki

372. Hydrogenation of unsaturated organic molecules over a mesoporous MoO_3 catalyst. **S. Fei**, P. Mei, H. Yan, **H. Cheng ***

373. Preparation of perovskite oxides by the hydrothermal synthesis method and their electrocatalytic activities for oxygen reduction reaction. **M. Kono***, Y. Miyahara, K. Miyazaki, T. Fukutsuka, T. Abe, M. Kawaguchi

374. Preparation of metal catalyst-liposome complex for oxidation reaction. **Y. Takahashi**, K. Deguchi, T. Shimanouchi, Y. Kimura

375. Oxidative dehydrogenation of 1-butene using copper ferrite catalyst prepared with activated carbon. **T. Kiyokawa***, N. Ikenaga

376. Synthesis of 1,3-butadiene from ethanol with MgO-loaded Al_2O_3-ZrO_2 catalyst. **R. Fujibayashi***, N. Ikenaga

377. Effect of iron addition on oxidative dehydrogenation of 1-butene using V-Mg complex oxide. **J. Hatayama***, N. Ikenaga

378. One-pot synthesis of catalytic Rh nanocrystals encapsulated in carbon spheres for higher alcohol synthesis. **K. Ha***, J. Lim, D. Kim, H. Park

379. Effect of mesoporous silica coating on catalytic activity of Ni/Al_2O_3 for selective CO methanation. **T. Kuroda**, T. Miyao, K. Higashiyama*, M. Watanabe

380. Synthesis of Co-B@Ni-P core-shell nanoparticles for rapid hydrogen generation. **Y. Zou***, C. Xiang

381. Physicochemical and catalytic properties of spherical Al_2O_3/porous coordination polymer(PCP) core/shell composites. **N. Kageura**, N. Ito, Y. Takeisi, K. Sato, K. Nagaoka*

382. Application of immiscible palladium-ruthenium solid solution alloys to organic conversions. **H. Yamamoto**, K. Imamura, K. Sato, K. Kusada, H. Kobayashi, H. Kitagawa, K. Nagaoka*

383. Structural and electronic state analysis of visible light response Au loaded TiO_2 photocatalysts. **Y. MISU***, T. Yoshida, T. Sawai, J. Kumagai, S. Ogawa, S. Yagi

384. Effect of carbon dioxide addition on Fischer-Tropsch synthesis using Fe-based catalyst. **T. Okawara**, T. Yoshida, Y. Yoneyama*, N. Tsubaki, K. Tanaka, Y. Shibata, M. Murata, T. Ishiyama, H. Higashimura

385. Carbon dioxide electrolysis with EC tag (Ag) supported carbon electrode. **M. Morimoto**, Y. Takatsuji, T. Haruyama

386. Glycerol electro-oxidation: Tuning selectivity by controlling diffusion of reactants and products to and from catalyst centre. **L. Thia***

387. Ethylene oligomerization catalyzed by phenylsilane-modified zirconia. **Y. Imizu***, T. Nishiharaguchi, S. Kobayashi, H. Morikawa, H. Yamada

388. Aromatization of light hydrocarbons over binary metal oxide/MFI zeolite under CO_2. **Y. Choi**, Y. Mo, S. Park*

389. Side-chain alkylation of toluene with methanol over hierarchical zeolite under CO_2. **D. Seo**, N. Jiang, S. Park*

390. Nanocast mesoporous alumina as solid acids for Friedel-Crafts reaction. **H. Choi**, J. Kim, S. Park*

391. Synthesis and characterization of platinum-functionalized steel balls, and their thermal performance in a radio-frequency inductive heating system. **M.A. Laban***, D. Hayes, D. Boldor

392. Synthesis, characterization, and catalytic evaluation of Ni-Mo/TiO_2 and Ni-V/TiO_2: Hydrodeoxygenation of guaiacol. L. Katta, A. Aqsha, **N. Mahinpey***

393. Hydrothermal synthesis of face-centered cubic platinum-ruthenium core-shell and alloy nanocrystals with high electrocatalytic activity. **J. Gu**, Y. Guo, Y. Zhang

394. Steam reforming of propane at low temperature over supported Rh catalysts. **L. Yu**, K. Sato, Y. Sato, K. Nagaoka*

395. Structural modulation of rare earth/noble metal nanocatalysts with enhanced catalytic performances. **Y. Zhang***

396. Low-temperature CO oxidation over Pt/FeO_x catalysts prepared by colloid-deposition method. **M. Jia***, W. Zhang

397. Designing a novel monolithic Ni-SiO_2/SiC foam catalyst for the oxidative methane dry reforming reaction to produce syngas. **X. Gao**, Q. Wei, G. Yang, Y. Yoneyama, N. Tsubaki*

398. CO_2 hydrogenation over Ni-Cu alloy catalysts supported on Al_2O_3. **R. Sakai***, S. Hosokawa, K. Teramura, T. Tanaka

399. Kinetic model fitting for selective esterification of docosahexaenoic acid. **A. Sharma***, K. Singh, A. Dalai, S.P. Chaurasia

400. Conversion of ethanol to butanol over Ni-based catalysts. **J. Pang**, M. Zheng*, R. Sun, B. Xiao, L. Li, A. Wang, X. Wang, T. Zhang*

401. Sunlight-driven hydrogen peroxide production from water and molecular oxygen by metal-free carbon nItride photocatalysts. **Y. Shiraishi***, Y. Kofuji, T. Hirai

Hyatt Regency Waikiki
Ekahi

Theory and Computation for Efficient Utilization of Energy and Resources (#163)

Organized by: Q. Ge, W. Li, H. Cheng
Presiding: H. Cheng , P. Hu

8:00 – 402. Density functional theory study on electrical double layers. **P. Hu**
8:35 – 403. Transition-metal oxide electrocatalysis. **A. Vojvodic***
9:05 – 404. Aligning energy levels across electrochemical interfaces. **J. Cheng**
9:35 – 405. Molecular modeling in the design of electrically insulating liquids. N. Davari, **P. Åstrand***, M. Unge
9:55 Break
10:05 – 406. Big data analytics: Theoretical concepts, chalenges, and hype. **M. Scheffler***
10:40 – 407. New computational method to explore reaction network. **L. Wang**
11:10 – 408. Coarse-grained transport model for the computationally-guided design of next-generation polymer electrolytes. **M.A. Webb**, B.M. Savoie, T.F. Miller
11:40 – 409. First-principle simulations of CO_2 capturing by alcoholamines. H. Li, **M.B. Tsai***

Hawaii Convention Center
Halls I, II, III

Dynamical Processes of Light Harvesting Surfaces (#178)

Organized by: G. Thornton, M. Henderson, H. Onishi, C. Li, G. Herman

Poster Session
10:00 – 12:00

410. Photoexcited carrier dynamics of double-layered PbS/CdS quantum dot sensitized solar cells characterized by transient absorption methods. **K. Sato**, S. Kuwahara, K. Katayama, T. Toyoda, Q. Shen*

411. Investigation on dye-ion interaction in dye-sensitized solar cells using transient absorption spectra. **R. Hosokawa**, S. Kuwahara, Q. Shen, T. Toyoda, K. Katayama*

412. $SrTiO_3$ Photocatalysts prepared thorough solid-state, molten salt, and solvothermal method. **Y. Park**, H. Onishi*

413. Time-resolved IR absorption of photoexcited electrons in TiO_2. **T. Mizutani**, H. Onishi*

414. Dynamics of photocarriers in $SrTiO_3$ studied by transient absorption spectroscopy: Elucidation of the effects of defects. **J.M. Vequizo**, A. Yamakata*

415. Free energy landscape of charge separation in organic disordered materials from first principles simulation. **K. Nishimra***, M. Fujii, K. Yamashita

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Current Status and Future Prospect of Polymer Electrolyte Fuel Cells (#188)

Organized by: K. Miyatake, M. Tada, Y. Sung, B. Pivovar, M. Hickner
Presiding: A. Herring, B. Pivovar

8:00 – 416. Development of perfluorinated alkaline membranes and advanced covalently tetherable cations. **B. Pivovar**, M. Sturgeon, H. Long
8:40 – 417. Anion exchange membranes composed of perfluoroalkyl and ammonium-functionalized oligophenylene main chains. **H. Ono***, J. Miyake, K. Miyatake
9:00 – 418. Polymer design of sterically-protected anion exchange membranes. **A.G. Wright**, S. Holdcroft*
9:20 – 419. Stabilization of anion exchange membranes to alkaline conditions for use in fuel cells. **J. Ward**, S. Holdcroft
9:40 Break
9:50 – 420. Next generation polymers for anion exchange membrane fuel cells. **A. Herring***, L. Matthew, D. Knauss, E. Coughlin, G. Voth, T. Witten
10:20 – 421. Structural modification on polystyrene based anion exchange membrane for optimizing membrane properties and performance. **S. Tuli**, R. Elgammal, T. Zawodzinski, T. Fujiwara*
10:40 – 422. Non-platinum catalysts for fuel cells obtained by sacrificial support method. **P. Atanassov***, K. Artyushkova, A. Serov, I. Matanovic, B. Kiefer, B. Halevi
11:10 – 423. Electrocatalysts for H2/Air(O2) anion exchange membrane fuel cells: Building a new non-pgm materials set. **A. Serov**, Y. Kim, M. Odgaard, B. Halevi, P. Atanassov

Hyatt Regency Waikiki
Makai Bllrm

Energy Storage in Chemical Bonds: Advances in Chemistry and Materials for Hydrogen Storage (#216)

Organized by: Z. Huang, P. Chen, T. Autrey, Q. Xu, C. Yoon, C. Jensen
Presiding: T. Autrey, C. Buckley

8:00 opening remarks
8:10 – 424. Materials-based hydrogen storage technologies: An overview from the U.S. DOE's perspective. **N.T. Stetson***
8:40 – 425. Heterolysis of molecular hydrogen for energy storage applications. **T. Autrey***
8:55 – 426. High temperature metal hydrides for concentrated solar thermal energy storage. **C. Buckley***, D. Sheppard, T. Humphries, M. Rowles, M. Sofianos, p. Javadian
9:15 – 427. Advances in the formation and regeneration of alane for hydrogen storage. **R. Zidan***, P.A. Ward, J.A. Teprovich , s. greenway, S. Mcwhorter
9:35 – 428. Amino alanes - possible new materials for hydrogen storage. **M. Felderhoff***
9:55 Break
10:05 – 429. Novel H. . .H interactions in chemical and metal hydrides. **S. McGrady**
10:25 – 430. Crystal structure analysis of Nb doped Ti-V-Cr hydrogen absorbing alloys using neutron diffraction. **E. Akiba***, S. Itano, H. Hirano, J. Matsuda, K. Ikeda, T. Otomo
10:45 – 431. Enhanced hydrogen generation performance of MgH_2 based hydrides. **L. Ouyang**, M. Zhu
11:05 – 432. Synthesis of metal@carbon hybrids and their enhanced effects on hydrogen storage properties of MgH_2. Y. Wang, **Y. Wang**, L. Jiao, H. Yuan
11:25 – 433. Redox reaction kinetics of metal oxides in chemical-looping processes for hydrogen production/storage systems using oxide ion conducting materials. **J. Otomo***, F. Kosaka, Y. Oshima, H. Hatano
11:40 – 434. Synthesis and energy device research of complex hydrides. **S. ORIMO***

Hawaii Convention Center
Halls I, II, III

New Generation of Electrochemical Energy Storage and Conversion System: Materials, Interface and In-situ Techniques (#250)

Organized by: Y. Yang, S. Meng, A. Yamada, Y. Sun

Poster Session
10:00 – 12:00

435. Graphene-based nanocomposites anode materials for lithium ion batteries. H. Kim, **K. Kim***
436. Toward high-volumetric energy density lithium-ion batteries: Particle density measurements of layered $LiCo_{1-x}Ni_xO_2$ with $0 \leq x \leq 1$. **K. Mukai***, H. Nakano
437. Effect of solid phase in fumed silic/lithium electrolyte solution dispersion system. **R. SOGAWA**, S. NAGATA, H. Maki, M. Mizuhata
438. Chemical reaction of organic carbonate on Li anode surface in Li-air battery based on tight-binding quantum chemical molecular dynamics. **K. Watanabe***, Y. Higuchi, N. Ozawa, M. Kubo
439. Exploration of Mn-based oxides micro/nanostructures as anode materials for advanced lithium ion batteries. X. Gu, N. Wang, **J. Yang**, Y. Qian
440. Synthesis and characterization of ordered mesoporous electrode materials for lithium storage. S. Park, K. Kim, H. Lee, G. Park, **J. Kim***
441. Novel lithium ion conducting oxides based on $LiScO_2$. **G. Zhao**, I. Muhammad, K. Suzuki, M. Hirayama, R. Kanno*
442. Effects of sulfur electrolyte additives on solid electrolyte interfaces of lithium-ion batteries. **S. Kikuzaki**, C. Yogi, T. Sanada, K. Kojima, M. Katayama, Y. Inada, T. Ohta
443. $Li_3V_xMn_{1-x}(PO_4)_3$ as a positive electrode material for high rate rechargeable lithium batteries. **J. Park**, S. Myung
444. All solid state batteries using epitaxial-film cathode with a lithium-rich layered rocksalt structure. **M. Hirayama***, Y. Zheng, K. Suzuki, R. Kanno
445. Effects of K-ion doping on electrochemical performance of $Na_3V_2(PO_4)_3$ cathode materials for Na-ion batteries. **J. Eom***
446. Co-precipitation synthesis of low carbon-coated $LiMn_{0.6}V_{0.4}PO_4$ as high-rate cathode materials for lithium ion battery. W. Ma, H. Chen, C. Chang, **Y. Chen-Yang***
447. Synthesis and electrochemical characteristics of nano porous silicon/carbon composite anode for lithium ion battery. **J. Lee***, H. Lee, J. Park
448. Eye-inspired radical scavenger: Polydopamine as an electrolyte additive for improved cycle performance of Li-air batteries. **S. Kim**, J. Choi*, H. Lee*
449. Lithium ion conductor with Argyrodite type structure in the Li-Ge-P-S system. **Y. Inoue**, K. Suzuki, M. Hirayama, R. Kanno
450. Intercalation of sodium and magnesium into boron/carbon materials. **H. Higuchi***, M. Kawaguchi
451. Green, large-scale synthesis of hierarchical nanorod assembly of polyaniline for supercapacitor applications. **D. S***
452. Nickel–manganese oxide on MWCNTs/CFP substrate as supercapacitor electrode. X. Zhang, H. Wang, Y. Huang, **Q. Li***
453. Unique nano-architecture electrodes for high-performance supercapacitor. **G.G. Khan***, A.K. Singh , D. Sarkar
454. Reaction and transport of alkalimetal ion on SnO_2 thin film fabricated by liquid phase deposition method. **Y. SHIBATA**, H. Maki, M. Mizuhata
455. Electrocatalytic oxygen evolution by polyanion-based manganese compounds. **T. Takashima***, H. Irie
456. Efficient electrocatalytic electrodes for energy storage devices based on conducting polymers. **P. Talemi***
457. High-energy-density proton redox capacitor using quinonic compounds couple. **T. Tomai***, D. Komatsu, I. Honma
458. Reversible oxidation of Pt nanoparticles: In situ hard X-ray photoelectron spectroscopy studies under H_2O and MeOH atmospheres. **H. Wang**, Y. Takagi, Y. Uemura, O. Sekizawa, T. Uruga, M. Tada, Y. Iwasawa*, T. Yokoyama*, H. Yoshikawa
459. High contrast and complementary electrochromic device based on a WO_3 film and an organic solution with broadly absorbing from the visible and the infrared. **D. Weng***, M. Li, J. Zheng, C. Xu*
460. Charge/discharge behavior of Co-doped Li_2O of a battery utilizing a redox of oxide and peroxide. **H. Kobayashi***, M. Hibino, Y. Ogasawara, T. Kudo, S. Okuoka, H. Ono, K. Yonehara, Y. Sumida, N. Mizuno
461. Far-red sensitive squaraine dyes with extended Π-conjugation toward anchoring group for molecular photovoltaics. G.M. Shivashimpi, N. Fujikawa, G. Kapil, Y. Ogomi, **S.S. PANDEY***, Y. Yamaguchi, S. Hayase
462. Fabrication of graphene/Poly(styrene-sulfonic acid-*g*-aniline) composites for high performance supercapacitor electrodes. **j. lee**, j. jo, k. Kim, W. Jo*
463. Co_3O_4 supercrystals with enhanced performances in energy storage. Y. Gong, S. Lu, H. Chen, C. Wang, **F. Li**
464. Molecular design and photophysical characterization of squaraine dyes with varying fluoroalkyl substituents. **T. Morimoto***, N. Fujikawa, Y. Ogomi, Y. Yamaguchi, S.S. PANDEY, T. Ma, S. Hayase
465. Energy storage by proton-coupled electron transfer reactions of Ru complexes. **D. MOTOYAMA**, H. Ozawa, M. Haga*
466. Investigating small-polarons in Mo/W-$BiVO_4$: Large implications for solar H_2 production. **V. Jovic***, J. Laverock, A.J. Rettie, J. Zhou, C.B. Mullins, D. Wilson, T. Söhnel, K.E. Smith
467. Porous graphene structure from electrochemical exfoliation for supercapacitor applications. **S. Jung**, H. Jung, J. Kong
468. Performance enhancement of planar heterojunction perovskite solar cells by *n*-doping of electron transporting layer. **S. Kim**, S. Bae, W. Jo*
469. Membrane-free wastewater electrolysis cell for decentralized molecular hydrogen production: Current and energy efficiency. **K. Cho***, M. Hoffmann
470. Surface enhanced IR absorption spectro-electrochemistry of immobilized [NiFe] hydrogenase on graphene oxide/Au hybrid electrodes. **H. Gatemala***, L.C. Perez, T. Harris, S. Frielingsdorf, O. Lenz, C. Thammacharoen, S. Ekgasit, I.M. Weidinger, A. Fischer, N. Heidary*, K.H. Ly*, I. Zebger*
471. Creation of chiral ionic plastic crystals and its proton conductivity. **T. Yamada***, M. Matsuki, N. Kimizuka
472. Interrelation between processing condition, morphology, crystal orientation, and efficiency of $CH_3NH_3PbI_3$-based perovskite solar cells. **S. Bae**, S. Han, T. Shin, W. Jo*

Hyatt Regency Waikiki
Kou Ballrm

Artificial Photosynthesis: Bio-inspired Chemistry for Solar Fuel Production (#278)

Organized by: H. Hashimoto, Y. Amao, J. Zhang, T. Moore, B. Koivisto
Presiding: Y. Amao, H. Hashimoto, B.D. Koivisto, T.A. Moore, J. Zhang

8:00 – 473. Mechanism of light-induced water splitting – learning from nature's ingenious concept. **W. Lubitz***
8:30 – 474. Molecular photosynthesis: Such stuff as dreams are made on. **M. Bonchio***
8:45 – 475. In-situ passivation layer protected Si photoanode with sparse catalysts for stable and quantitative solar water oxidation. **K. Sun**, W.G. Hale, B.S. Brunschwig, N.S. Lewis
9:00 – 476. Birnessite as structural motif for the development of oxygen evolution reaction (OER) electrocatalysts. **J.H. Baricuatro***, F.H. Saadi, A. Carim, J.M. Velázquez, M.P. Soriaga
9:15 – 477. Bioinspired catalytic systems and technological applications of hydrogen. **V. Artero***
9:45 – 478. Proton-coupled electron transfer processes in artificial photosynthesis. **L. Hammarström***, S. Glover, G. Parada, T. Markle, M. Bourrez, p. Dongare, S. Ott
10:00 – 479. Evaluation of oxidation ability for plasmon-induced charge separation: Approach from coordinative dissolution and surface passivation of gold nanoparticles. **H. Nishi***, T. Tatsuma*
10:15 – 480. Bio-nano photocatalytic systems for solar hydrogen production. **E. Rozhkova***, P. Wang
10:30 – 481. Photocatalytic hydrogen production using carbon nitrides with enzymatic and synthetic biomimetic co-catalysts. **C.A. Caputo**, M.A. Gross, E. Reisner
10:45 – 482. Novel metal-peptide conjugates for CO_2 reduction catalysts. **H. Ishida***
11:15 – 483. BODIPY as a non-innocent π-spacer in organic dye motifs: Toward next-generation photovoltaic applications. **B.D. Koivisto***
11:30 – 484. Achieving enzyme-like behavior with amino acids and peptides in the outer coordination sphere of hydrogenase mimics. **W. Shaw***, A. Dutta, J. Roberts, A. Jain, M. Reback
11:45 – 485. Artificial light-driven proton pumps as mimics for natural photosynthesis. C.D. Sanborn, R. Reiter, W. White, **S. Ardo**

Hyatt Regency Waikiki
Mauka Bllrm

Homogeneous Catalysis Methodologies for the Upgrading of Biomass Derived Molecules (#301)

Organized by: J. Gordon, R. Baker, T. Ikariya
Presiding: T. Ikariya

8:00 – 486. Strategies for biofeedstock processing via tandem catalytic C-O hydrogenolysis. **T.J. Marks**
8:35 – 487. Catalytic conversion of renewable resources into bulk and fine chemicals. **J.G. de Vries***
9:10 break
9:20 – 488. Commercialization of olefin metathesis for use in the world's first biorefinery plants. **R.L. Pederson***
9:45 – 489. Hydrogenation and dehydrogenation processes based on bifunctional Ru and Ir complexes bearing protic amine chelate ligands. **Y. Kayaki***
10:10 – 490. Hydrogen management for transformation of CO_2- and biomass-derived feedstock using molecular surface. **S. SAITO***
10:35 break
10:45 – 491. High efficient tetradentate ruthenium catalyst for esters reduction. **X. Zhang**

*** Principle Author**

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11:10 – 492. Bifunctional Ir/NH hydrogenation catalyst with a reversed NH/NMe substitution effect. **P.A. Dub***, B.L. Scott, J. Gordon*
11:35 – 493. Green synthesis of paracetamol from renewable limonene. **M. Hutchby***, W. Cunningham, S.D. Bull

Hyatt Regency Waikiki
Elima

Challenges in Second Generation Biofuels: Processing, Stability, and Usage (#378)

Organized by: J. Fu, J. Chen, S. Turn, Z. Tao
Presiding: J. Fu, S.Q. Turn

8:00 Opening Remarks
8:05 – 494. Catalytic biomass pyrolysis and bio-crude upgrading for advanced biofuels production. **D.C. Dayton***, O. mante, J. Peters, D. Barbee, K. Wang, R. Gupta
8:40 – 495. Biomass oxidation: Formyl C–H bond activation by the surface lattice oxygen of regenerative CuO nanoleaves. **Y. Yang**
9:15 – 496. Biofuel synthesis in supercritical fluids. **J. Kim***
9:50 Break
10:05 – 497. Continuous enzymatic hydrolysis of biomass in a membrane reactor. **R. Wickramasinghe***, M. Malmali, J. Stickel
10:40 – 498. Role of ultrasound in the renewable energy production and utilization: Comparison with Co-solvent and microwave. **Y. Maeda***, H.T. Truong, K. Noro, N. Takenaka, L.V. Boi
11:15 – 499. Comparative proteome analysis for biodiesel metabolism using a novel *Moniliella wahieum* Y12 isolate. **D. Si***, T. Ching, D. Roettger, B. Yoza, S. Masutani, Q.X. Li

Thursday Afternoon

Hyatt Regency Waikiki
Ekahi

Theory and Computation for Efficient Utilization of Energy and Resources (#163)

Organized by: Q. Ge, W. Li, H. Cheng
Presiding: H. Cheng , J. Li

13:00 – 500. On the role of hydroperoxyl (.OOH) radical in oxidation reactions at bulk gold surfaces. **J. Li***, C. Chang, X. Yang
13:35 – 501. First-principles perspective on TiO_2 surface photocatalysis. **J. Zhao***
14:05 – 502. Catalyst design for improving kinetics of oxygen evolution reactions in Li-O_2 battery. **J. Liu***
14:35 – 503. Li_8ZrO_6: A potential cathode material for lithium ion batteries. **S. Huang**, B. Wang, B. Wilson, Y. Fang, A. Stein, D.G. Truhlar
14:55 Break
15:05 – 504. Strong hydrogen bond can enhance and inhibit water/methanol dissociation on TiO_2 surface. **H. Fan**
15:35 – 505. Molecular design rules of D-A nanofibril interface for high photoconductivity and photovoltaic performance. **X. Yang***
16:05 – 506. Theoretical study on electronic processes at the donor/acceptor interface in organic solar cells. **Y. Yi***, X. Shen, G. Han
16:35 – 507. Chemical solutions for the hysteretic effects in mixed organic-inorganic perovskites: A theoretical analysis. **G. Giorgi***, K. Yamashita

Hyatt Regency Waikiki
Maloko Bllrm

Current Status and Future Prospect of Polymer Electrolyte Fuel Cells (#188)

Organized by: K. Miyatake, M. Tada, Y. Sung, B. Pivovar, M. Hickner
Presiding: Y. Sung, S. Yoo

13:00 – 508. Nanoarchitecture and catalyst designs for fuel cell application. **S. Yoo**, N. Jung, D. Chung, J. Ryu, H. Park, J. Jang, H. Kim, Y. Sung
13:40 – 509. Highly active and durable extended surface electrocatalysts. **S.M. Alia***, K. Neyerlin, S. Pylypenko, S. Kocha, B. Pivovar
14:00 – 510. Mechanism of redox processes of Pt-M (M=Co, Ni) PEFC cathode electrocatalysts for voltage cycling studied by in situ time-resolved XAFS. **N. Ishiguro***, S. Kityakarn, O. Sekizawa, T. Uruga, K. Nagasawa, T. Yokoyama, M. Tada
14:20 – 511. Nanoparticle designs with high activity and durability as electrocatalyst for fuel cells. D. Chung, H. Kwon, **Y. Sung***
15:00 Break
15:10 – 512. Strategies for design and synthesis of highly efficient non-precious metal catalysts using metal-organic frameworks and porous organic polymers. **D. Liu***
15:40 – 513. Strategy to improve efficiency of graphene-based ORR electrode for PEMFC. **S. Woo***, M. Chung
16:00 – 514. Highly active nanostructured carbon-based non-precious metal electrocatalysts for the oxygen reduction reaction. **S. Joo***
16:20 – 515. Effects of major air contaminants on the performance of fuel cells with nonplatinum group metal cathode catalysts. **T.V. Reshetenko***, A. Serov, S. Stariha, I. Matanovic, K. Artyushkova, J. St-Pierre, P. Atanassov

Hyatt Regency Waikiki
Makai Bllrm

Energy Storage in Chemical Bonds: Advances in Chemistry and Materials for Hydrogen Storage (#216)

Organized by: Z. Huang, P. Chen, T. Autrey, Q. Xu, C. Yoon, C. Jensen
Presiding: P. Chen, C.M. Jensen

13:00 – 516. Ammonia - the ideal chemical storage material?. **B. David***, M.O. Jones, J.W. Makepeace, T.J. Wood, h. hunter
13:30 – 517. Ammonia as a hydrogen storage material. **Y. Kojima**
13:50 – 518. Accelerated DFT-based design of materials for ammonia storage. **T. Vegge***
14:10 – 519. Amides, amines, and ammonia as hydrogen carriers. **P. Chen***, J. Guo, P. Wang, F. Chang, P. Yu, G. Wu
14:25 – 520. Hydrogen release from irradiated ammonia-borane: A computational study. **M. Gutowski***, D. Bellshaw, R. Hernandez
14:40 – 521. Syntheses of amine boranes as potential hydrogen storage materials. **X. Chen***, Y. Guo, H. Li
15:00 break
15:10 – 522. Hydrogen storage properties of nanosized MgH_2-0.1TiH_2 prepared by ultrahigh-energy-high-pressure milling. **J. Lu**, Z.Z. Fang
15:30 – 523. Development of boron hydrides. **D.M. Schubert**
15:50 – 524. A chemist's walk through a solid chemical hydrogen fuel cartridge. **A.M. Fisher**
16:10 – 525. Solid state hydrogen storage materials: Key issues. **X. Yao**
16:30 – 526. Mechanistic studies of the reversible hydrogenation of boranes to borohydrides under moderate conditions. **C.M. Jensen***, T. Autrey, S. ORIMO, M. Chong, J. Wang, M. Matsuo
16:45 – 527. Understanding and controlling the hydrogen release and uptake in complex metal hydrides. **V. Stavila***, E. Majzoub, J. Vajo, B. Wood, L. Klebanoff

Hyatt Regency Waikiki
Kou Ballrm

New Generation of Electrochemical Energy Storage and Conversion System: Materials, Interface and In-situ Techniques (#250)

Organized by: Y. Yang, S. Meng, A. Yamada, Y. Sun

13:00 – 528. Sodium insertion materials for designing 4-volt class battery. **S. Komaba***, K. Kubota, M. Dahbi
13:25 – 529. Selected metal disulfides for fast and stable Na^+ intercalation/de-intercalation. **J. Chen***, Y. Liu*, X. Liu, L. Jiao
13:50 – 530. High performance iron based cathode material for sodium-ion batteries. **K. Chung**, G. Ali, S. Oh, S. Kim, J. Kim, B. Cho
14:10 – 531. Ordered and disordered O3-Na_2RuO_3 as high performance positive electrode materials for Na-ion batteries. **B. Mortemard de Boisse***, G. Liu, J. Ma, N. Shin-ichi, H. Kiuchi, Y. Harada, J. Kikkawa, Y. Kobayashi, M. Okubo, A. Yamada
14:25 – 532. Solid state ^{23}Na NMR study on reaction mechanism of MXene $Ti_3C_2T_x$ in non-aqueous Na^+ electrolyte. **S. Kajiyama**, H. Iinuma, R. Morita, K. Gotoh, M. Okubo, A. Yamada
14:40 – 533. All-solid-state Li-ion microbatteries based on vertical arrays of titania nanotubes. **T. Djenizian**
14:55 Break
15:05 – 534. Na-air batteries: Understanding of mechanisms and rechargeability. **X.A. Sun***
15:30 – 535. Cathode reactions and basic property of lithium peroxide batteries. **M. Hibino***, H. Kobayashi, K. Harada, Y. Ogasawara, N. Mizuno
15:55 – 536. Safety-reinforced, wide voltage window and ambient temperature polymer-based solid polymer electrolyte for high-performance lithium batteries. J. Zhang, J. Zhao, L. Yue, Z. Liu, **G. Cui**
16:10 – 537. Mo_2C-CNT cathode for lithium-oxygen battery. **W. Kwak**, k. Lau, K. Amine, L. Curtiss, Y. Sun*
16:25 – 538. Building better lithium-sulfur batteries. **N. Ding**, Z. Liu, Y. Zong

Hyatt Regency Waikiki
Mauka Bllrm

Homogeneous Catalysis Methodologies for the Upgrading of Biomass Derived Molecules (#301)

Organized by: J. Gordon, R. Baker, T. Ikariya
Presiding: R. Baker

13:00 – 539. Microbial synthesis of glucaric acid: A case study for the design, assembly, and improvement of a biosynthetic pathway for value-added products. **K.L. Prather**
13:35 – 540. Metabolic engineering of bacteria for production of oleochemicals. **B.F. Pfleger***
14:10 break
14:20 – 541. Regulation of the endogenous xylose utilization pathway by the lysine acetyltransferase NuA4 in *Saccharomyces cerevisiae*. **K. Baetz***
14:45 – 542. Real-time imaging of biomass deconstruction using small-angle neutron scattering. **H. O'Neill**, S. Pingali, p. loukas, V. Urban, B. Evans, P. Langan, J. Smith, Y. Nishiyama, B. Davison
15:10 break
15:20 – 543. Improving cellulase activity for biomass conversion. **S.R. Decker**, L. Taylor II, J.L. Linger, T.A. Vander Wall, J.O. Baker, V. Subramanian, G.T. Beckham, M.E. Himmel
15:45 – 544. Biocatalytic route to commodity chemicals: Creation of a thermostable dehydroshikimate dehydratase. **D.T. Fox***, L. Harrington, G. Canales, K. Hotta, R. Del Sesto, M.T. Janicke, C. Strauss, T. Kern, A. Koppisch*, R. Jha*
16:10 – 545. One-pot synthesis of levulinic acid from cellulose in SO_3H-functionalized ionic liquids. **B. Wang***

Hyatt Regency Waikiki
Elima

Challenges in Second Generation Biofuels: Processing, Stability, and Usage (#378)

Organized by: J. Fu, J. Chen, S. Turn, Z. Tao
Presiding: J. Fu, S.Q. Turn

13:00 Opening Remark
13:05 – 546. Advancements of pennycress as a biofuel and the synthesis of estolides thereof. **S.C. Cermak***, T.A. Isbell, R.L. Evangelista, B. Moser, R.E. Murray
13:40 – 547. High pressure reactors for the conversion of FFAs and lipids to biofuels. **J.A. Hestekin***
14:15 – 548. Practice of the conceptual one-pot processing of pretreatment, saccharification, and ethanol fermentation of lignocellulose. Y. Jung, K. Oh, J. Yoon, **K. Kim***
14:50 Break
15:05 – 549. Assessment of the fast pyrolysis behaviour of tropical biomass species as a function of volatile residence time and temperature. **T.J. Morgan***, S.Q. Turn
15:40 – 550. Measurement of HONO in biodiesel exhausts by surface modified air-dragged aqua-membrane-type denuder (MADAMD) sampling and fluorescence detector. **H.T. Trinh***, N. Takenaka
16:15 – 551. Effects of aromatic type and concentration on hydroprocessed renewable diesel characteristics. **J. Fu**, S.Q. Turn

Thursday Evening

Hyatt Regency Waikiki
Kou Ballrm

Nano Catalysis for Clean Energy and Environmentally Friendly Chemical Production (#81)

Organized by: A. Dalai, N. Abatzoglou, B. Davis, A. Uddin, J. Kozinski, G. Yadav, A. Tavasoli
Presiding: N.C. Anderson, A. Dalai

19:00 Opening Remarks-Nanocatalysis-Structural Study-II
19:02 – 552. Black silicon: Nanostructuring to improve catalyst/semiconductor interfaces for photochemical water splitting. **N.C. Anderson***, N. Neale, J.A. Aguiar
19:22 – 553. Tuning nanocrystals for oxygen reduction. **S. Guo**
19:42 – 554. Zeolites with nanometer diffusion lengths: Mechanistic implications in shape selective catalytic conversion of methanol-to-hydrocarbons. **D.M. Millar**, R. Khare, A. Bahn*
20:02 – 555. $MoM_{metal}O_x$ as a case study in engineering industrially important heterogeneous catalysts at the nanoscale level. **J.W. Kauffman***
20:22 – 556. Double perovskite structure $GaBaCo_{2-x}Fe_xO_{5+\delta}$ nanoparticles synthesised by a biomilling approach: Estimates of diffusivity and electrochemical performance. **M. Haider***, U. Anjum, M. Sardar, N. Khatoon, N. Sinha

*** Principle Author**

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Hawaii Convention Center
Halls I, II, III

Theory and Computation for Efficient Utilization of Energy and Resources (#163)

Organized by: Q. Ge, W. Li, H. Cheng

Poster Session
19:00 – 21:00

557. Multiscale simulation for lithium-ion battery focused on SEI film growth and capacity fade. **C. Shinagawa***, H. Ushiyama, K. Yamashita
558. Density functional theory study on the catalytic activation of carbon dioxide on transition metal surfaces. J. Ko, B. Kim, **J. Han**
559. Screening of ORC working fluids for waste heat recovery in automotive and marine engineering by COSMO*therm* and DetailSimORC. **A. Klamt**, J. Schwöbel, M. Preiβinger
560. Comparative computational study of acetic acid adsorption on three crystalline (anatase, rutile, B) and amorphous surfaces of TiO_2. **S. Manzhos***, G. Giorgi, K. Yamashita
561. Computational studies of electrolyte oxidation to develop high-voltage electrolytes. **D. Kim**, H. Park, J. Seo, I. Park, Y. Kang, J. Park, S. Doo
562. Barrier free conversion of NO gas to ammonia over iron oxide clusters. **K. Takahashi***
563. Theoretical studies on the intercalation mechanism of Li/Na ions in Ti_2C: Anode material for Li/Na ion battery. **S. Kurahashi***, H. Ushiyama, K. Yamashita
564. Ab initio study on the initial steps of the pyrolysis and oxidation of aviation fuels and analogs. **A. Jamal***, K. Morokuma

Hyatt Regency Waikiki
Maloko Bllrm

Current Status and Future Prospect of Polymer Electrolyte Fuel Cells (#188)

Organized by: K. Miyatake, M. Tada, Y. Sung, B. Pivovar, M. Hickner
Presiding: K. Miyatake

19:00 – 565. Low temperature biomass-to-electricity direct fuel cell. **Y. Deng**
19:20 – 566. High efficient biomass-to-hydrogen conversion by polyoxometalate solution catalyzed electrolysis. **Y. Deng***

Hawaii Convention Center
Halls I, II, III

Challenges in Second Generation Biofuels: Processing, Stability, and Usage (#378)

Organized by: J. Fu, J. Chen, S. Turn, Z. Tao
Presiding: J. Fu, S.Q. Turn

Poster Session
19:00 – 21:00

567. Biomass to biofuels: Elements of the Hawaii Natural Energy Institute's alternative fuels research. **S.Q. Turn***, H. Cui, J. Fu, D. Harris, D. Li, T.J. Morgan, A. Mousavi, T. Petrik, W. Piavis, S. Taniguchi, B. Zezulova
568. Advanced bioethanol production with acetic acid fermentation from lignocellulosics. **S. Saka***, H.F. Rabemanolontsoa, E. Minami, H. Kawamoto
569. Advanced bioethanol production with acetic acid fermentation from lignocellulosics:(1) Hot-compressed water treatment of lignocellulosics to decomposed products. **E. Minami***, Y. Osada, S. Saka
570. Advanced bioethanol production with acetic acid fermentation from lignocellulosics:(2) Acetic acid fermentation of decomposed products to acetic acid. **H.F. Rabemanolontsoa***, K. Yoshimizu, P. Jusakulvijit, S. Saka
571. Advanced ethanol production with acetic acid fermentation from lignocellulosics: (3) Hydrogenolysis of acetic acid to ethanol. **H. Kawamoto**, Y. Ito, T. Fujii, S. Saka*
572. Corrosion of 1018 carbon steel in static seawater/diesel (petrol and renewable) mixtures. **J.A. Kealoha***, S. Li, S.P. Donachie, L.H. Hihara
573. Biogas production from the wastewater including acetonitrile. **M. Onodera***, T. Terui, T. Satoh, S. Watanabe, M. Imai, K. Satoh, S. Takesono
574. Renewable diesel production from plant oils by hydrothermal hydrogenation and decarboxylation. **Y. Sugami***, E. Minami, S. Saka
575. Thermo-alkaline lipase from a new thermophile *Geobacillus thermodenitrificans* AV-5 with potential application in biodiesel production. **L. Christopher***, V. Zambare, H. Kumar, L. Malek
576. Advanced bioethanol production from nipa sap via acetic acid fermentation. **D.V. Nguyen***, H.F. Rabemanolontsoa*, S. Saka*
577. Effects of supercritical hexane on the catalytic deoxygenation of oleic acid: Kinetic perspective. **M. Park***, Y. Woo, J. Park, J. Choi, J. Ha, D. Suh
578. Improving oxidation stability of biodiesel by antioxidant derived from spent coffee ground. **M. Todaka**, W. Kowhakul, H. Masamoto, M. Shigematsu*

Friday Morning

Hyatt Regency Waikiki
Ekahi

Theory and Computation for Efficient Utilization of Energy and Resources (#163)

Organized by: Q. Ge, W. Li, H. Cheng
Presiding: Q. Ge, D. Mei

8:00 – 579. Mechanistic insights into selective conversion of biomass-derived intermediates over supported metal catalysts in aqueous media. **M. Neurock***
8:35 – 580. Fundamental insights into aqueous-phase dehydration of cyclohexanol in H-BEA zeolite. **D. Mei**, J.A. Lercher
9:05 – 581. Biomass oxidation: Formyl C–H bond activation by the surface lattice oxygen of regenerative CuO nanoleaves. **Y. Yang**
9:35 – 582. Density functional theory study of hydrodeoxygenation of phenolics over Ru/TiO_2. B. Baek, **L.C. Grabow***
9:55 Break
10:05 – 583. Computational studies of catalytic materials for Li-air batteries. **L.A. Curtiss***, k. Lau, L. Cheng, u. das, C. Liu
10:40 – 584. Computational studies of materials interfaces for optimization of energy storage and conversion devices. **V. Lordi***
11:10 – 585. Understanding electric energy storage by supercapacitors. **D. Jiang***
11:40 – 586. Multiscale simulation based on first-principles and reactive force field for Li-ion batteries. **S. Han***, H. Jung, B. Yeo, K. Yun, M. Lee, K. Lee

Hyatt Regency Waikiki
Maloko Bllrm

Current Status and Future Prospect of Polymer Electrolyte Fuel Cells (#188)

Organized by: K. Miyatake, M. Tada, Y. Sung, B. Pivovar, M. Hickner
Presiding: J. Inukai, M. Tada

8:00 – 587. Reaction distributions inside running PEFCs analyzed by novel experimental techniques and numerical simulations. **J. Inukai***, Y. Nagumo, M. Yoneda, H. Nishide, M. Watanabe
8:40 – 588. In situ XAFS, STEM, and electrochemical studies on degradation processes of Pt-based PEFC cathode catalysts by repeated feed-gas exchange procedures. **G. Samjeské**, K. Higashi, S. Takao, O. Sekizawa, T. Kaneko, S. Nagamatsu, K. Nagasawa, T. Uruga, Y. Iwasawa*
9:00 – 589. 3D imaging of the distribution and local structure of Pt electrocatalyst in PEFC MEA by in situ CT-XAFS. **H. Matsui***, O. Sekizawa, N. Ishiguro, T. Uruga, T. Yokoyama, M. Tada
9:20 – 590. Investigation of PEFC cathode degradation mechanism through in-situ SEM/STEM techniques. **A. Hayashi***, M. Kitamura, Z. Noda, K. Sasaki
9:40 Break
9:50 – 591. Characterizing polymer electrolyte fuel cell materials by soft X-ray scanning transmission X-ray microscopy. **A.P. Hitchcock***, N. Appathurai, V. Berejnov, D. Susac, J. Stumper
10:20 – 592. 3D microstructure of PEFC electrodes: Activity and durability. **K. Artyushkova***, M. Workman, B. Halevi, A. Serov, P. Atanassov
10:40 – 593. Oxygen mass transport at the Pt/ionomer interface: The effect of relative humidity. **D. Novitski***, S. Holdcroft
11:00 – 594. Large scale molecular dynamics simulation of the transport phenomena of materials in polymer electrolyte fuel cell. **T. Tokumasu***
11:30 Closing remark

Hyatt Regency Waikiki
Makai Bllrm

Energy Storage in Chemical Bonds: Advances in Chemistry and Materials for Hydrogen Storage (#216)

Organized by: Z. Huang, P. Chen, T. Autrey, Q. Xu, C. Yoon, C. Jensen
Presiding: Z. Huang, Q. XU

8:00 – 595. Carbon dioxide - formic acid cycle for hydrogen/energy storage and delivery. **G. Laurenczy***
8:30 – 596. CO_2-facilitated hydrogen release from ammonia borane complex. **J.W. Lee***
8:50 – 597. CO_2 mediated chemical hydrogen storage for fuel cell technology. **C. Yoon**, S. Nam
9:10 – 598. Hydrogen production by dehydrogenation of formic acid using homogeneous iridium catalysts. **Y. Himeda***, H. Kawanami, J.T. Muckerman, E. Fujita
9:30 – 599. Continuous high-pressure hydrogen evolution system with formic acid without compressing. **H. Kawanami***, M. Iguchi, Y. Manaka, Y. Himeda
9:50 – 600. Metal nanoparticle-catalyzed hydrogen generation from liquid-phase chemical hydrides. **Q. XU**
10:10 break
10:20 – 601. Mechanistic investigation of metal dodecaborates for energy storage. **H. LI***, L. HE, E. Akiba
10:40 – 602. Developing new complex hydrides for hydrogen storage and related structural studies. **H. Wu***
11:00 – 603. Structural and dynamical trends in alkali-metal silanides characterized by neutron scattering methods. **T.J. Udovic***, W. Tang, J. Chotard, W. Zhou, R. Janot, J.J. Rush, A.V. Skripov
11:20 – 604. High throughput inelastic neutron scattering, from fiction to reality. **A.J. Ramirez-Cuesta**, Y. Cheng, L. Daemen
11:40 – 605. Hydrogen storage materials composed of lithium hydride and conjugated macromolecules. **A. Yoshida***, Y. Mori, S. Naito, W. Ueda

Hyatt Regency Waikiki
Kou Ballrm

New Generation of Electrochemical Energy Storage and Conversion System: Materials, Interface and In-situ Techniques (#250)

Organized by: Y. Yang, S. Meng, A. Yamada, Y. Sun

8:00 – 606. Expanding electrochemical stability window of electrolytes to enable more powerful battery chemistries. **K. Xu***
8:25 – 607. Insight into electrochemical stability of battery electrolytes and transport properties of SEI model compounds from modeling. **O. Borodin**, M. Olguin, C. Spear, K. Leiter, D. Bedrov, J. Knap
8:40 – 608. Investigating 3D structure of the surface film on silicon/lithium metal anode for lithium batteries by scanning force curve method. **J. Zheng***, W. Li, G. Chu, H. Li
8:55 – 609. 4V operating voltage, flexible quasi solid state electrolyte with EMITFSI/cross-linked P_4VPh/aramid composite for supercapacitor. **J. Yoo**, H. Kim, D. You, B. Kim, Y. Ahn, S. Cho, Z. Yin, Y. Kim*
9:10 – 610. Soft X-ray spectroscopy of surfaces and interphases in batteries: Problems and potentials. **W. Yang***
9:35 – 611. Neutron scattering studies of large polyhedral hydro-*closo*-borates of sodium and lithium: Implications of structure and anion reorientational mobility on superionic conduction. **T.J. Udovic***, W. Tang, V. Stavila, N. Verdal, H. Wu, W. Zhou, J.J. Rush, A.V. Skripov
9:50 Break
10:00 – 612. All-solid-state and aqueous Li-ion batteries. **C. Wang***
10:25 – 613. Layered transition metal silicates as sustainable materials for electrochemical energy storage. S. Zhou, B. Lopez-Bermudez, **B.C. Melot**
10:40 – 614. Rational design and synthesis of new battery materials via in-situ studies. **F. Wang***
11:05 – 615. In situ neutron depth profiling for revealing Li-ion battery processes using neutrons. **A. Co***
11:20 – 616. Investigation of discharge products in the Li-S battery using in-situ ^{7}Li NMR coupled with ab initio structure search calculations. **K. See**, M. Leskes, J.M. Griffin, S. Britto, P.D. Matthews, A. Emly, A. Van der Ven, D.S. Wright, A.J. Morris, C.P. Grey, R. Seshadri
11:35 – 617. Degradation mechanism of $LiNi_xCo_yMn_zO_2$ cathodes at high charge-cut-off-voltages in lithium ion batteries. **J. Zheng***, j. xiao, P. Yan, Q. Li, C. Wang, J. Zhang*

Hyatt Regency Waikiki
Elima

Advances in Microwave Green Chemistry (#360)

Organized by: T. Matsumura, S. Yanagida, R. Varma, K. Jin, S. [ohuchi@bio.kyutech.ac.jp]
Presiding: G.B. Dudley, H. Koshima, R.S. Varma, S. Yanagida

8:00 opening Remark
8:05 – 618. Sustainable routes to organics and nanomaterials via microwave-assisted reactions. **R.S. Varma**
8:35 – 619. Microwave effect on enantioselective catalysis. **T. Yamada**
8:55 – 620. Existence of and mechanism for microwave-specific rate enhancement of organic reactions in homogeneous solution. **A.E. Stiegman**, G.B. Dudley
9:15 – 621. Microwave effect on Fischer esterification. **H. Koshima***
9:35 – 622. High-throughput acquisition of reaction progress in a microwave reactor. **D. Yu***, A.F. Jones, C.A. Posadas, G.B. Dudley, J. Hein
9:55 – 623. Selective microwave heating of homogeneous solutions. **G.B. Dudley***
10:15 Break

*** Principle Author**

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10:30 – 624. Microwave thermal effects and molecular modeling. **S. Yanagida***, T. Matsumura
11:00 – 625. Classification and estimation methods of organic reactions under microwave condition. K. Uchihiro, N. Iwahashi, **S. Ohuchi***
11:20 – 626. Development of microwave synthesis of platinum metal complexes. **T. Matsumura***, **Y. Masuda**, **S. Yanagida**, **T. Watanabe**, **T. Mitani**
11:40 poster review

Hyatt Regency Waikiki
Mauka Bllrm

Global Strategies for Algal Biomass for Bioenergy and Biorefinery (#407)

Organized by: A. Kondo, J. Yang, Y. Yoshikuni
Presiding: A. Kondo

8:00 Opening remark
8:05 – 627. Some recent approaches to produce bioenergy using cyanobacteria in Japan. **M. Ohmori***
8:45 – 628. Creation of heat and acid tolerant algae toward high biomass production. **S. Miyagishima***
9:05 – 629. Enhanced lipid production in the oleaginous diatom *Fistulifera solaris* by metabolic engineering. **T. Tanaka***, K. Osada, C. Takahashi, M. Muto, Y. Maeda, T. Yoshino
9:25 – 630. Potential of piggery wastewater for mixotrophical cultivation of *S. quadricauda*. **W. Choi**, H. Kim, A. Chae, H. Seo, J. Park, K. Song*
9:45 Break
10:00 – 631. Laminarin hydrolysis by glycoside hydrolase family 55. T.E. Takasuka, C.M. Bianchetti, K. Deng, E.T. Beebe, L.F. Bergeman, S. Singh, S. Deutsch, P. Adams, B. Simmons*, T.R. Northen*, **B.G. Fox***
10:20 – 632. In situ transesterification of wet microalgae under homogeneous acid catalysts. **J.W. Lee**
10:40 – 633. Development of novel sensor functioning in *Synechocystis* cells using *Arabidopsis* ethylene sensor. M. Kawaguchi, Y. SHIRAIWA, **I. Suzuki***
11:00 – 634. Inhibiting growth of contaminated phycophagic protists in algal cultures by controlling the phototoxicity of chlorophylls. **Y. Kashiyama***, J. Kawahara, M. Nakazawa, T. Ishikawa, T. Tanaka, T. Yoshino, H. Tamiaki

Friday Afternoon

Hyatt Regency Waikiki
Ekahi

Nanostructured Oxides for Energy Harvesting and Water Splitting (#171)

Organized by: F. Rosei, Z. Wang, E. Diau, A. Vomiero, X. Sun

13:00 – 635. Morphology control and stability of methylammonium lead iodide solar cells. **U. Bach**
13:30 – 636. Semiconducting quantum dots and metallic nanoparticles sensitized ZnO and Si nanowires-array photoelectrodes for water splitting. **R. Liu**, S. Hu
14:00 – 637. General formation of complex tubular nanostructures of metal oxides and their applications energy storage and conversion. **G. Zhang**
14:15 – 638. Engineering complex, layered metal oxides: High performance nickelate nanostructures for oxygen exchange and reduction. **E. Nikolla**
14:30 coffee break
15:00 – 639. Electrodes for photoelectrochemical cells: Design of semiconductor nano-architectures for structure-driven functional performances. **I. Concina***, R. Milan, G.S. Selopal, G. Sberveglieri
15:30 – 640. Metallic nanoparticles-doped peptide systems: Morphological and luminescent properties. **T.D. Martins***, D.L. Dias, A.C. Ribeiro, H.S. Camargo
16:00 – 641. Solution processed organic/inorganic photovoltaics. **C. Luscombe***
16:30 – 642. Nanoscale (111) faceted rock-salt metal oxides. **R.M. Richards**, G. Leong, C. Cadigan, F. Lin
16:45 – 643. Noble metals containing polyoxoniobates. **P.A. Abramov**, M.N. Sokolov

Hyatt Regency Waikiki
Makai Bllrm

Energy Storage in Chemical Bonds: Advances in Chemistry and Materials for Hydrogen Storage (#216)

Organized by: Z. Huang, P. Chen, T. Autrey, Q. Xu, C. Yoon, C. Jensen
Presiding: B. David, N.T. Stetson

13:00 – 644. Hydrogen storage in nanomaterials. **H. Kitagawa***
13:30 – 645. Novel platinum-based catalyst for methylcyclohexane dehydrogenation in hydrogen storage and utilization technology. **Y. Hisamatsu**, K. Yamamoto, K. Tanaka, Y. Bandai, Y. Kohno, R. Watanabe, C. Fukuhara
13:45 – 646. Recent progress in hydrogen storage on MOFs. **M. Hirscher***
14:05 – 647. Metal-organic framework based materials for clean hydrogen energy utilization. **R. Zou***
14:25 – 648. Advances in hydrogen sorption: Sorbent and hybrid sorbent-hydride, characterization, and validation. P.A. Parilla, k.E. hurst, M. Olsen, J. blackburn, **T. Gennett***
14:45 – 649. Molecular hydrogen storage in filled ice structures. **L. Hakim***, S. Ulfa, M. Matsumoto, K. Koga, H. Tanaka
15:00 break
15:05 – 650. Clusters and hydrogen storage: Convergence of two parallel fields. **P. Jena***
15:25 – 651. Clathrate hydrates as materails for hydrogen storage applications: Theoretical aspects. **R. Belosludov***
15:45 – 652. Bis-BN cyclohexane: A remarkably kinetically stable chemical hydrogen storage material. **S. Liu***
16:05 – 653. Synthesis of new B_3H_8 compounds for hydrogen storage. **Z. Huang**
16:20 – 654. Hydrazine borane $N_2H_4BH_3$ and alkali hydrazinidoborane derivatives $MN_2H_4BH_3$ (M = Li, Na and K) as chemical hydrogen storage materials. **U.B. DEMIRCI**

Hyatt Regency Waikiki
Kou Ballrm

New Generation of Electrochemical Energy Storage and Conversion System: Materials, Interface and In-situ Techniques (#250)

Organized by: Y. Yang, S. Meng, A. Yamada, Y. Sun

13:00 – 655. Engendering anion resistance and its implication in electrocatalysis of energy conversion, storage, and efficiency. **S. Mukerjee***, K. Strickland, U. Tylus
13:25 – 656. Does it have to be carbon? Metal anodes in microbial fuel cells and related bioelectrochemical systems. **I. Schmidt**, A. Baudler, M. Langner, A. Greiner, U. Schröder*
13:40 – 657. Development of functional nanographenes toward next generation fuel cells and lithium ion batteries. **H. Wang***, H. Yen, G. Wu, M. Zhou
13:55 – 658. Transition-metal oxides efficient bifunctional catalysts for high performance rechargeable zinc-air batteries. **Z. Liu***
14:10 – 659. Bioinspired electroactive organic molecules for aqueous redox flow batteries. **J. Schrier***
14:25 – 660. Enhancing grain boundary ionic conductivity in ceramic composites for energy conversion and storage. Y. Lin, S. Fang, D. Su, **K.S. Brinkman**, F. Chen
14:40 Break
14:50 – 661. Interaction of polysulfide with nano-structured metal oxides. **V. Murugesan***, A. Dissanayake, C. Szymanski, M. Nandasiri, p. Bhattacharya
15:05 – 662. Structure and chemical state of electrochemically Li inserted Si(111) studied by scanning electron microscopy and soft X-ray emission spectroscopy. **N. Aoki**, T. Kondo*, K. Uosaki*
15:20 – 663. New conversion-type cathode, nano-sized copper phosphate for rechargeable Li batteries. **Y. Yang**, G. Zhong, J. Bai, P. Duchesne, M. Matt, Q. Li, X. Hou, J. Tang, Y. Wang, Z. Gong, P. Zhang, R. Fu
15:35 – 664. Pyrites for conversion batteries: The effects of cation chemistry on electrochemical performance. **M.M. Butala***, M.A. Lumley, H.A. Evans, R. Seshadri
15:50 – 665. Conversion mechanism of metal oxalate as anode for lithium ion batteries. **H. Oh**, S. Myung
16:05 – 666. Surface coating of electrode/electrode materials for improved electrochemical performance. J. Xue, X. Dai, Y. Wang, L. Wang, A. Zhou, **J. Li***
16:20 – 667. Computer-aided electrolyte development for magnesium ion batteries. **D. Kim***, B. Roy, Y. Lim, Y. Ryu, S. Lee, S. Doo

Hyatt Regency Waikiki
Maloko Bllrm

Nanoporous Materials for Renewable Energy and Sustainability (#266)

Organized by: T. Okubo, S. Qiu, K. Yoon, R. Lobo
Presiding: R.F. Lobo, T. Okubo

13:00 Opening Remarks
13:05 – 668. Layered zeolites: A platform for designing efficeint heterogeneous catalysts. **P. Wu***
13:35 – 669. 2D delaminated zeolites as robust and selective catalysts for the sustainable production of industrial chemicals. **A. Okrut**, X. Ouyang, R.C. Runnebaum, S.I. Zones, A. Katz
13:55 – 670. Mixed-solvent approach to delaminate layered zeolite precursors. **I. Ogino***, T. Shirobe, S.R. Mukai
14:15 – 671. Nanosized zeolites: Trends in synthesis and applications. **S. Mintova***, A. Khartchenko , H. Awala , V. Valtchev
14:35 – 672. Big or small ZSM-5-crystals: Does size really matter?. **P. Losch***
14:55 Coffee Break
15:10 – 673. 3D study of precursor gel morphology and kinetics of EMT zeolite nucleation. G. Melinte, O. Ersen, S. Qiu, S. Mintova, **V. Valtchev**
15:40 – 674. Enhanced thermal stability and high catalytic performance of selective catalytic reduction of NO_x with NH_3 of high-silica and P-modified AEI zeolites derived from hydrothermal conversion of FAU zeolite in alkylphosphonium hydroxide media. **N. Tsunoji**, T. Sonoda, T. Maruo, Y. Yamasaki, Y. Takamitsu, M. Sadakane, T. Sano*
16:00 – 675. Ultrafast and continuous flow synthesis of high silica zeolite SSZ-13 for NO_x removal. Z. Liu, **T. Wakihara**, k. Oshima, D. Nishioka, E. Shanmugam P, T. Matsuo, T. Takewaki, T. Okubo*
16:20 – 676. Crystalline silica-based material assembled from cage siloxanes modified with silanol groups. N. Sato, Y. Kuroda, H. Wada, K. Kuroda, **A. Shimojima***
16:40 – 677. Mechanism of adsorption-driven structural transition of stack-layer MOFs. **M.T. Miyahara***, S. Hiraide, H. Tanaka

Hyatt Regency Waikiki
Elima

Advances in Microwave Green Chemistry (#360)

Organized by: T. Matsumura, S. Yanagida, R. Varma, K. Jin, S. [ohuchi@bio.kyutech.ac.jp]
Presiding: J. Azuma, H. Shimizu, S. Tsubaki, T. Watanabe

13:00 – 678. Innovative microwave technology for refinery of recalcitrant biomass. **J. Azuma***
13:30 – 679. Application of microwave technology to extraction of essential oils from natural plant products of Afghanistan. N. Faqeryar*, **Y. Mori**, T. Matsumura
13:50 – 680. Application of microwave chemistry for omics analysis. **A. Shiraishi**, T. Yoshimura, S. Ohuchi*
14:05 – 681. Study of molecular efficiency by microwaves in enzymatic reactions: Proposition to define the terms "microwave character" and "microwave effect". **H. Shimizu***, I. Nagashima, J. Sugiyama
14:25 – 682. Application of microwave induced reaction on biomass conversion. **S. Tsubaki***, M. Hiraoka, A. Onda, T. Ueda
14:45 Break
15:05 – 683. Biorefinery study to utilize whole cell wall components for 2nd generation bioethanol and chemicals using microwave processing. **T. Watanabe***
15:35 – 684. Microwave heating mechanism of MBBA in liquid crystalline and isotropic phases as studied by microwave irradiation NMR spectroscopy. **A. Naito***, Y. Tasei, F. Tanigawa, I. Kawamura, T. Fujito, M. Sato
15:55 – 685. Fundamental study of a microwave irradiation structure using transparent post-wall waveguide. **M. Kishihara***, Y. Minamiyama, A. Yamaguchi, Y. Utsumi
16:15 – 686. Electron spin resonance (ESR) spectroscopy as a microwave spectroscopy of free radicals in radical polymerizations. **A. Kajiwara***
16:35 – 687. Incorporation of electrons in $12CaO{\bullet}7Al_2O_3$ ceramics by microwave synthesis in nitrogen gas. **H. Visbal***, T. Matsumura, T. Mitani, A. Kajiwara, M. Kishi, K. Hirao
16:50 poster review

Hyatt Regency Waikiki
Mauka Bllrm

Global Strategies for Algal Biomass for Bioenergy and Biorefinery (#407)

Organized by: A. Kondo, J. Yang, Y. Yoshikuni
Presiding: T. Tanaka

13:00 – 688. Project Green-Eagle: A new biojet fuels initiative in Korea. **M.S. Park**
13:40 – 689. Isopropanol production by metabolically engineered cyanobacteria using a photobioreactor with LED irradiation. **J. Horiuchi***, Y. Kumada, M. Konishi, T. Hanai, Y. Hirokawa, A. Murakami
14:00 – 690. Dynamic metabolic profiling of the marine microalga *Chlamydomonas* sp. JSC4 and enhancing its oil production. **T. Hasunuma**, A. Kondo
14:20 – 691. Pyrolysis experiment of lipids in haptophyte algae: Research for biofuel generation. **K. Sawada***, R. Abe, H. Nakamura, H. Araie, I. Suzuki, Y. SHIRAIWA
14:40 Break
14:55 – 692. Engineered microbial platforms for biofuel and renewable chemical production from brown seaweed. **Y. Yoshikuni***
15:35 – 693. Rapid and efficient galactose fermentation by an engineered and evolved *Saccharomyces cerevisiae*. J. Quarterman, **Y. Jin***

*** Principle Author**

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16:15 – 694. Analysis of macroalgae biomass found around Hawaii for bioethanol production. **B. Yoza**, E. Masutani, S. Masutani

16:35 – 695. Cost-effective harvesting of microalgae from water using polyaluminum chloride coagulant prepared by fresh aluminum hydroxide gels. **X. Tang***, H. Zheng*, C. Zhao*

Friday Evening

Hyatt Regency Waikiki
Kou Ballrm

Nano Catalysis for Clean Energy and Environmentally Friendly Chemical Production (#81)

Organized by: A. Dalai, N. Abatzoglou, B. Davis, A. Uddin, J. Kozinski, G. Yadav, A. Tavasoli
Presiding: S.P. Chaurasia, J.A. Kozinski, R. Sammynaiken

19:00 Opening Remarks-Nanocatalysis for Chemical Production -I

19:02 – 696. Toward a self lighting material for germicidal UV treatment of water. **R. Sammynaiken***

19:22 – 697. Cascade engineered synthesis of γ-valerolactone, 1,4-pentanediol and 2-methyltetrahydrofuran from levulinic acid using novel Pd-Cu/ZrO_2 catalyst in water as solvent. **S. Patankar***, G. Yadav

19:42 – 698. Supercritical water gasification of agricultural and forestry biomass impregnated with nickel nanocatalyst. **S. Nanda***, S.N. Reddy, A. Dalai, J.A. Kozinski*

20:02 – 699. Dehydration of gases in a pressure swing adsorption process using canola meal bioadsorbent. **R. Dhabhai**, C. Niu*, A. Dalai

20:22 – 700. Catalytic performance of La-Ni/Al_2O_3 catalyst for CO_2 reforming of ethanol. **D.N. Vo***, M.B. Bahari

20:40 – 701. Lipase catalyzed esterification of docosahexaenoic acid with lauryl alcohol using immobilized *Pseudomonas cepacia* and *Thermomyces lanuginosus*. **S.P. Chaurasia**, A. Sharma*, A. Dalai

Hawaii Convention Center
Halls I, II, III

Nanostructured Oxides for Energy Harvesting and Water Splitting (#171)

Organized by: F. Rosei, Z. Wang, E. Diau, A. Vomiero, X. Sun

Poster Session
19:00 – 21:00

702. Vertically-aligned Cu_2ZnSnS_4 nanorod arrays for photoelectrochemical water splitting. **J. Kim**, W. Yang, J. Moon

703. N-doped graphene quantum sheets on silicon nanowire photocathodes for hydrogen production. U. Sim*, J. Moon*, **D. Kim**, J. An, J. Kang, K. Nam, B. Hong

704. Low temperature hydrogen production by two-step water decomposition utilizing metal oxides. **M. Okano**, N. Itoh*, T. Sato

Hawaii Convention Center
Halls I, II, III

Energy Storage in Chemical Bonds: Advances in Chemistry and Materials for Hydrogen Storage (#216)

Organized by: Z. Huang, P. Chen, T. Autrey, Q. Xu, C. Yoon, C. Jensen

Poster Session
19:00 – 21:00

705. Ammonia as a potential chemical hydrogen storage material: Fundamentals and applications. **M. Jeon***, S. Nam, J. Han, C. Yoon

706. Photochemical hydrogen evolution mediated by iron(II) complex with orthophenylenediamine. **T. Matsumoto**, H. Chang*

707. Formic acid dehydrogenation using metal nanoparticle catalysts. **N. Tsumori***, M. YADAV, Q. ZHU, Q. XU

708. Structures formed by para- and ortho-H_2 on MgO(100). **D.B. Jack***, A. Sadeghifar

709. Hydrogen sorption by transition metal modified B-N materials. **Y. Yasuzawa**, Y. WATANUKI, N. Nishimiya*, T. Toyama, Y. Kojima

710. Study on higher order structure change of NBR rubber with different acrylonitrile contents at high-pressure hydrogen exposure by FTIR spectroscopy. Y. Itoh*, **R. Naganuma**, T. Kawai, H. Fujiwara, S. Nishimura

711. Study on the effect of high pressure hydrogen on the higher order structures of NBR rubber materials cross-linked by sulfur and peroxide by using FT-IR spectroscopy. Y. Itoh*, **K. Okano**, T. Kawai, H. Fujiwara, S. Nishimura

712. Syntheses, structures, and properties of alkali and alkaline earth metal complexes with *o*-phenylenediamine. **J. Ishii**, M. Wakizaka, T. Matsumoto, H. Chang

713. Synthesis of nickel-loaded catalysts from various nickel precursors and investigations on their catalytic activities. **T. Nakaue**, T. Kamegawa*

714. Development of bimetallic Fe-Ni NPs supported on CeO_2 for hydrogen production from chemical hydrogen storage materials. **T. Taga**, K. Mori, H. Yamashita*

715. Theoretical and experimental evidence of graphene supported metal clusters as a potential hydrogen storage material. **K. Takahashi***, Y. Wang, S. Isobe, S. Ohnuki

716. Quantum nature of H_2 in microporous storage materials. **J. D'Arcy***, L. Lindoy, S. Kolmann, M. Jordan

717. Metal hydride based thermal energy storage systems for high performance concentrating solar power plants. **C. Corgnale**, B. Hardy, R. Zidan, T. Motyka, J.A. Teprovich, P.A. Ward, B. Peters

718. Novel nanoconfinement approach of metal hydrides for hydrogen storage applications. **M. Sofianos**, D. Sheppard, D. Silvester, T. Jensen, C. Buckley*

719. On the hydrogenation kinetics of N-ethylindole over a supported Ru catalyst. **Y. Dong**, M. Yang, Z. Yang, H. Cheng *

720. Phase transitions of tetra-*n*-butylammonium bromide hydrate enclosing gas molecules. **Y. Jin***, M. Kida, J. Nagao

721. Pincer catalysts for the reversible dehydrogenation of liquid organic hydrogen carriers. **H.T. Sartain***

722. Proton-coupled redox processes of tris-*o*-benzoquinodiimine Fe(II) complex. **R. Yamamoto**, M. Wakizaka, T. Matsumoto, H. Chang*

723. Recent developments in hydrogen storage materials using carbon nanomaterials. **P.A. Ward***, J.A. Teprovich, R.N. Compton, V. Schwartz, G. Veith, R. Zidan

724. Homo- and hetero-geneous iridium catalysts and their applications in CO_2 hydrogenation. **S. Yoon***, K. Park, G. Hariyanandam

725. Hydrogen sorption and desorption behaviors of metal-carbon composites prepared by various synthesis methods. **T. Kaneko**, Y. WATANUKI, T. Toyama, Y. Kojima, N. Nishimiya*

726. Science and technology of hydrogen in energy storage and conversion devices. **J.A. Teprovich**, P.A. Ward, A. Washington, H. Colon-Mercado, s. greenway, P. Jena, R. Zidan

727. Hydrogen sorption by transition metal modified CN compound. **K. Yokochi**, Y. WATANUKI, T. Toyama, Y. Kojima, N. Nishimiya*

728. Investigation of hydrogen storage and release mechanisms on lithium hydride-polyaniline composite. **S. Tsurumi**, M. Mizoguchi, A. Yoshida*, W. Ueda

729. Investigation of Pd nanoparticles supported on zeolites for hydrogen production from formic acid dehydrogenation reaction. **M. Navlani-Garcia**, M. MARTIS, D. Lozano-Castelló, D. Cazorla-Amorós, Y. Kuwahara, K. Mori, H. Yamashita*

730. Lowering of hydrogen desorption temperatures and reduction of cost of ZrVFe alloys for practical applications. **Y. WATANUKI**, T. Toyama, Y. Kojima, N. Nishimiya

731. Low temperature decomposition of ammonia as a hydrogen carrier. **A. Oshima**, T. Nakayama, T. Sato, N. Itoh*

732. Low-temperature decomposition using a tube-wall and membrane reactor for hydrogen production from ammonia as hydrogen carrier. **Y. Kikuchi**, T. Sato, N. Itoh*

733. Main-group metal catalysed dehydrocoupling of amine-boranes. **H.R. Simmonds**, R.J. Less, D.S. Wright*

734. Fluorine-substituted metal hydrides for thermal energy applications. **T. Humphries**, D. Sheppard, M. Rowles, V. Sofianos, C. Buckley

735. Correlation between stability and mobility of hydrogen occluded in hydrogen storage alloys. **S. Hasegawa**, Y. WATANUKI, T. Toyama, Y. Kojima, N. Nishimiya*

736. Design of plasmonic Pd/Ag catalyst for efficient hydrogen production from ammonia borane. **P. Verma**, M. Wen, K. Fuku, Y. Kuwahara, K. Mori, H. Yamashita*

737. Electrochemical synthesis of ammonia from water and nitrogen for carbon-free renewable energy carrier. **H. Yoon***, J. Kim, C. Yoo, S. Han

738. Dehydrocoupling reactions of main group elements using aluminium based catalysts. **L.K. Allen**, R. García-Rodríguez , D.S. Wright*

739. Toward the synthesis of magnesium boranates. **P. Nguyen**, E. Sadeghmoghaddam, M. Chong, J. Yang, C.M. Jensen*

740. Exploring high hydrogen storage performances of lithium alanate by adding different nitrides. **Y. Wang**, L. Li, Y. Wang, L. Jiao, H. Yuan

741. Formic acid dehydrogenation over Pd/$(Ce_xM_yO_{2-d})C_3N_4$: Influence of added $Ce_xM_yO_{2-d}$ (M=Cu, Pr, Sm, and Gd) promoter on catalytic activity. **M. Ridwan**, R. Tamarany, J. Lee, S. Nam, J. Han, C. Yoon

Hawaii Convention Center
Halls I, II, III

Nanoporous Materials for Renewable Energy and Sustainability (#266)

Organized by: T. Okubo, S. Qiu, K. Yoon, R. Lobo
Presiding: R.F. Lobo, T. Okubo, S. Qiu, K. Yoon

Poster Session
19:00 – 21:00

742. Ammonia decomposition assisted by membrane reactor: Comparison between silica membrane and palladium membrane. **S. Uemiya***, Y. Makino, R. Hayakawa, M. Miyamoto, Y. Oumi

743. Gradual wet-etching of a 3D cubic mesoporous silica thin film. **M. Kobayashi**, K. Susuki, Y. Kuroda, H. Wada, A. Shimojima, K. Kuroda

744. Zeolite capsule catalyst for one-step middle isoparaffin synthesis via Fischer Tropsch synthesis: Growth of H-MOR shell encapsulating fused iron core. **G. Yang***, Q. Lin, Y. Yoneyama, H. Wan, N. Tsubaki*

745. Influence of Si distribution in framework of SAPO-34 membranes on vapor permeation performance in acetic acid dehydration. **A.M. Ataher***, M. Matsukata*, M. Seshimo, s. ishiguro

746. Ethanol direct synthesis from dimethyl ether and syngas on the combination of noble metal impregnated zeolite with Cu/ZnO catalyst. **Q. Wei**, P. Lu, G. Yang, Y. Yoneyama, N. Tsubaki*

747. Synthesis of $AlPO_4$-34 membranes and its water/acetic acid separation performances. **M. Seshimo**, s. ishiguro, A. Ahmed, M. Matsukata

748. Ni-based bimodal pore catalysts modified by nanoparticles for enhanced CO_2 methanation. **P. Zhu**, Q. Chen, G. Yang, Y. Yoneyama, N. Tsubaki*

749. Water oxidation on mesoporous Ta_3N_5 photocatalysts under visible light. **L. GUO***

750. Polymer sol-gel composite inverse opal catalyst support. **X. Zhang**, G. Blanchard

751. Facile synthesis of yolk-shell photocatalyst encapsulating titania within a hollow silica sphere and assessment of its photocatalytic activity. **Y. Sumida**, Y. Kuwahara, H. Yamashita*

752. Dehydration of sorbitol to isosorbide in water over high-silica zeolites. **R. Otomo**, J.N. Kondo, T. Tatsumi, T. Yokoi*

753. Oxidation of benzene over iron-bipyridine complexes encapsulated in metal cation-exchanged zeolite. **Y. Miyake**, K. Takiguchi, S. Yamaguchi, H. Yahiro

754. Catalytic activity of copper(II)-terpy complexes encapsulated into Y-type zeolite. **S. Yamaguchi***, A. Suzuki, H. Yahiro

755. Implementing Indonesian natural resources for synthesizing hierarchically porous ZSM-5 at low temperature. **G.T. Kadja**, V. Fabiani, **R.R. Mukti**

756. Catalytic conversion of guaiacol over Pt loaded nanoporous materials. **Y. Park**, H. Kim, J. Jeon

757. Novel synthesis of *PAN/PVDF composites* based microporous carbons by steam activation for enhancing CO_2 capture and CO_2/N_2 separation. **Y. Heo**, M. Lee, H. Yang, Y. Choi, S. Lee, D. Jeon, T. Kim, Y. Han, S. Park*

758. Selective synthesis of light olefins from methanol over nano-sized MFI aluminoferrosilicate. **T. taniguchi**, Y. Nakasaka, T. Tago, T. Masuda

759. Synthesis of zeolite RHO membrane. M. Sakai, **M. Tanji**, M. Matsukata*

760. Novel metallosilicate Beta zeolite: Synthesis, characterization, and catalytic application of W-containing Beta zeolite. **R. Kosugi**, R. Otomo, M. Yoshioka, J.N. Kondo, T. Yokoi*

761. Construction of nanoporous poly(organosiloxane) networks from various siloxane-based building units. **S. Seo**, W. Chaikittisilp, T. Okubo

762. Accurate measurement of solid acidity by automatic IRMS-TPD analyzer. **S. Suganuma***, Y. Murakami, K. Kanai, N. Katada

763. Synthesis of highly crystalline AFX-type zeolite by using bulky and rigid diquat molecules as a structure-directing agent. **N. Nakazawa**, S. Inagaki, Y. Kubota*

764. Nanoporous hematite structures for efficient water splitting. **J. Jang***, H. Ahn, A. Ramadoss, S. Ryu*

765. Ionic conductivity of nanocomposites formed with mesoporous metal oxides and $LiClO_4$. **S. Matsushita***, H. Kai, Y. Tsushio, K. Inumaru*

766. Fabrication and morphology control of thin films of conjugated nanoporous polymers. **T. Umeda***, W. Chaikittisilp, T. Okubo

767. Fabricating novel MgO-based adsorbent for CO_2 capture at elevated temperature. **Y. Li**, M. Wan, Y. Wang, J. Zhu*

768. Effect of boron content in the CON-type aluminosilicate zeolite on the activity in the MTO reaction. **M. Yoshioka**, T. Yokoi*, T. Tatsumi

*** Principle Author**

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769. Selective oxidation of bulky sulfides to sulfoxides over Ti-containing mesoporous silica nanospheres. **Y. Wang**, R. Otomo, J.N. Kondo, Y. Kon, T. Yokoi*
770. Immobilization of Ru complexes on organic ligands in periodic mesoporous organosilicas and catalytic application for selective oxidation of alkane. **N. Ishito**, K. Hara*, Y. Maegawa, S. Inagaki, A. Fukuoka
771. Chemical vapor deposition of silica on pelletized HZSM-5 for shape-selective disproportionation of toluene into benzene and *para*-xylene. **D. Mitsuyoshi**, S. Suganuma*, N. Katada, Y. Araki
772. Selective dealkylation of alkyl naphthalene on silica monolayer catalysis. **Y. Kawaguchi**, S. Suganuma*, N. Katada
773. Enhancement of catalytic activity for disproportionation of toluene by loading Ni on ZSM-5. **A. Okuda**, S. Suganuma*, N. Katada
774. Preparation of transition metal oxides in forms of thin-film on SBA-15. **A. Tsujii**, T. Yokoi, J.N. Kondo*
775. Novel route for the synthesis of nitrogen doped hollow carbon spheres. **Y. Wang**, **H. Zou**, **R. Wang***, **Z. Zhang**, **S. Qiu***
776. Comparative study of nano-sized and hierarchical micron-sized SAPO-34. **X. Chen**, J. Gilson, V. Valtchev
777. One-pot synthesis of hollow organosilica nanoparticles with tunable interior void size and exterior shell thickness using silica nanosheres as templates. **N. Koike**, Y. Fukada, S. Seo, W. Chaikittisilp, A. Shimojima, T. Okubo*
778. Photo-assisted decomposition of Ru nanoparticles on the fullerenes-introduced mesoporous silica and its catalytic application. **K. Nakatsuka**, Y. Kuwahara, K. Mori, H. Yamashita*
779. Mechanochemical effect for hydrothermal synthesis of Sn substituted MFI-type silicates. **M. Sakaguchi**, H. Kobayashi, M. Nakaya, A. Muramatsu*
780. Exploration of the effect of titania and zirconia based catalyst for catalytic cracking reaction of heavy oil. **H. Kondoh***, K. Tanaka, N. Hasegawa, Y. Nakasaka, T. Tago, T. Masuda
781. Low temperature oxidation of ethylene over Pt nanoparticles in mesoporous silica. **T. Yokoya**, K. Hara, S. Ahmed, A. Fukuoka*
782. Alternative method for preparing heteroatom-rich zeolites: Utilization of composites prepared through mechanochemical treatment for the crystallization. **T. Iida**, T. Okubo, T. Wakihara*
783. $Co(OH)_2$ nanosheets coupled with carbon nanotube arrays grown on Ni mesh for high-rate asymmetric supercapacitors with ideal capacitive behavior. T. Peng, H. Wang, **X. Wang***
784. Thin layer of cerium oxide coated on SBA-15 mesoporous silica. **J.N. Kondo**, A. Ishikawa, T. Yokoi
785. High oxidation activity of Ti-incorporated silica catalysts derived by grafting of titanium(IV) acetylacetonate. N. Tsunoji*, **Y. Yagenji**, M. Fukuda, Y. Ide, M. Sadakane, T. Sano*
786. Redox active metal-organic frameworks (MOFs) as high performance cathode active materials for lithium batteries. **Z. Zhang***, H. Yoshikawa, K. Awaga
787. Adsorption removal of small amount of ammonia contained in ammonia decomposed gas for HFCV. **A. Ojima**, T. Sato, N. Itoh*
788. Effect of addition of alcohols into the synthesis gel for ZSM-5 on the structural and catalytic properties. **T. Biligetu**, R. Otomo, J.N. Kondo, T. Yokoi

Hawaii Convention Center
Halls I, II, III

Advances in Microwave Green Chemistry (#360)

Organized by: T. Matsumura, S. Yanagida, R. Varma, K. Jin, S. [ohuchi@bio.kyutech.ac.jp]
Presiding: J. Fukushima, Y. Mori, S. Ohuchi

Poster Session
19:00 – 21:00

789. Application of circularly polarized microwave to asymmetric synthesis. **K. Imaeda***, K. OHTAKE, T. YAMADA
790. Vilsmeier formylation of aromatic compounds by using microwaves. **T. SUZUKI***, K. TANEMURA
791. Characteristics of the microwave induced flames on the stability and emissions. **E. Lee***, Y. Jeon
792. Microwave irradiation effects for Finkelstein reactions of ferrocene derivatives. **Y. Makabe***, Y. Okada
793. Microwave irradiation effects for esterification reactions of ferrocene. **M. Tachi***, Y. Okada
794. Analysis of microwave heating processes of 1-(4'-cyanophenyl)-4-propylcyclohexane by *in situ* microwave irradiation NMR spectroscopy. T. Yamakami, I. Kawamura, T. Fujito, K. Ushida, M. Sato, A. Naito, **Y. Tasei***
795. Molecular mechanism of separation process on microwave assisted extraction and distillation. **M. Abe**, A. Watanabe, N. Iwahashi, S. Ohuchi*
796. Study on resistance of thermophilus under microwave irradiation. **S. Yoshimoto**, R. Nakama, S. Ohuchi*, K. Minekishi
797. Application of microwave heating for fermentation technology. **W. Nagayoshi**, R. Nakama, S. Nakayama, A. Shiraishi, N. Iwahashi, S. Ohuchi*
798. Study of microwave output dependence on enzymatic reaction under microwave irradiation. **F. Aoki**, K. Haraguchi, A. Shiraishi, S. Ohuchi*
799. Optimal microwave output in microbial cultivation. **R. Nakama**, W. Nagayoshi, **A. Shiraishi**, T. Yoshimura, T. Kodama, S. Ohuchi*

Saturday Morning

Hyatt Regency Waikiki
Kou Ballrm

Integrated Biomass Refinery by Precisely Designed Heterogeneous Catalysts (#54)

Organized by: A. Fukuoka, A. Katz, H. Liu
Presiding: A. Fukuoka, A. Katz

8:00 – 800. Pyrolysis oil model compound deoxygenation on molybdenum-modified platinum surfaces and supported catalysts. **A. Robinson**, J. Hensley, J. Medlin*
8:15 – 801. Development of metal carbide and nitride nano-catalysts for bio-oil upgrading. **D.A. Ruddy**, F. Baddour, C. Nash, M. Griffin, J. Hensley, J. Schaidle
8:30 – 802. Support and promoter effects on hydrocarbon production from bio-oil upgrading over Pt-based catalysts. Z. He, M. Hu, **X. Wang***
8:45 – 803. Hydrodeoxygenation of guaiacol over silica-supported copper phosphide catalysts. **P. Khemthong***, C. Geantet, P. Afanasiev, E. Puzenat, N. Viriya-empikul, K. Faungnawakij
9:00 – 804. Kinetic and spectroscopic studies of catalytic mechanisms: Hydrodeoxygenation of biomass feedstocks on transition metal phosphides. **T. Oyama**, A. Iino, A. Cho, P. Bui, K. Bando, A. Takagaki, R. Kikuchi
9:40 – 805. Synthesis of jet fuel range cycloalkanes with cyclopentanone and butanal derived from lignocellulose. **N. Li**, J. Yang, Y. Cong, A. Wang, X. Wang, T. Zhang*
9:55 – 806. Catalyst and process development for hydrotreating of biomass pyrolysis oil. **H. Wang***, S. Lee, D. Anderson, R. Taha, Z. Abdullah
10:10 – 807. Biomass-derived saturated and unsaturated lactones: Mechanistic insights on ring-opening, integrated fermentation, and catalytic processing. **M. Haider**, S. Gupta, N. Sinha, R. Arora, I. Alam
10:25 – 808. Integrated refinery of renewable feedstocks by multitasking heterogeneous catalysts. K. Kandel, **I.I. Slowing***
10:45 – 809. Plug flow continuous reactor system for rapid conversion of cellulose to glucose using oxygenated carbon catalyst. **A. Shrotri**, H. Kobayashi, A. Fukuoka*
11:00 – 810. Bimetallic catalysts and solvent effects in catalytic conversion of biomass to fuels and chemicals. **J.A. Dumesic***

Hyatt Regency Waikiki
Ekahi

Nanostructured Oxides for Energy Harvesting and Water Splitting (#171)

Organized by: F. Rosei, Z. Wang, E. Diau, A. Vomiero, X. Sun

8:00 – 811. Semiconducting nanostructured metal oxide thin films for high-performance perovskite solar cells. **W. Wu**, F. Huang, D. Chen, Y. Cheng, R.A. Caruso*
8:20 – 812. Oxide materials for dye-sensitized and perovskite solar cells. **P.C. Chen***
8:50 – 813. BaTiO3 perovskite oxides as an efficient bifunctional oxygen electrocatalyst. **G. Wu***
9:10 – 814. Ceramic injection moulding of Ni-YSZ anode-supported solid oxide fuel cells. **N. Chuankrerkkul***, M. Meepho
9:30 coffee break
10:00 – 815. Development of semiconductor quantum dot sensitized solar cells. **Y. Tachibana***
10:30 – 816. Fabrication of dye-sensitized solar cells using anthocyanin and chlorophyll. **J. Uddin**, A.D. Ward
10:50 – 817. Understanding structural disorder: From engineering new materials to reactivity in natural systems. **R.K. Hocking***, H. King, S. Chang, A. Hesson
11:10 – 818. Photoelectrochemistry and surface science of doped hematite catalysts: from fundamental to applied research. **P. Zhao***
11:30 – 819. Revisiting electronic structure of N-, H-, and (N, H)-doped TiO_2 based on spin-polarized self-interaction-corrected density functional theory calculations. **Y. Kim***, J. Choi

Hyatt Regency Waikiki
Makai Bllrm

Artificial Photosynthesis: Photo-induced Water Splitting (#193)

Organized by: R. Abe, K. Domen, A. Kudo, T. Meyer, J. Lee
Presiding: R. Abe, K. Domen, K. Maeda

8:00 – 820. Water oxidation under visible light using valence band controlled oxynitride photocatalysts. **H. Kato***, M. Kobayashi, M. Kakihana
8:15 – 821. Highly selective water oxidation on tungsten oxide (IV) photocatalyst particles having controlled rectangular shapes. **O. Tomita**, S. Nitta, Y. Matsuta, K. Takagi, S. Hosokawa, M. Higashi, R. Abe*
8:30 – 822. Photocatalytic water oxidation over $PbCrO_4$ with 2.3 eV band gap in IO_3^-/I^- redox mediator under visible light. **Y. Miseki***, O. Kitao, K. Sayama
8:45 – 823. Development of photocatalyst plates for Z-scheme water splitting and the factors determining their activity. **Q. Wang**, T. Hisatomi, Q. Jia, A. Kudo, T. Yamada, K. Domen*
9:00 – 824. Visible-light-driven Z-scheme water splitting using tungstic acid as oxygen-evolving photocatalyst. **H. Suzuki**, M. Higashi, R. Abe
9:15 – 825. Heterogeneous photocatalysis: New ideas and methodologies toward efficient water splitting. **K. Maeda***
9:45 Break
10:00 – 826. Photocatalytic water oxidation at the semiconductor-aqueous interface: GaN, ZnO and the GaN/ZnO alloy. **J.T. Muckerman***, M.Z. Ertem, N. Kharche, M.S. Hybertsen
10:30 – 827. Nanoporous gallium zinc oxynitride photocatalyst for overall water splitting. **B. Adeli**, F. Taghipour*
10:45 – 828. Preparation of nanosheet pn-junction using NiO and $Ca_2Nb_3O_{10}$ nanosheets and its photocatalytic activity. **S. Ida**, H. Hagiwara, T. Ishihara
11:00 – 829. Use of silicon nanoparticles as photosensitizers for a noble-metal free artificial photosynthesis system. **C.N. Virca**, C. Radlinger, J. Lohmolder, T. McCormick*
11:15 – 830. Light-intensity and particle-size dependence of heterogeneous photocatalytic oxidation of water. **S. TAKEUCHI***, M. Takase, B. Ohtani
11:30 – 831. Photocatalytic hydrogen evolution from aqueous methanol solution using mixed-valence Sn_3O_4 under visible light irradiation. **T. Tanabe***, M. Hashimoto, A.J. Jeevagan, T. Gunji, S. Kaneko, H. Abe, F. Matsumoto
11:45 – 832. Silver phosphate/single wall carbon nanotube composite with enhanced photoactivity and stability under visible light irradiation. **V. Kalousek***, R. Yabunaka, M. SAKAI, Y. Takaguchi, K. Ikeue

Hyatt Regency Waikiki
Maloko Bllrm

Nanoporous Materials for Renewable Energy and Sustainability (#266)

Organized by: T. Okubo, S. Qiu, K. Yoon, R. Lobo
Presiding: S. Qiu, K. Yoon

8:00 – 833. Study of structural effects via anodic aluminum oxide as a novel inorganic separator for lithium ion batteries. **Y. Ahn**, Y. Yang, Z. Yin, H. Kim, S. Cho, J. Yoo, Y. Kim*
8:20 – 834. Sustainable carbon materials derived from biomass as platimum-free catalysts for the oxygen reduction reaction in fuel cells. **M. Titirici***, K. Preuss, A. Marinovic
8:40 – 835. Pd nanoparticles encapsulated in hollow titanosilicate nanospheres as an ideal nanoreactor for one-pot oxidation reaction. **Y. Kuwahara***, T. Ando, H. Yamashita
9:00 – 836. Structure, adsorption free energy, and spectroscopy of ethanol in HZSM-5. **M. Lee**, K. Alexopoulos, M. Reyniers, V. Glezakou, R. Rousseau*
9:20 – 837. New insights into the disproportionation of *n*-propylbenzene and isopropylbenzene catalyzed by zeolites. Y. Byun*, S. Cha*, K. Lee, I. Nam, **S. Hong**
9:50 Coffee Break
10:05 – 838. Catalysis for sustainable production of acrylic acid: Potassium-ion exchanged zeolite catalysts for gas-phase dehydration of lactic acid. B. Yan, A. Mahmood, Y. Liang, **B. Xu***
10:25 – 839. Biomass catalytic fast pyrolysis using hierarchical ZSM-5 zeolites. D. Gamliel, L. Wilcox, N. Nguyen, S. Du, G.M. Bollas, **J. Valla***
10:45 – 840. Friedel-crafts acylations of furans on lewis-acid-containing zeolites. **M. Koehle**, R.F. Lobo
11:05 – 841. MSE-type zeolite as an efficient catalyst for dimethyl ether-to-olefin reaction. S. Park, S. Inagaki, **Y. Kubota***

*** Principle Author**

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11:25 – 842. Small pore molecular sieve catalysts. **M.E. Davis**

Hyatt Regency Waikiki
Elima

Advances in Microwave Green Chemistry (#360)

Organized by: T. Matsumura, S. Yanagida, R. Varma, K. Jin, S. [ohuchi@bio.kyutech.ac.jp]
Presiding: K. Ohta, M. Sato, N. Shinohara, Y. Wada

8:00 – 843. Synthesis of carbon nanotubes by microwave energy. **K. Ohta***, T. Nishizawa, T. Nishiguchi, Y. Chino, R. Shimizu, Y. Hattori, S. Inoue, M. Katayama, K. Mizu-uchi, T. Kono
8:30 – 844. Theoretical hypothesis on chemical reactions and phase transitions in dense matters with first order fluctuations in Maxwell-Boltzmann velocity distribution. **M. Sato***
8:50 – 845. Study on microwave absorption property of metal particles by electromasgnetic simulation. **N. Shinohara***, S. Arimasa, K. Kashimura, T. Mitani
9:20 – 846. Frequency dependence of oxygen emission of TiO_{2-x} particles by microwave heating. **K. Kashimura**, T. Mitani, N. Shinohara
9:40 – 847. Microwave special effects observed for interfaces. **Y. Wada***, E. Suzuki, M. Maitani, D. Mochizuki
10:10 Break
10:25 – 848. Reduction enhancement of copper oxides via selective heating, internal heating, and cleavage of Cu-O bond by microwave magnetic-field irradiation. **J. Fukushima***, H. Takizawa
10:45 – 849. Microwave non-thermal acceleration of photoinduced electron transfer from CdS quantum dots to bipyridinium derivatives. **F. Kishimoto***, D. Mochizuki, T. Imai, M. Maitani, E. Suzuki, Y. Wada
11:05 – 850. Science outreach of microwave technology in Japan. **S. Tsubaki**, N. Asahi, K. Ikenaga, S. Ohuchi, S. Kato, M. Nishioka, Y. Homma, T. Matsumura, T. Mitani, Y. Wada
11:25 – 851. Aurora in Pyrex glass tubes and molecular modeling of microwave plasma. **S. Yanagida***, T. Kida, T. Matsumura
11:45 closing remark

Hyatt Regency Waikiki
Mauka Bllrm

Global Strategies for Algal Biomass for Bioenergy and Biorefinery (#407)

Organized by: A. Kondo, J. Yang, Y. Yoshikuni
Presiding: Y. Yoshikuni

8:00 – 852. Microalgae-based CO_2 reutilization and biorefineries. **J. Chang***
8:40 – 853. Kinetic study of nutrients recovery from microalgae in hydrothermal liquefaction. **C. Fushimi***, M. Kakimura, T. Tateishi, T. Tanaka
9:00 – 854. Microalgae extraction the use of solvent mixtures CO_2:MeOH. R. Lee, **P.G. Jessop**, P. Champagne
9:20 – 855. Life cycle analysis of energy balance and CO_2 reduction in green oil production process by microalgae. **M. Matsumoto***, T. Tanaka, H. Togashi, H. Hasegawa
9:40 Break
9:55 – 856. Biorefinery of seaweeds for biofuels, chemicals, and feed. **A. López Contreras**
10:35 – 857. Valuable substances production using marine biomass wastewater. **Y. Okamura***, H. Takahashi, S. Suzuki, M. Okawachi, T. Nomura, T. Aki, Y. Nakashimada, Y. Matsumura
10:55 – 858. Modified CO_2-switchable cellulose nanocrystal and its application in microalgal harvesting for biofuel production. S. Ge, H. Wang, **P. Champagne***, M. Cunningham, P.G. Jessop

11:15 – 859. Development of alginate fuel cells for biorefinery of macroalgae. **H. Yoshikawa**, H. Toake, H.T. VU, E. Tamiya

Saturday Afternoon

Hyatt Regency Waikiki
Kou Ballrm

Integrated Biomass Refinery by Precisely Designed Heterogeneous Catalysts (#54)

Organized by: A. Fukuoka, A. Katz, H. Liu
Presiding: J.N. Beltramini, Y. Wang

13:00 – 860. Direct catalytic conversion of cellulose to light naphtha. **M. Dusselier***, B. Op de Beeck, B. Sels
13:15 – 861. Design of dual functional polymeric solid acid catalyts for biomass hydrolysis and dehydration. **X. Qian***, V. Ahn, R. Wickramasinghe
13:30 – 862. Catalytic transformations of cellulose and its derived carbohydrates into organic acids. W. Deng, Q. Zhang, **Y. Wang***
14:10 – 863. Hydrolysis of lignocellulosic biomass by biomass-derived carbon catalyst. **H. Kobayashi**, A. Fukuoka*
14:25 – 864. Understanding the adsorption and depolymerization of polysaccharides on carbon surface. **P. Chung**, A. Katz, J. Chu
14:40 – 865. On route to carbon catalyst design for polysaccharide depolymerization. A.T. To, P. Chung, A. Charmot, **A. Katz**
15:00 – 866. Dehydration synthesis of valuable chemicals from biomass-derived materials. **A. Yamaguchi***, O. Sato, N. Mimura, M. Shirai
15:15 – 867. Environmentally benign hydrogenation of biomass-derived compounds with supported metal catalysts and water solvent. **M. Shirai***, Y. Nagasawa, K. Yoshida, H. Nanao, T. Sasaki, O. Sato, A. Yamaguchi
15:30 – 868. Conversion of delignified Indonesian rice husk to levulinic acid using hierarchical Mn/ZSM-5 catalyst. **Y.K. Krisnandi***, A. Agnes, D.A. Nurani, R. Pertiwi
15:45 – 869. Tailored one-pot production of furan-based fuels from fructose in ionic liquid-containing biphasic solvent system. **C. Li**, H. Cai, B. Zhang, T. Dai, A. Wang, T. Zhang
16:00 – 870. Single metal atom catalyst: How does it help in biomass conversion. **N. Yan***
16:20 – 871. New route to biomass-derived terephthalic acid using Lewis acid molecular sieve catalysts. **M.E. Davis**

Hyatt Regency Waikiki
Ekahi

Nanostructured Oxides for Energy Harvesting and Water Splitting (#171)

Organized by: F. Rosei, Z. Wang, E. Diau, A. Vomiero, X. Sun

13:00 – 872. Nanostructured ceria by pulsed laser deposition for hydrogen and methane electro-oxidation. **S.M. Haile**, W. Jung
13:30 – 873. Solution processable inorganic-organic hybrids for solar cells and water splitting. **M. Loi***
14:00 – 874. Nanostructured oxides and organic-inorganic hybrid materials for photocatalytic hydrogen production. A. Beltram, T. Montini, M. Melchionna, M. Prato, **P. Fornasiero***
14:20 coffee break
14:50 – 875. Electrochemical impedance spectroscopy and pH-dependent kinetics of α-Fe_2O_3 ultrathin films for photoelectrochemical water splitting. **J. Moir**, N. Soheilnia, G. Ozin
15:10 – 876. Evaluation of different types of tungsten oxide nanomaterials for photoelectrochemical water splitting. **S. Hilaire***, M. Niederberger
15:30 – 877. Synthesis of $Cu_xZn_ySn_2S$-oxide nanowalls on carboncloth and the application in photoelectrochemical water splitting. **Y. Pei** , C. Shen, J. Chiu, Y. Tai*

Hyatt Regency Waikiki
Makai Bllrm

Artificial Photosynthesis: Photo-induced Water Splitting (#193)

Organized by: R. Abe, K. Domen, A. Kudo, T. Meyer, J. Lee
Presiding: T. Meyer, L. Sun, M. Yagi

13:00 – 878. Solar water splitting in dye sensitized photoelectrosynthesis cells. **T. Meyer**, L. Alibabaei, K. Brennaman, B. Sherman, M. Sheridan, A. Nayak, D. Ashford, S. Roy
13:30 – 879. Electrochemical instability elucidation of metal oxide adsorbed phophonate-derivatized Ru(III) poly-pyridyl complexes. D. Harrison*, M. Raber, J. Hyde, K. Hanson, A. Vanucci, A. Lapides, L. Alibabaei, M. Norris, **T. Meyer**
13:45 – 880. Dye-sensitized NiO as p-type photocathode for photovoltaic and solar fuel devices. **L. Hammarström***, A. Brown, L. Zhang, L. d'Amario, L. Antila, J. Föhlinger, P. Ghamgosar, S. Maji, S. Pullen, G. Boschloo, H. Tian, S. Ott
14:00 – 881. Creation of novel heterogeneous nickel complex catalyst for visible-light-driven H_2 evolution from water. **H. Kakudo**, K. Mori, H. Yamashita*
14:15 – 882. Accumulation of charge at molecular acceptors through excitation of molecular dyes: One step closer to effective solar water splitting using molecules. H. Chen, W. Gaieck, S. Breen, J. Siu, A. Rouzmehr, **S. Ardo**
14:30 – 883. Two-electron water activation on earth abundant aluminum porphyrins as a key-step for artificial photosynthesis. **F. Kuttassery**, S. Mathew, S. Sagawa, D. Yamamoto, S. Onuki, Y. Nabetani, H. Tachibana, H. Inoue*
14:45 Break1
15:00 – 884. Artificial photosynthesis: Photoelectrochemical (PEC) cells for water splitting based on molecular catalysts. **L. Sun**, Y. Gao, F. Li
15:30 – 885. Thin film transition metal phosphide and sulfide catalysts for applications in photoelectrochemical water splitting. **T.R. Hellstern**, J.D. Benck, J. Kibsgaard, R. Britto, C. Hahn, T.F. Jaramillo*
15:45 – 886. Mesoporous IrO_2 thin film for highly efficient electrocatalytic water oxidation toward artificial photosynthesis. D. Chandra, N. Abe, D. Takama, K. Saito, T. Yui, **M. Yagi**
16:00 – 887. Multifunctional NiO_x coated small band-gap semiconductors for efficient and stable solar driven water oxidation. **K. Sun***, F.H. Saadi, Y. Kuang, X. Zhou, B.S. Brunschwig, C.W. Tu, N.S. Lewis
16:15 – 888. Designing 2D covalent organic frameworks for photocatalytic hydrogen evolution. **F. Haase**, V. Vyas, B.V. Lotsch*
16:30 – 889. Well-defined and nanostructured IrOx water splitting electrocatalysts for efficient solar fuel production in acidic PEC and PEM environments. **P. Strasser***
16:45 – 890. Photonic nanostructures for efficient solar water splitting. **L. Zhang***

Hyatt Regency Waikiki
Maloko Bllrm

Nanoporous Materials for Renewable Energy and Sustainability (#266)

Organized by: T. Okubo, S. Qiu, K. Yoon, R. Lobo
Presiding: S. Qiu, K. Yoon

13:00 – 891. Propellane polycyclic structures as a springboard to new SDA for zeolites: The discovery of a new high silica zeolite. **S.I. Zones***, D. Xie, M.M. Olmstead, A. Liu, K. Ghiassi
13:30 – 892. Structure-directing effect of piperazine revealed by reverse temporal evolution processes. **W. Yan***
13:50 – 893. Cyclophosphazene bridged mesoporous organosilicas for CO_2 capture and Cr(VI) removal. P. Rekha, V. Sharma, **P. Mohanty***
14:10 – 894. New class of ZSM-5 catalyst: Synthesis and catalytic performance of ZSM-5 with the distribution of Al atoms in the framework controlled. **T. Yokoi***, T. Biligetu, R. Otomo, J.N. Kondo, T. Tatsumi
14:30 – 895. Al-rich beta zeolites. Distribution of Al atoms in the framework and related protonic and metal-ion species. **J. Dedecek***, P. Sazama, S. Sklenak, B. Wichterlova, E. Tabor, P. Klein, V. Pashkova
14:50 Coffee Break
15:05 – 896. Hydrocarbon trap and more on aluminum-rich beta zeolites for clean-up technology of automobiles. **M. Ogura***
15:35 – 897. Synthesis of Pt/C catalysts with a high sintering resistance using activated carbon xerogels as the support. K. Satoh, T. Tsuchiya, S. Iwamura, I. Ogino, **S.R. Mukai***
15:55 – 898. Facile synthesis of metal/metal oxide nanoparticles inside nanoporous carbon matrix (M/MO@C) through morphology-preserved transformation of metal-organic framework for energy applications. W. Bak, H. Kim , **W. Yoo***
16:15 – 899. Selectively-tuned rare earth adsorption in hybrid mesoporous sorbents: The critical role of ligand design. **J. Florek**, A. Mushtaq, E. Juère, F. Fontaine, D. Larivière, F. Kleitz*
16:35 – 900. Hydrothermal synthesis of porous self-regulating humidity materials. **Z. Jing**, J. Fan, Y. Zhang

Hyatt Regency Waikiki
Elima

Bridging Homogeneous and Heterogeneous Catalysis in Biorefining of Lignin (#405)

Organized by: F. Wang, F. Toste, H. Xie, D. Argyropoulos, R. Rinaldi, R. Baker
Presiding: D. Argyropoulos, H. Xie

13:00 Session kickoff
13:05 – 901. The biorefinery industry need to refine lignin prior to use in a way similar to crude. **D. Argyropoulos***
13:45 – 902. Biobased-organic electrolytes lignin: Separation, structural elucidation, and application. **H. Xie**, C. Peng, X. Yu, Z. Zhao
14:05 Break
14:15 – 903. Electrocatalytic energy upgrading of lignin model compounds to fuels and chemicals: A green chemistry imperative. **J. Jackson**, C. Saffron, C. Lam, M. Garedew, P. Hao
14:35 – 904. Catalytic conversion of sugarcane bagasse lignin into value-added products: A strategy for separating and recycling ionic liquids. **X. Li***
14:55 – 905. Lipoxygenase: A new versatile oxidative enzyme in lignin upgrade. **C. Crestini***, H. Lange
15:15 – 906. Supercritical water-induced lignin reactions: A structural and quantitative assay. **Y. Liu***, J. weikun, L. gaojin
15:35 Break
15:45 – 907. Catalytic conversion of lignin into aromatics by tungsten- and rhenium-based catalysts. **T. Zhang***, C. Li, B. Zhang, A. Wang

*** Principle Author**

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Hyatt Regency Waikiki
Mauka Bllrm

Global Strategies for Algal Biomass for Bioenergy and Biorefinery (#407)

Organized by: A. Kondo, J. Yang, Y. Yoshikuni
Presiding: M.S. Park

13:00 – 908. Development of biorefinery from microalgae and cyanobacteria. **A. Kondo**
13:40 – 909. Drop-in-fuel production from alkenone-producing marine haptophyte algae. **Y. SHIRAIWA***, H. Araie, Q. Shi, Y. Tsuji, T. Kotajima, Y. Hanawa, I. Suzuki, H. Nakamura, K. Sawada
14:00 – 910. Photosynthetic hydrogen formation in *Chlamydomonas reinhardtii*. **F. Mamedov**, A. Basu, S. Styring, A. Volgusheva
14:20 – 911. Investigation of kinetics of cultivation of low temperature tolerant *Chlorella vulgaris* for lutein production and recovery. **A. Bassi***
14:40 Break
14:55 – 912. Construction of genome designed yeasts for direct assimilation of macroalgae by synthetic biology. **T. Takagi***, Y. Sasaki, K. Motone, H. Morisaka, K. Kuroda, M. Ueda
15:35 – 913. Achieving high glycogen production rates in the marine cyanobacterium, *Synechococcus* sp. PCC 7002 through metabolic engineering. **A. Markley***, B. Pfleger
15:55 – 914. RNA-based gene regulators for controlling gene expression in cyanobacteria. **Y. Sakai**, I. Sakamoto, C. Shono, S. Kawai, K. Abe, K. Sode, K. Ikebukuro*
16:15 – 915. Bacterial metagenomes as potential resources for isolation of biorefinery enzymes in brown macroalgae degradation. **T. Mori***, M. Takahashi, Y. Yumiko, T. Shibata, T. Takagi, R. Tanaka, H. Miyake, K. Kuroda, M. Ueda, H. Takeyama
16:35 Closing remark

Saturday Evening

Hawaii Convention Center
Halls I, II, III

Integrated Biomass Refinery by Precisely Designed Heterogeneous Catalysts (#54)

Organized by: A. Fukuoka, A. Katz, H. Liu
Presiding: A. Fukuoka, M. Yabushita

Poster Session
19:00 – 21:00

916. Production of phenolic compounds from lignin by two step process. **Y. Nakasaka***, R. Konishi, Y. Kawamata, T. Yoshikawa, Y. Koyama, T. Tago, T. Masuda
917. Effect of basic property of Co-loaded catalysts on hydrodeoxygenation of guaiacol. **M. Iwaki***, N. Ikenaga
918. Hydrogenation of alkylphenol over supported metal catalysts in water solvent. **Y. Nagasawa**, H. Nanao, O. Sato, A. Yamaguchi, M. Shirai*
919. Synthesis of high density aviation fuel with cyclopentanol derived from lignocellulose. N. Li, **X. Sheng**, G. Li, W. Wang, J. Yang, Y. Cong, A. Wang, X. Wang, T. Zhang
920. Synthesis of jet-fuel range aromatic hydrocarbons by the hydrodeoxygenation of isophorone over MoOx/SiO2. N. Li, **F. Chen**, W. Wang, A. Wang, Y. Cong, X. Wang, T. Zhang*
921. Synthesis of renewable diesel or jet fuel range alkanes with 2-methylfuran. N. Li, **G. Li**, A. Wang, Y. Cong, X. Wang, T. Zhang*
922. Designing a new CO/ZrO_2-SiO_2 bimodal catalyst for jet-fuel direct synthesis from a CO_2-containing syngas via Fisher-Tropsch synthesis. **J. Li**, G. Yang, Y. Yoneyama, N. Tsubaki*
923. Catalytic conversion of xylose to furfural in water and simultaneous extraction with supercritical carbon dioxide. **O. Sato***, A. Yamaguchi, Y. Masuda, Y. Kiyozumi, N. Mimura, E. Kato, M. Shirai
924. Study of the effect of model size and solvation on the formation of levoglucosan. L. Aebersold, J. Henry, B. Leja, D. Wang, A. Seitz, **J. Song***
925. Conversion of cellulose to *n*-hexane or hexanol over Ir-ReO_x/SiO_2 catalyst combined with acid. **S. Liu**, M. Tamura, Y. Nakagawa, K. Tomishige
926. Hydrolysis of woody biomass by air-oxidized carbon catalyst. **K. Techikawra**, H. Kobayashi, H. Kaiki, A. Fukuoka
927. Adsorption and hydrolysis of cellulosic molecules on activated carbon catalysts. **M. Yabushita**, H. Kobayashi, J. Hasegawa, K. Hara, A. Fukuoka*
928. Dehydration of sorbitol to isosorbide over H-beta zeolites. **H. Yokoyama**, H. Kobayashi, M. Yabushita, B. Feng, A. Fukuoka*
929. Furfural synthesis from bamboo powder with CHA-type zeolite and water solvent. **K. Yoshida**, H. Nanao, O. Sato, Y. Kiyozumi, A. Yamaguchi, M. Shirai*
930. Selective synthesis of 2-methyltetrahydrofuran from levulinic acid using solid acid-supported Pt-Mo bimetallic catalyst. **K. Togo**, Z. Maeno, T. Mitsudome, T. Mizugaki, K. Jitsukawa, K. Kaneda*
931. Effect of Sn addition on the conversion reaction of ethanol to the C4 compounds over Ru/Al_2O_3 catalyst. **S. Ishikawa**, A. Yoshida, J. Nakazawa, S. Hikichi, S. Naito
932. Hydrogen production by aqueous phase reforming reaction of acetic acid over supported ruthenium catalysts. **T. Nozawa**, A. Yoshida, J. Nakazawa, S. Hikichi, S. Naito*
933. Sustainable catalytic conversions: Production of organic acids from inedible-biomass resources over heterogeneous catalysts. **H. Choudhary**, S. Nishimura, K. Ebitani*
934. Development of precisely designed heterogeneous catalysts for valorization of biomass-derived feedstock. **T. Mizugaki**, Z. Maeno, T. Mitsudome, K. Jitsukawa, K. Kaneda*
935. Highly selective transesterification of glycerol to monoacetylglycerol using heterogeneous base catalysts. **T. Morita**, Z. Maeno, T. Mitsudome, T. Mizugaki, K. Jitsukawa, K. Kaneda*
936. Bifunctional Mo-V-O/ZSM-5 catalysts for direct oxidehydration of glycerol to acrylic acid. **T. Hisazumi**, S. Suganuma*, N. Katada
937. Synthesis of bio-based thiophene derivatives with supported ionic liquids in a fluidized bed reactor. **P. Filippousi**, Z. Zhang, J. Wilton-Ely, P. Fennell, J.P. Hallett*
938. Ni based alloy catalysts for chemoselective hydrogenation of unsaturated carbonyls. **S. Shimazu***, W. Putro, R. Rodiansono, T. Hara, N. Ichikuni
939. High-performance Cu/SiO_2 catalyst for ethylene glycol synthesis via dimethyl oxalate hydrogenation. **G. Liu**, P. Ai, G. Yang, Y. Yoneyama, N. Tsubaki*
940. Conversion of volatiles produced from polyacrylonitrile-based carbon fiber manufacture over Ni/dolomite catalyst. **Q. Sun***, M. Ye, J. Chen, Z. Wu

Hyatt Regency Waikiki
Kou Ballrm

Nano Catalysis for Clean Energy and Environmentally Friendly Chemical Production (#81)

Organized by: A. Dalai, N. Abatzoglou, B. Davis, A. Uddin, J. Kozinski, G. Yadav, A. Tavasoli
Presiding: Y. Chin, K.K. Pant

19:00 Opening Remarks-Nanocatalysis for Chemical Production -II
19:02 – 941. Oxidative steam reforming of bio-ethanol over multifunctional Ni/Al_2O_3-CeO_2-ZrO_2 catalyst. **T. Mondal**, M. Sajnani, **K.K. Pant***, A. Dalai
19:22 – 942. Treatment of phenol in water using microwave assisted advanced oxidation processes. A. Verma, **V. Meda**, A. Dalai
19:40 – 943. Visible light driven transformation of aliphatic alcohols to corresponding esters in O_2 under mild conditions. **Q. Xiao***, H. Zhu*
20:00 – 944. Catalytic consequences of reactant size and local site confinement for aldehyde deoxygenation on solid Brønsted acid catalysts. F. Lin , **Y. Chin**
20:20 – 945. Synthesis, characterization, and catalytic applications of K-CoRhMo catalysts supported over carbon nanohorns (CNHs) and its by-products (OCP & OCP_I) for the HAS reaction. **P.E. Boahene**, A. Dalai*, R. Sammynaiken
20:40 – 946. Selective hydrogenation of α,β-unsaturated aldehydes to unsaturated alcohols over metal oxide-modified Ir catalysts. **M. Tamura**, Y. Nakagawa, K. Tomishige

Hawaii Convention Center
Halls I, II, III

Artificial Photosynthesis: Photo-induced Water Splitting (#193)

Organized by: R. Abe, K. Domen, A. Kudo, T. Meyer, J. Lee

Poster Session
19:00 – 21:00

947. Preparation of gold nanoparticle/layered semiconductor hybrids and their application to photocatalytic hydrogen evolution. **M. Eguchi***, K. Maeda
948. Effects of composition and surface modification on PEC properties of Cu(In-,Ga)Se_2 photocathodes. **H. Kaneko**, T. Minegishi, K. Domen*
949. Photoelectrochemical properties of $SrNbO_2N$ photoanodes based on highly crystalline particles using flux methods. **M. Kodera**, H. Urabe, T. Hisatomi, M. Katayama, T. Minegishi, K. Domen*
950. Fabrication of Ta_3N_5 photoanodes for solar water splitting by thin film transfer process. **C. Wang**, T. Hisatomi, T. Minegishi, T. Yamada, J. Kubota, K. Domen*
951. Synthesis of a series of bismuth mixed anions compounds and their application to photocatalytic water splitting and photovoltaic systems. **H. Kunioku**, A. Nakamura, M. Higashi, R. Abe*
952. Visible-light-induced oxidation of water using Al porphyrin adsorbed on semiconductor. **S. Onuki**, D. Yamamoto, S. Mathew, F. Kuttassery, Y. Nabetani, H. Tachibana, H. Inoue*
953. La-Ti oxysulfides as a photoelectrode for water splitting. **G. Ma**, J. LIU, T. Hisatomi, T. Minegishi, H. Nishiyama, M. Katayama, T. Yamada, K. Domen*
954. Photophysical and electrochemical study of tin porphyrins as molecular catalyst for artificial photosynthesis. **A. Thomas**, D. Yamamoto, Y. Nabetani, S. Onuki, H. Tachibana, H. Inoue*
955. Tailoring the redox properties of silicon porphyrins for water activation. **S.N. Remello**, T. Hirano, D. Yamamoto, S. Onuki, Y. Nabetani, H. Tachibana, H. Inoue*
956. Direct fabrication of Ta_3N_5 photoanode via nitridation of $NaTaO_3$ precursor film prepared by hydrothermal-electrochemical method. **S. Osada**, C. Izawa, T. Watanabe
957. Synthesis of $SrNbO_2N$ photocatalyst by flux assisted nitridation with co-nitriding agent. **Y. Hirano**, H. Ebato, T. Watanabe
958. Utilization of cage-type ligands for photochemical and oxygen-converting transition metal complexes. **Y. Funahashi***, K. Hara, S. Yonaga, K. NAGATA, T. Hatanaka
959. Application and analysis of protection layers for photoinduced water oxidation in alkaline media. **M.F. Lichterman***, S. Hu, M. Richter, E. Crumlin, S. Axnanda, M. Favaro, W. Drisdell, Z. Hussain, T. Mayer, B.S. Brunschwig, N.S. Lewis, Z. Liu, H. Lewerenz
960. Enhanced water oxidation on metal oxynitrides photocatalysts under visible light by using polyoxometalates as co-catalysts. **Y. Iwase**, O. Tomita, M. Higashi, R. Abe*
961. Paddlewheel-type dirhodium tetracarboxylate complexes as catalyst for photochemical hydrogen evolution from water. **Y. Kataoka***, N. Yano, T. Kawamoto, M. Handa
962. Highly efficient photochemical reduction of water using anchor-shape dinuclear rhodium complexes. **N. Yano***, Y. Kataoka, T. Kawamoto, M. Handa
963. Efficient photochemical production of hydrogen in aqueous solution by simply incorporating a water-insoluble hydrogenase mimic into hydrogel. **T. Yu**, Y. Li*
964. Rhodium-doped barium titanate semiconductor photocatalyst prepared by a hydrothermal method for hydrogen evolution under visible light. **S. Nishioka***, O. Ishitani, K. Maeda
965. Overall water splitting on a restacked nanosheet photocatalyst with highly dispersed noble metal nanoparticles. **T. Oshima***, O. Ishitani, K. Maeda
966. Robust artificial photosynthetic catalyst made in situ from QDs and metal salts for efficient hydrogen evolution. **Z. Li***, X. Fan, C. Tung, L. Wu*
967. Preparation of heterostructured ZnSe/$AgInS_2$ nanoparticles and their photocatalytic properties. **M. Kishi***, T. Kameyama, S. Kuwabata, T. Torimoto
968. High performance photoelectrolysis tandem cell system for solar hydrogen production. **H. Nishiyama**, Y. Kuang, N. Sato, H. Kobayashi, M. Zhong, Q. Jia, T. Minegishi, T. Hisatomi, T. Yamada, K. Domen*
969. Solar powered hydrogen production using conjugated polymer films. **P. Fortin***, G. Suppes, S. Holdcroft
970. Exploring the possibilities of guest-host supramolecular systems of earth abundant metal incorporated molecular catalyst for artificial photosynthesis. **S. Mathew**, F. Kuttassery, D. Yamamoto, S. Onuki, Y. Nabetani, H. Tachibana, H. Inoue*
971. Photocatalytic reduction of CO_2 over nanocomposites of mesoporous silica and $SrTiO_3$ nanocubes. **T. Ohashi***, Y. Miyoshi, K. Katagiri, K. Inumaru*
972. Ta_3N_5-based photoanodes for solar-light-driven water splitting. **M. Zhong***, Y. Sasaki, H. Nishiyama, T. Yamada, K. Domen
973. Importance of the surface passivating ligand of CdSe quantum dots for photocatalytic hydrogen evolution. **K. Sawaguchi**, A. Kobayashi*, M. Yoshida, M. Kato*
974. Effect of Sr vacancies and substitutionals on the bandstructure of $SrNbO_3$: A DFT analysis. **M. Kaneko***, G. Giorgi, K. Yamashita
975. Red-light induced all-solid-state Z-scheme using silver as a redox shuttle. **R. Kobayashi**, K. Kurihara, S. Tanigawa, T. Takashima, H. Irie*
976. Grafting cocatalyst onto zinc rhodium oxide/silber/defective silver antimonate hetero-junction photocatalyst to enhance water-splitting activity. **S. Matsumoto**, R. Kobayashi, H. Irie*
977. Photocatalytic activity of perovskite oxides containing tetravalent lanthanide ions. **Y. Yoshida**, N. Taira*, M. Ota
978. Synthesis and photoelectrochemical properties of antimony-based ternary semiconductors containing halogen anions. **M. YABUUCHI**, M. Higashi, R. Abe*

*** Principle Author**

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Hawaii Convention Center
Halls I, II, III

Global Strategies for Algal Biomass for Bioenergy and Biorefinery (#407)

Organized by: A. Kondo, J. Yang, Y. Yoshikuni

Poster Session
19:00 – 21:00

979. Analysis of composition and antioxidative properties of phlorotannins isolated from Japanese *Eisenia* and *Ecklonia* species. **T. Shibata***, K. Nagayama, T. Saitoh, R. Tanaka, H. Miyake, Y. Tamaru, S. Kawaguchi, M. Ueda

980. Intracellular and extracellular time-course proteome analyses of *Clostridium cellulovorans* grown on xylan. **S. Aburaya***, J. Shin, K. Esaka, H. Morisaka, K. Kuroda, M. Ueda

981. Molecular breeding of yeasts for platinum reduction. **R. Ito***, H. Hashimoto, K. Kuroda, M. Ueda

982. Development of in vivo methylation system for gene-modification of cellulolytic bacterium, *Clostridium cellulovorans*. **J. Shin***, A. Ishitaka, K. Kuroda, M. Ueda

983. Molecular breeding of yeast for assimilating xylan from marine biomass. **Y. Sasaki***, T. Takagi, H. Morisaka, K. Kuroda, M. Ueda

984. Construction of "glucose formation platform" using cellulosome-producing bacterium *Clostridium cellulovorans*. **T. Inamori***, A. Ishitaka, S. Aburaya, H. Morisaka, K. Kuroda, M. Ueda

985. Molecular breeding of yeasts for utilization of a marine polysaccharide laminarin. **K. Motone***, T. Takagi, H. Morisaka, K. Kuroda, M. Ueda

986. Regulatory mechanisms for expression of cellulosomal and non-cellulosomal genes in *Clostridium cellulovorans*. T. Ishikawa*, R. Tanaka, T. Shibata, K. Kuroda, M. Ueda, Y. Tamaru, **H. Miyake***

987. Creation of new cellulosome-producing strains for next generation biorefinery. **A. Hiramatsu***, K. Kuroda, M. Ueda, Y. Tamaru, H. Miyake*

988. Development of a transformation system for the mesophilic cellulosome-producing bacterium *Clostridium cellulovorans*. **M. Okada***, H. Miyake*

989. Identification of cellulosomal enzymes for the construction of cellulosomes from *Clostridium cellulovorans*. **C. Nagaya***, G. Ishikawa*, R. Tanaka, T. Shibata, K. Kuroda, M. Ueda, Y. Tamaru, H. Miyake*

990. Characterization of novel alginate lyases of *Falsirhodobacter* sp. alg1 isolated from brown algae. **M. Takahashi**, T. Mori*, R. Tanaka, T. Shibata, S. Chow, K. Kuroda, M. Ueda, H. Takeyama

991. Energy-saving lipid extraction from wet microalgae by low-boiling-point solvent dimethyl ether at room temperature. **H. Kanda***, R. Hoshino, K. Murakami, M. Ogawa, S. Machmudah, W. Diono, M. Goto

992. Alkane production by genetically engineered marine cyanobacterium *Synechococcus* sp. NKBG 15041c. **Y. Ito**, Y. Liang, N. Kakunaka, T. Yoshino, T. Tanaka*

993. Genetic engineering for the overproduction of polyhydroxybutyrate in cyanobacteria. S. Hondo, M. Takahashi, T. Osanai, M. Matsuda, T. Hasunuma, A. Tazuke, Y. Nakahira, S. Chohnan, M. Hasegawa, **M. Asayama***

994. Overproduction of alkane as biofuel from an engineered cyanobacteirum under heterotrophic culture condition. **H. Fukuda**

995. Control the self-aggregation of cyanobacteria by regulating pilus gene. **A. Ito**, M. Nakamura, K. Abe, K. Kojima, S. Ferri, K. Sode*

996. Engineering of a wide dynamic range green-light regulation system for gene expression in *Synechocystis* sp. PCC 6803. **C. Shono**, K. Abe, I. Sakamoto, K. Ueno, Y. Sakai, K. Sode, K. Ikebukuro*

997. Improving photoautotrophic growth by maintaining a fixed growth pH and a sufficient inorganic carbon. **B. Nguyen***, B.E. Rittmann

998. Synthesis of CdSe nanoparticles by using a low concentration of cadmium ions and the apoferritins of marine pennate diatoms. **M. Yamane**, I. Yamashita, K. Iwahori*

999. Quantitative analysis of pH stress response in maltose-cxcreting *Chlorella* using transcriptomic profiling. **V. Natarajan**, K. Coster, B. Barney

1000. Characterization of the cold-tolerant oleaginous diatom, *Mayamaea* sp. JPCC CTDA0820 as potential source for biodiesel production. **D. Nojima**, K. Ikeda, M. Matsumoto, Y. Maeda, T. Yoshino, T. Tanaka*

1001. Alkenone and transcriptome analysis of the response to cold temperature in the marine haptophyte alga, *Emiliania huxleyi*. **H. Araie***, M. Baba, T. Kotajima, I. Suzuki, Y. SHIRAIWA

1002. Diversity of hydrocarbons produced by alkenone-producing haptophyte algae. **H. Nakamura***, H. Araie, K. Sawada, I. Suzuki, Y. SHIRAIWA

1003. Deveplopment of fucose fuel cell for biorefinery of macroalgae. **H.T. VU**, H. Yoshikawa, H.Q. Le , H. Toake, E. Tamiya*

1004. Effect of salinity on methanogenic propionate degradation by acclimated marine sediment-derived culture. **T. Miura**, A. Kita, Y. Okamura, T. Aki, Y. Matsumura, T. Tajima, J. Kato, Y. Nakashimada*

1005. Analysis of anaerobic alginate degradation mechanism in bacterial consortium. **A. Kita***, T. Miura, Y. Okamura, T. Aki, Y. Matsumura, T. Tajima, J. Kato, N. Nishio, Y. Nakashimada

1006. Direct analysis via mass spectrometry of products from hydrothermal pretreatments of glucose. **P. Duangkaew**, S. Inoue, T. Aki, Y. Nakashimada, Y. Okamura, T. Tajima, Y. Matsumura*

1007. Decomposition reaction of D-(+)-mannose under hydrothermal condition. **R. Mohamad**, T. Aki, Y. Nakashimada, Y. Okamura, T. Tajima, Y. Matsumura*

1008. Squalene production by marine bacterium in wastewater derived from algal biomass. **S. Suzuki**, M. Suemitsu*, H. Takahashi*, M. Matsumoto*, T. Aki*, Y. Nakashimada*, Y. Matsumura*, Y. Okamura*

1009. Screening of triacylglycerol producing bacteria for reducing propionic acid. **M. Okawachi**, M. Suemitsu*, M. Matsumoto*, T. Aki*, Y. Matsumura*, Y. Nakashimada*, H. Takahashi*, Y. Okamura*

1010. Efficient production of biodiesel from marine alga, *Scenedesmus* sp. from acidic in situ transesterification process. **H.Y. Lee***, W.Y. Choi, D.H. Kang

1011. Hydrothermal liquefaction of macro algae to value added hydrocarbons. **R. Singh**, B.B. Krishna, B. Thallada*

1012. Enhancement of biomass productivity in marine oleaginous diatom *Fistulifera solaris* by silencing of fucoxanthin chlorophyll a/c binding protein gene. **T. Yoshino**, C. Takahashi, M. Muto, Y. Liang, Y. Maeda, T. Tanaka

1013. Dynamic oil body generation in the marine oleaginous diatom *Fistrulifera solaris* JPCC DA0580 following in response to nutrient limitation revealed by morphological and lipidomic analysis. **Y. Liang**, K. Osada, Y. Maeda, T. Yoshino, C. Bowler, T. Tanaka

1014. Proteome analysis of the oil body-associated proteins in the marine oleaginous diatom *Fistrulifera solaris* JPCC DA0580. **Y. Maeda**, D. Nojima, T. Yoshino, T. Tanaka*

1015. Cell-surface display of interactive proteins on the oleaginous diatom *Fistulifera solaris* for biomass harvesting. **T. Tateishi**, Y. Maeda, M. Muto, T. Yoshino, T. Tanaka*

Sunday Morning

Hyatt Regency Waikiki
Kou Ballrm

Integrated Biomass Refinery by Precisely Designed Heterogeneous Catalysts (#54)

Organized by: A. Fukuoka, A. Katz, H. Liu
Presiding: H. Liu, T. Shishido

8:00 – 1016. AuPd bimetallic nanoparticles catalyzed selective oxidation of biomass-based 1,6-hexanediol to 6-hydroxycaproic acid using H_2O_2 oxidant in basic aqueous solvent. **S. Nishimura**, J. Tuteja, H. Choudhary, K. Ebitani*

8:15 – 1017. Lactic acid formation from 1,3-dihydroxyacetone over phosphate/TiO_2 with water-tolerant Lewis acid sites. **K. Nakajima***, M. Hara

8:30 – 1018. Separations in integrated biomass refinery. K. Park, S. Yiacoumi*, **C. Tsouris**, A. Borole

8:45 – 1019. Selective dehydrocyclization-cracking of soybean oil using zeolite-alumina composite supported PtNiMo catalysts. **A. Ishihara***, T. Ogiyama, T. Hashimoto, H. Nasu

9:00 – 1020. In-situ spectroscopy studies on surface reactions of biomass-derived oxygenates. **C. Sievers**, G. Foo , J.R. Copeland, J. So

9:20 – 1021. Hydrogenolysis of glycerol over $Pt/WO_3/Al_2O_3$ catalysts. H. Kobayashi, H. Miura, **T. Shishido***

9:35 – 1022. Catalytic behavior of Pd-Re catalyst in glycerol hydrogenolysis to propanediols – effect of Pd precursors. Y. Li, **D. He**

9:55 – 1023. Development of heterogeneous metal catalysts for the production of biomass-derived chemicals by catalytic hydrogenolysis and hydrogenation. **K. Tomishige***

10:35 – 1024. Rule-based and experiment-coordinated reaction network generation and analysis of coking in catalytic pyrolysis of bio-oil relevant model compounds. S. Du, D. Gamliel, J. Valla, **G.M. Bollas***

10:50 – 1025. Periodic trends and requirements for aqueous phase transfer hydrogenation of acetic acid on Group VIII metal clusters. J. Shangguan, **Y. Chin**

11:05 – 1026. Selective hydrogenolysis of furfural to 1,2-pentanediol catalyzed by hydrotalcite-supported platinum nanoparticles. **T. Mizugaki**, Y. Nagatsu, Z. Maeno, T. Mitsudome, K. Jitsukawa, K. Kaneda*

11:20 – 1027. Catalytic conversion of cellulose to ethylene glycol: from fundamental discovery to potential commercialization. M. Zheng, J. Pang, A. Wang, **T. Zhang**

Hyatt Regency Waikiki
Ekahi

Nanostructured Oxides for Energy Harvesting and Water Splitting (#171)

Organized by: F. Rosei, Z. Wang, E. Diau, A. Vomiero, X. Sun

8:00 – 1028. Self-assembly formation and contributing factor of epitaxial nanogroove arrays on rock salt structured oxide thin films. **A. Matsuda***, R. Yamauchi, S. Kaneko, M. Yoshimoto

8:20 – 1029. Metal-to-insulator transition studies of vanadium oxide and samarium nickelate thin films for energy devices. **M. Chaker***, N. Emond, B. Torriss

8:50 – 1030. Fabrication of abundant Zn vacancies in ZnO for p-type conductivity, room-temperature ferromagnetism and high photocatalytic activity. **L. Pan**, X. Zhang, L. Wang, J. Zou*

9:10 – 1031. Reduced graphene oxide supported nickel, manganese, and cobalt ternary oxide nanocomposite catalysts for oxygen evolution reaction. **R. Miao**, J. He, Z. Luo, W. Song, S. Suib

9:30 coffee break

10:00 – 1032. Synthesis and bacterial resistance of zwitterionic MCM-41 nanostructured materials. **E. Delgado***, F. Villegas, O. Rodriguez, I. Izquierdo, A. Salinas, M. Vallet-Regí, G. Toriz

10:20 – 1033. Effect of phosphate ions for water oxidation using iridium oxide catalysts. **Y. Inaba**, K. Nakamura, T. Kuwabara, T. Yamaguchi, K. Takahashi*

Hyatt Regency Waikiki
Makai Bllrm

Artificial Photosynthesis: Photo-induced Water Splitting (#193)

Organized by: R. Abe, K. Domen, A. Kudo, T. Meyer, J. Lee
Presiding: R. Abe, A. Kudo, F. Osterloh

8:00 – 1034. Photocatalytic and photoelectrochemical solar water splitting using reduced graphene oxide-incorporated metal sulfides. **A. Iwase**, K. Iwashina, I. Honma, A. Kudo

8:15 – 1035. Advanced materials manufacturing in solar water splitting technologies. **E.L. Miller***

8:30 – 1036. Computational identification of materials for solar energy conversion including semiconductors for water splitting. **D.S. Ginley***, S. Lany, W. Tumas, V. Stevanovic

8:45 – 1037. Recent progress in wide band-gap chalcopyrite thin film materials development for unbiased photoelectrochemical hydrogen production. **N. Gaillard***, A. Deangelis, C. Heske, M. Blum, T.F. Jaramillo, T.R. Hellstern, T. Ogitsu, h. wang

9:00 – 1038. Photoelectrode system for the production of hydrogen and high-value-added oxidation reagents. **K. Sayama***, K. Fuku, Y. Miseki, T. Funaki

9:15 – 1039. Measuring junction potentials at illuminated particle photocatalysts. **F. Osterloh***

9:45 Break1

10:00 – 1040. Electrochemical synthesis of ternary oxide photoelectrodes for use in solar water splitting. **K. Choi**

10:30 – 1041. Durable water oxidation under simulated sunlight using $BaTaO_2N$ photoanodes prepared by particle transfer method. **K. Ueda**, T. Minegishi, T. Hisatomi, M. Katayama, T. Yamada, K. Domen

10:45 – 1042. Silicon based devices for cheap, efficient, and scalable solar water splitting. **W. Smith**

11:00 – 1043. Absorption of light in silicon microwire arrays for photo-electrochemical applications. **M. Dasog**, N.S. Lewis*

11:15 – 1044. Thin film fabrication of $BaNbO_2N$ for photoelectrochemical water oxidation. **M. Katayama**, M. Kodera, R. Tajima, T. Minegishi, J. Kubota, K. Domen

11:30 – 1045. Designing water splitting devices composed of photocatalysts. **T. Yamada***

Hyatt Regency Waikiki
Maloko Bllrm

Nanoporous Materials for Renewable Energy and Sustainability (#266)

Organized by: T. Okubo, S. Qiu, K. Yoon, R. Lobo
Presiding: R.F. Lobo, T. Okubo

*** Principle Author**

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8:00 – 1046. Summary of nanoporous materials research at CSIRO Australia. **M.R. Hill**
8:20 – 1047. Redox activity of a nanoporous metal-organic framework MIL-100 for cathode of lithium ion battery. **T. Yamada**, K. Masutani
8:40 – 1048. Hierarchical porous prussian blue analog nanocrystals for sodium-ion battery applications. **M. Hu***
9:00 – 1049. Intriguing differences in hydrogen adsorption in CPO-27 materials induced by metal substitution. M.H. Rosnes, M. Opitz, M. Frontzek, W. Lohstroh, J.P. Embs, P.A. Georgiev, **P.D. Dietzel***
9:20 – 1050. Syntheses of hydrothermally stable metal-organic frameworks and their applications to adsorption-driven heat transformation. Y. Hwang, U. Lee, C. Serre, S.M. Humphrey, **J. Chang**
9:50 Coffee Break
10:05 – 1051. Development of zeolite membranes for isopropyl alcohol dehydration process. **M. Matsukata***
10:25 – 1052. Hybrid nanoporous materials for acid gas removal. **A. Sayari***
10:45 – 1053. Selective CO_2 capture from humid flue gases and humid atmosphere using a novel microporous coppersilicate. S.J. Datta, C. Khumnoon , Z. Lee, W. Moon, I. Hwang, **K. Yoon***
11:05 – 1054. Supercapacitive swing adsorption of carbon dioxide. B. Kokoszka, N.K. Jarrah, C. Liu, D.T. Moore, **K. Landskron**
11:25 – 1055. Light gas separations and storage with MOFs *via* modeling, synthesis, and pressure induced structural changes. **T. Nenoff***, D. Sava Gallis, M. Parkes, J. Greathouse, M. Rodriguez, K. Chapman
11:55 Closing Remarks

Hyatt Regency Waikiki
Elima

Bridging Homogeneous and Heterogeneous Catalysis in Biorefining of Lignin (#405)

Organized by: F. Wang, F. Toste, H. Xie, D. Argyropoulos, R. Rinaldi, R. Baker
Presiding: R. Baker

8:00 – 1056. Selective, catalytic aerobic C-C bond cleavage of lignin models and extracts. **R. Baker***
8:40 – 1057. Hydroconversion of lignin-derived phenolic and aromatic ether compounds over highly active Ni-Nb-O catalysts. **C. Liang**
9:00 Break
9:10 – 1058. Lignosulfonate-based acidic resin for the synthesis of renewable diesel and jet fuel range alkanes with 2-methylfuran and furfural. S. Li, **N. Li**, G. Li, A. Wang, Y. Cong, X. Wang, T. Zhang*
9:30 – 1059. Direct and selective hydrogenolysis of arenols and aryl methyl ethers. **S. Kusumoto**, K. Nozaki*
9:50 Break
10:00 – 1060. Hydrodeoxygenation of ethanol organosolv lignin to aromatic hydrocarbons by metal-organic frameworks. **J. Zhou***, w. xing, j. wenchao, g. yanzhu, h. ying, l. haiming
10:20 – 1061. Utilization of lignin isolated using steam process to produce added-value chemicals (L-chems) and drop-in jet fuel (L-fuels). **J. Lavoie***, F. Lemoine, K. Louis
10:40 – 1062. Hydrogenolysis of lignin and lignosulfonate over nickel-based catalysts. **F. Wang**

HLTH

Area 10 – Bench to Bedside: Chemistry of Health Care

Tuesday Morning

Sheraton Waikiki
Waialua

Oligonucleotide Therapeutics: From Base Pairs to Bedsides (#8)

Organized by: M. Manoharan, M. Damha, T. Wada
Presiding: M.J. Damha

8:00 Opening remarks
8:05 – 1. Efficient intramolecular decarboxylative process for the cleavage of 2'-*O*-iminooxymethyl propanoate protecting groups from RNA sequences. **S.L. Beaucage***
8:35 – 2. DNA/RNA heteroduplex oligonucleotide for highly efficient gene silencing. **T. Yokota***
9:05 – 3. GalNAc-conjugated siRNAs as a new paradigm in RNAi therapeutics. **M. Manoharan***
9:35 – 4. Advances in tumor delivery of siRNA: Non-hepatic xenograft, GEMM and PDX Tumor Models and CTNNB1-targeted RNAi. **B.D. Brown***
10:05 Break
10:20 – 5. Taking lessons from nature for the delivery oligonucleotide therapeutics. **A. Levin***
10:50 – 6. Development of polymeric materials for systemic siRNA delivery to solid tumor. **K. Miyata***, K. Kataoka
11:20 – 7. Studies of modified oligonucleotides directed toward nucleic acid drugs. **M. Sekine***
11:50 Closing remarks

Sheraton Waikiki
Waianae

Fragment-based Lead Discovery (#145)

Organized by: D. Erlanson, M. Scanlon, K. Ruan, D. Tanaka, J. Tyndall
Presiding: D. Erlanson

8:00 Introduction - Library design and computational analysis
8:10 – 8. Building confidence for chemistry by utilization of a quality library and a multidisciplinary approach. **J.M. Withka***, M. Boehm, C. Augusto de Oliveira, K.A. Borzilleri, M. Calabrese, N. Caspers, D. Hepworth, R. Kurumbail, A. Morgan, F. Rajamohan, P. Sahasrabudhe, H. Wang, V. Shanmugasundaram
8:40 – 9. Challenges in targeting diverse sites. **C. Squire***, Y. Yosaatmadja, S. Fung, L. Ching, J. Flanagan
9:10 – 10. Fragment libraries and their application to a protein-protein interaction target. **G. Chessari***
9:40 – 11. Binding hot spots, fragment conservation, and druggability. **S. Vajda***, D. Kozakov, D. Hall
10:00 Break
10:10 – 12. Non-ATP competitive inhibitors are selective for PLK1 and target tumors resistant to catalytic site compounds. **C. Mcinnes**
10:30 – 13. High throughput screening, structure-based, and fragment-based drug discovery: Modern data workflows and analytics. **K. Gregory**
10:50 – 14. Hitting it big on small molecular entities: A new way of assessing binding affinity. **C. Detering**
11:10 – 15. Can solvent mapping drive optimization of a fragment based campaign for epoxide hydrolase?. **G.L. Warren***, A.G. Skillman, J.M. Word, S. Wlodek, H. Kack
11:30 – 16. Importance of hydration thermodynamics in fragment-to-lead optimization. **O. Ichihara***

Royal Hawaiian
Regency II

Spectroscopic Tools for the Treatment of Cancer (#397)

Organized by: N. Miyoshi, B. Wilson, W. Ahn, M. Cherukuri
Presiding: W. Ahn, Y. Okamoto

8:00 – 17. Self-assembled, covalently linked, hollow phthalocyanine nanospheres. **W.S. Ahn***, P. Chaturvedi, Y. Kim, K. Kim, S. Han
8:30 – 18. Relationship between anti-tumor effects of PDT and parameters including light irradiation using talaporfin sodium in vivo model. **Y. Okamoto***, T. Osaki, T. Imagawa, K. Azuma, N. Ito, T. Tsuka, Y. Murahata, T. Kohama, Y. Kawase, H. Iseki, S. Ikuta, Y. Muragaki, S. Kishimoto
9:00 – 19. Cancer cellular specific incorporation of 5-aminolevulinic acid by mitochondrial reactive oxygen species. **H. Matsui**, H. Ito, M. Tamura, T. Kaneko, H.P. Indo, H.J. Majima
9:25 – 20. Chlorine e6-folic acid-curcumin conjugate based sono-photodynamic therapy. **P. Chaturvedi***, Y. Kim, S. Han, W.S. Ahn
9:50 Break
10:00 – 21. Clinical progress of photodynamic therapy in the treatment of tumor in China. **H. Qiu***, Y. Gu*, J. Zhang, N. Huang, . Wang, J. Zeng
10:25 – 22. Effect of talaporfin sodium-mediated photodynamic therapy in KLN205 cells and Meth A cells. **T. Osaki***, Y. Hashimoto, K. Azuma, Y. Murahata, T. Tsuka, N. Ito, T. Imagawa, Y. Okamoto, Y. Kawase, H. Iseki, S. Kishimoto, S. Ikuta, Y. Muragaki
10:50 – 23. Development of pH-activatable tetraphenylporphyrin derivatives as photosensitizers for PDT. **H. Horiuchi***, R. Kuribara, A. Hirabara, T. Okutsu
11:15 – 24. Three in one: A multifunctional antitumor sensitizer for photodynamic, boron neutron capture and ionized X-rays therapies. **N. Miyoshi***, S.K. Kundu, V. Mandal, M. Sakurai, H. Tanaka, M. Suzuki, V.G. Ol'shevskaya, A.A. Shtil

Sheraton Waikiki
Oahu

Recent Advances in Microfluidics for Radiochemical Synthesis (#416)

Organized by: G. Pascali, Y. Kuge, R. Dam
Presiding: Y. Kuge, G. Pascali, R. van Dam

8:00 Introductory Remark
8:05 – 25. Challenges, benefits, and potential risks of switching to microfluidic chemical synthesis. **P. Watts***
8:40 – 26. Devising flow chemistry protocols to access radiopharmaceuticals. **L.K. Spare**, A.M. Krause-Heuer, L. Matesic, I. Greguric, G. Pascali, B.H. Fraser, J. Aldrich-Wright, C. Gordon*
8:52 – 27. Digital radiochemistry on microfluidic chip. M. Javed, S. chen, H. Kim, M.E. Sergeev, C.". Kim, R. van Dam, **P. Keng***
9:27 – 28. Application of microfluidic-based technology toward the synthesis of ^{18}F-heteroarylsilanes for biomolecular labeling. **J.M. Murphy***, C. Waldmann, A. Toutov, R.H. Grubbs
10:02 Morning Break
10:12 – 29. One-flow synthesis of *N*-succinimidyl 4-[^{18}F]fluorobenzoate using a single microfluidic chip. **H. Kimura***, H. Saiki, Y. Hasegawa, Y. Tokuda, M. Ono, E. Ozeki, Y. Kuge, R. Iwata, H. Saji
10:47 – 30. Simple hydrolysis and purification methods for ^{18}F-MISO synthesis. **N. Abo***, N. Manri, K. Nishijima, F. FENG, N. Kuno, N. Tamaki, Y. Kuge
10:59 – 31. Use of microfluidics in the concentration and formulation of PET tracers. **P.H. Chao***, R. van Dam
11:11 – 32. Development of a microreactor system for syntheses of positron emission tomography: PET imaging probes. **Y. Asano***, S. Togashi, N. Manri, N. Kuno, Y. Ito, H. Tsudome
11:23 – 33. Automation of radiochemistry in microscale volumes. **A. Hsiao**, J. Thompson, A. Crane, M. Gramlich, B. Maraglia, R. van Dam, M.D. Moore*
11:35 – 34. Application of microreactor with split-flow and interflow mixing for synthesis of positron emission tomography (PET) imaging probe. **N. Kuno***, N. Manri, N. Abo, Y. Asano, K. Nishijima, N. Tamaki, Y. Kuge

Tuesday Afternoon

Sheraton Waikiki
Waialua

Oligonucleotide Therapeutics: From Base Pairs to Bedsides (#8)

Organized by: M. Manoharan, M. Damha, T. Wada
Presiding: T. Wada

13:00 Opening Remarks
13:05 – 35. Impact of structure for understanding stability, pairing properties, and activity of chemically modified nucleic acids. **M. Egli***
13:35 – 36. Developing TNA as an artificial genetic polymer for molecular medicine. **J. Chaput***
14:05 – 37. From front loading to affinity maturation: Finding optimal modifications on nucleic acid ligands. **N. Janjic***, J. Carter, J. Rohloff, C. Fowler, B. Ream, G. Wardle, T. Fitzwater, D. Schneider, T. Jarvis, D. Davies, B. Gawande, A. Gelinas
14:35 – 38. New generation PNA analogs for effective cell permeation. **K. Ganesh***
15:05 Break
15:15 – 39. Phosphorodiamidate morpholino oligonucleotides (PMOs): A versatile therapeutic platform. **R. Kole***
15:45 – 40. Stereocontrolled synthesis of boron-containing oligonucleotides as therapeutic agents. **T. Wada***
16:15 – 41. Evaluation and properties of chemically-modified siRNAs. **J. Desaulniers***, G. Hagen, B. Peel
16:35 – 42. Creation of the hypoxia-specific oligonucleotide therapeutics system with intracellular environment-responsible peptide ribonucleic acids (PRNAs). **T. Wada***
16:55 Closing Remarks

Sheraton Waikiki
Waianae

Fragment-based Lead Discovery (#145)

Organized by: D. Erlanson, M. Scanlon, K. Ruan, D. Tanaka, J. Tyndall
Presiding: M. Scanlon

13:00 NMR methods
13:00 – 43. Applications of ligand-based NMR spectroscopy in inhibitor discovery. **I.K. Leung**, M. Demetriades, T. Brown Jr, M. Abboud, J.L. Andersson, A.M. Rydzik, A. Khan, E. Flashman, C.J. Schofield*, T.D. Claridge*

*** Principle Author**

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13:30 – 44. Binding site identification and fragment optimization using ligand-detected NMR. **S.J. Headey***, D. Garriga, M. Pearce, C. Accurso, S. Bottomley, F. Coulibaly, M. Scanlon
13:50 – 45. Fast structure determination of low affinity protein–ligand complexes from sparse NMR data. **B. MOHANTY***, M. Williams, B.C. Doak, M. Vazirani, O. Ilyichova, W. Bermel, D.K. Chalmers, J. Simpson, G.F. King, M. Mobli*, M. Scanlon*
14:20 – 46. Solid-state NMR investigations of small-molecule binding sites. **S. Matsuoka***
14:50 Break
15:00 – 47. Map and Target: A NMR-based method for small molecule binding validation. **D.M. Dias***, C. Spry, M. Sabbah, A. Ciulli, C.F. Geraldes, C. Abell
15:20 – 48. Using a fragment based drug discovery approach for the development of Neisserial DsbD inhibitors. **B. Heras***, R. Smith, M. Scanlon, S.J. Headey
15:50 – 49. Practical aspects of ^{19}F NMR spectroscopy for fragment-based hit identification. **T. Haselhorst**
16:10 – 50. ^{19}F NMR: A valuable probe of protein-ligand interactions. **R.S. Norton***
16:30 – 51. Synergistic approaches to fragment based lead discovery: Getting the most out of your fragments. **J.B. Jordan***

Royal Hawaiian
Regency II

Spectroscopic Tools for the Treatment of Cancer (#397)

Organized by: N. Miyoshi, B. Wilson, W. Ahn, M. Cherukuri
Presiding: N. Miyoshi, Y. Ogawa

13:00 Introduction
13:05 – 52. Observation of intercellular water dynamics on sub-picosecond timescales by terahertz spectroscopy. **Y. Ogawa***, K. Shiraga, N. Kondo
13:35 – 53. Application of hyperthermia by irradiation of sub-THz wave from a gyrotron and a possibility of combination with photodynamic therapy for cancer. **N. Miyoshi***, S.K. Kundu, V. Mandal, T. Takahashi, T. Idehara
14:05 – 54. "Plasma thermograms": Heat profiles of blood for the detection and monitoring of cancer. **N.C. Garbett***, G.N. Brock, D.J. Fish, A. Kaliappan, M. Granger-Delacroix, N.C. Allen, D.M. Miller, J.A. Chesney
14:30 Break
14:40 – 55. Raman spectra exploring breast tissues appling support vector machine. **T. Gao**
15:05 – 56. Diagnosis of esophageal cancer in early stage by Raman spectroscopy with various chemometrics techniques. **M. Ishigaki***, Y. Maeda, A. Taketani, A.B. Bibin, R. Ishihara, K. Wongravee, Y. Ozaki, H. Sato
15:30 – 57. FT-IR 3000M for studying the phosphodiester group distribution in some tumor. **B.B. Andriana***, H. Sato, N. Miyoshi
15:55 – 58. Fourier-transform infrared (FT-IR) microscopic imaging for clinical raw tissues. **N. Miyoshi***, Y. Imamura, A.B. Bibin, T. Okoshi, T. Goi, A. Yamaguchi

Sheraton Waikiki
Oahu

Recent Advances in Microfluidics for Radiochemical Synthesis (#416)

Organized by: G. Pascali, Y. Kuge, R. Dam
Presiding: Y. Kuge, G. Pascali, R. van Dam

13:00 Introductory Remarks
13:05 – 59. Microfluidic promises and challenges: ".. to GMP or not to GMP, that is the question". **P.A. Salvadori***
13:40 – 60. Ru-catalyzed direct methylation of amines from CO_2 in a microfluidic environment. **M.B. Peterson**, G.J. Perkins*, A. Kallinen, O. Khatib, A. Ung, I. Greguric, G. Pascali
13:52 – 61. Peptide radiolabeling strategies. **J. Sutcliffe**
14:27 – 62. Applications of microfluidics to radiometal based radiopharmaceuticals. **D.E. Reichert***
15:02 Afternoon Break
15:12 – 63. Recent advances in microfluidics. **T.L. Collier**
15:47 – 64. Challenges of producing [^{18}F]F-HBG using continuous flow microfluidics. **L. Matesic***, A. Kallinen, I. Greguric, G. Pascali
15:59 – 65. Microfluidic surface-enhanced electrochemical fluorination. Q. He, R. van Dam, **S. Sadeghi**
16:11 – 66. Lab-on-a-chip for radiotracer synthesis and quality control. **N. Pamme***

Wednesday Morning

Sheraton Waikiki
Waialua

Oligonucleotide Therapeutics: From Base Pairs to Bedsides (#8)

Organized by: M. Manoharan, M. Damha, T. Wada
Presiding: M. Manoharan

8:00 Opening Remarks
8:05 – 67. Genome and epigenome editing with CRISPR/Cas9 technologies for gene therapy and disease modeling. **C. Gersbach**
8:35 – 68. Recent progress in the development of bridged nucleic acids. **S. Obika***
9:05 – 69. "Smart" delivery systems that open the intracellular target universe. **P. Stayton***
9:35 – 70. Toward the rational design of chemically modified siRNAs endowed with drug like properties. **P. Pushpangadan Indira***
10:05 Break
10:15 – 71. Role of high-purity solvents and reagents in oligonucleotide synthesis: Purity by design. **V. Mohan***
10:45 – 72. Gene silencing using structural variants of small interfering RNAs. **D. Lee***
11:15 – 73. Cyclic nucleotides and bacterial biofilm formation. **T. Yan***, E. Bordeleau, C. Oberc, M. Bell, N. Heidari, J. Li
11:35 – 74. RNA duplex binding molecules as carries for siRNAs. **R. Iwata***, F. Nakayama, S. Hirochi, K. Sato, Y. Maeda, W. Piao, K. Nishina, T. Yokota, T. Wada*
11:55 Closing Remarks

Sheraton Waikiki
Oahu

Chemistry for Development of Theranostic Radiopharmaceuticals (#11)

Organized by: D. Wilbur, M. Adam, P. Donnelly, Y. Arano, J. Jeong, X. Zhang
Presiding: M.J. Adam, D.S. Wilbur

8:00 Opening Remarks
8:05 – 75. Introduction to theranostic radionuclides. **S.S. Jurisson***
8:35 – 76. Dedpa family of chelates for radiometals. **M.J. Adam***, C. Orvig, C. Ramogida
9:05 – 77. Imaging and therapeutic possibilities with copper, rhenium, and technetium complexes. **P.S. Donnelly***
9:35 – 78. Cyclam propionates: Stable copper(II) chelates for radiopharmaceutical application. **M. Kubeil***, K. Zarschler, J. Pietzsch, H. Stephan, P. Comba
9:50 – 79. Optimizing technetium and rhenium small-molecules for enhanced biological behavior. **A. Mahmood***, T. Uehara, Y. Peng, Z. Akgun, N. Limpa-Amara, A.G. Jones
10:05 Break
10:15 – 80. Design and fabrication of radiolabeled probes for imaging and therapy of tumors. **F. Wang***
10:45 – 81. Immuno-PET of epithelial ovarian cancer: The promise of a magic bullet. **F. Wuest**
11:15 – 82. Phospholipid ethers: A broad spectrum cancer imaging and therapy delivery platform. **J.P. Weichert***, A. Pinchuk, J. Kuo, J. Jeffery, R. Zhang, J. Grudzinski, B. Titz, M. Longino
11:45 – 83. Development of enzyme mediated imaging and therapy (EMIT) as a novel theragnostic agent for metastatic prostate cancer. **J. Kronauge**, J. Jenson

Sheraton Waikiki
Waianae

Fragment-based Lead Discovery (#145)

Organized by: D. Erlanson, M. Scanlon, K. Ruan, D. Tanaka, J. Tyndall
Presiding: K. Ruan

8:00 Fragment finding and characterization
8:00 – 84. REFIL: A chemical strategy for the rapid elaboration of fragment hits into more potent lead compounds. **M. Scanlon***
8:30 – 85. Use of thermodynamic tools in the early stages of fragment-based drug discovery. **J.M. Caaveiro***, T. Mitani, K. Tsumoto*
8:50 – 86. New techniques, old techniques, and new ideas: Fragment screening revisited. **T.S. Peat**, L.A. Woods, O. Dolezal, B. Ren, J. Ryan, S. Poulsen*
9:20 – 87. Fishing for fragments to complement known binders. **D. Erlanson***
9:45 Break
9:55 – 88. Fragments and covalent inhibitors targeting macrophage migration inhibitory factor for inflammatory disease and cancer. **J. Tyndall***, L. Kok, M.T. Rutledge, C.T. Vo, A.B. Gamble, S.M. Wilbanks, M. Hampton
10:25 – 89. Combining acrylamide warheads with fragment based drug discovery to find a new class of glutaredoxin targeted antibiotics. **T.C. Leeper***, D.L. Morris, R. Khattri
10:45 – 90. Genetically-encoded fragment-based discovery. **R. Derda***
11:10 – 91. Is there anything fragments cannot do? Fragment discovery against a new target class. **E.R. Zartler**, T. Messick, K. Malecka, P. Lieberman
11:30 – 92. Recent experiences of fragment-based drug design at Astellas. **T. Niimi***

Hawaii Convention Center
Halls I, II, III

New Antibacterial Agents (#236)

Organized by: J. Finn, J. Palmer, H. Arimoto

Poster Session
10:00 – 12:00

93. PNIPAM nanospheres grafted to polypropylene fabric for thermally controlled release of bacteriophage. **H.J. Hathaway***, P. Perez-Esteban, D. Alves, K. Ouadi, J. Bean, A. Jenkins, M. Sutton
94. Arrival of imidazo[1,2-*b*]thiazole-carboxyamides as potent inhibitors of *Mycobeterium tuberculosis*. **G.C. Moraski***, P. Miller, J.R. Anderson, S. Cho, S. FRANZBLAU, M.J. Miller*
95. Water-soluble, selective Fe-binding polymer as synergic agent for antibiotic enhancement. **M. Bierenstiel***, T. Ang, B.E. Holbein
96. Synthesis and evaluation of flavonol derivatives as potent anti-MRSA agents. **K. Sasaki***, A. . Hossion, Y. Wang, Y. Zamami, T. Kuroda
97. Thioethers – active against *Mycobacterium tuberculosis*. **M. Konaklieva***, R. Kuskovsky, K. Arora, H. Boshoff, C. Barry III
98. Synthesis and antibacterial evaluation of macrocyclic diarylheptanoid derivatives. H. Lin, D. Bruhn, M. Maddox, R. Lee, R. Lee, **D. Sun**
99. Exploration of the mechanism of action and structure-activity relationship for a new class of quinazolinone antibiotics. **R. Bouley**, M. Kumarasiri, Z. Peng, D. Ding, L. Otero, W. Song, M.A. Suckow, V.A. Schroeder, W.R. Wolter, E. Lastochkin, N.T. Antunes , H. Pi, S. Vakulenko, J.A. Hermoso, M. Chang*, S. Mobashery
100. Synthesis, characterization, biological activity and cytotoxicity of copper complexes of imine-pendant derivatives of *ortho*-(*S*-methylthio) aniline. **M. Bierenstiel***, K. Ckless
101. Development of novel infection inhibitors targeting iron-uptake pathways against group a streptococcus. **M. Hoshino***, J.M. Caaveiro, S. Nagatoishi, I. Nakagawa, K. Tsumoto
102. Penicillin-binding protein 4 of *Pseudomonas aeruginosa*, a nexus for the induction of β-lactam antibiotic resistance. **J.F. Fisher***, M. Lee, D. Hesek, B. Blazquez, E. Lastochkin, B. Boggess, S. Mobashery
103. Design, synthesis, and evaluation of novel inhibitors of OXA-carbapenemases. **A.A. Bastian**, N. Stewart , N.T. Antunes , M. Kumarasiri, S. Vakulenko, S. Mobashery*
104. Antibiofilm studies using catheters with controllable electrochemical nitric oxide releas. **H. Ren**, J. Wu, C. Xi, M.E. Meyerhoff
105. Design and synthesis of simplified caprazamycin analogs. **T. Nakaya**, A. Matsuda, S. Ichikawa*
106. Some novel divalent metal based drug complexes: Preparation, analysis, and biological activities investigations. **J.A. OBALEYE***, N. Simon, U.B. Eke, A.C. Tella, M.O. Bamigboye, P.F. Omojasola, E.A. Balogun, J.O. Adebayo
107. Hydrogel-based contact active antimicrobial coatings. **M. Chan-Park***
108. Nanoparticle hybrid photosensitizers for broad-spectrum, enhanced photodynamic inactivation of bacteria. B. Hu, X. Cao, T. Ozkaya Ahmadov, H. Tang, **P. Zhang***
109. Pathogen neutralization with ionic liquids to treat persistent skin infections. **R. Del Sesto***, A. Koppisch, D.T. Fox, A. Newsham, M. Jones, T. Kern, K. Merrett, N. Nieto, M. Zakrewsky, S. Mitragotri

Hawaii Convention Center
Halls I, II, III

Drug Conjugates: Approaches to Delivering Active Drugs to Where they are Needed (#385)

Organized by: N. Ihle, B. Denny, S. Roffler
Presiding: N. Ihle

Poster Session
10:00 – 12:00

110. Quest for the appropriate enzymatic activity: Cell-in-a-Box® live-cell encapsulation technology for targeted cannabinoid-based chemotherapy. **R.M. Hyslop**
111. Induction of antitumor effect by recruiting the endogenous IgG through a small cross-linker. **K. Sasaki***, D. Funamoto, A. Kishimura, T. Mori, Y. Katayama

*** Principle Author**

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112. Human-derived fusogenic peptides for intracellular delivery of proteins. **K. Sudo***, K. Niikura, K. Fujiwara, N. Doi
113. Potent DNA crosslinking cytotoxins as novel payloads for ADCs. **A. Giddens***, M. Bonnet, H.H. Lee, G. Lu, M. Tercel, W. Denny, J.A. Flygare, T.H. Pillow, B.S. Safina, L.R. Staben, V.A. Verma, B. Wei

Hawaii Convention Center
Halls I, II, III

Spectroscopic Tools for the Treatment of Cancer (#397)

Organized by: N. Miyoshi, B. Wilson, W. Ahn, M. Cherukuri

Poster Session
10:00 – 12:00

122. Photodynamic therapy to biliary duct cancer by using fine multichannel endscope. **K. Kasuya***, R. Soya, Y. Nagakawa, T. Itoi, M. Shimazu, A. Tsuchida
123. Enhancement of photodynamic therapy effects with mitochondrial reactive oxygen species. **H. Ito***, H. Matsui, M. Tamura, T. Kaneko, I. Hyodo, H.P. Indo, H.J. Majima
124. Mechanism of porphyrin metabolism in cancer spheroid after administration of 5-aminolevulinic acid. **T. Nakayama***, K. Matsumoto, T. Tanaka, I. Okura, S. Ogura
125. Photosensitizer effect of 9-hydroxypheophorbide a on diode laser-irradiated laryngeal cancer cells: Oxidative stress-directed cell death and migration suppression. **P. He***
126. Effect of electron transport chain on the production of PpIX in hypoxia. **S. Otsuka***, K. Matsumoto, T. Tanaka, I. Okura, S. Ogura
127. Control of photodynamic activity of porphyrin photosensitizers through interaction with DNA. **K. Hirakawa***, S. Okazaki
128. Development of PDT system based on composite-type optical fiberscope. **K. Oka***, T. Seki, J. Usuda, T. Kokubo, S. Minakawa
129. Verification of hydroxyl radical density generated in water by low-LET radiation. **Y. Ogawa***, K. Matsumoto

Royal Hawaiian
Regency II

Spectroscopic Tools for the Treatment of Cancer (#397)

Organized by: N. Miyoshi, B. Wilson, W. Ahn, M. Cherukuri
Presiding: K. Hirakawa, Z. Huang

8:00 – 114. Challenges of multidrug resistance in photodynamic therapy of cancer. **Z. Huang**
8:30 – 115. Contribution of singlet oxygen and electron transfer-mediated mechanisms on the photodynamic effect of phosphorus(V)porphyrin. **K. Hirakawa***
9:00 – 116. Enhanced tumor optical imaging and photodynamic effect through albumin-embedding. **M. Huang***
9:25 – 117. Synthesis and photocytotoxicity of fluorophyenylporphyrin derivatives having two different functional groups. **S. Hirohara**, Y. Kubota, N. Akiyama, M. Obata, H. Matsui, K. Kakiuchi
9:50 Break
10:00 – 118. Optical properties of a new water soluble chlorin photosensitizer. **Z. Huang**
10:25 – 119. Organic synthetic approach to novel porphyrinoid photosensitizer. **H. Shimakoshi***, Y. Hisaeda
10:50 – 120. Nitric oxide involves cancer specific hematoporphyrin derivatives accumulation via HCP-1 expression. **M. Terasaki**, H. Ito, H. Matsui*
11:15 – 121. Synthesis and characterization of water-soluble polymers bearing porphyrin moiety at the initiating end for photodynamic therapy. **M. Obata***, Y. Tsutsui, S. Hirohara

Wednesday Afternoon

Sheraton Waikiki
Oahu

Chemistry for Development of Theranostic Radiopharmaceuticals (#11)

Organized by: D. Wilbur, M. Adam, P. Donnelly, Y. Arano, J. Jeong, X. Zhang
Presiding: Y. Arano, P.S. Donnelly

13:00 – 130. Potential problems with using radioiodine in development of astatine-211 theranostic radiopharmaceuticals. **D. Wilbur***, D. Hamlin, M. Chyan, E.R. Balkin, O. Press, B. Sandmaier
13:30 – 131. Development of astatine-labeled benzylguanidine derivatives for use in cancer pretargeting. **M.D. Hylarides**, D. Wilbur, D.K. Hamlin, C. Ming-Kuan, S.H. Frost, S.L. Frayo, O.W. Press
13:45 – 132. Development of iodine-131-labeled α-methyl-L-phenylalanine for tumor therapy. **H. Hanaoka***, Y. Ohshima, A. Yamaguchi, Y. Suzuki, T. Uehara, N.S. Ishioka, K. Endo, Y. Arano, Y. Tsushima
14:00 – 133. Retinoid based potential theranostic agents for the treatment of atypical teratoid rhabdoid tumor. K.F. Ginn, **B.C. Das**
14:15 – 134. Evaluating the $^{123}I/^{211}At$ theragnostic pair using octreotate modified with a boron cage moiety. **J.R. Crawford***, F. Benard, K. Lin, H. Yang, I. Dude, C. Ming-Kuan, Z. Zhang, P. Schaffer, D. Wilbur, T. Ruth
14:30 – 135. Synthesis and evaluation of Lu-177 labeled somatostatin analog DOTA-Pasireotide for tumor imaging. **F. Liu**, H. Zhu, X. CHiyi, C. Li, Z. Yang*
14:45 Break
15:00 – 136. Toward reducing renal radioactivity levels of radiolabeled polypeptides. **Y. Arano***
15:30 – 137. Theranostic application of cancer targeting probes labeled with various copper radioisotopes. **T. Saga***
16:00 – 138. Ga-68 radiopharmaceuticals and their quality control. **P. Roselt***
16:30 – 139. ^{44}Sc: From bench to bedside. **N. van der Meulen***, C. Müller, K. Domnanich, M. Bunka, C. Vermeulen, A. Singh, R. Baum, A. Türler, R. Schibli
16:45 – 140. Multifunctional radiolabeled combined peptides for theranostics of primary cancer and bone metastases. **K. Ogawa**, J. Yu, A. Ishizaki, M. Yokokawa, Y. Kitamura, K. Shiba, A. Odani

Sheraton Waikiki
Waianae

Fragment-based Lead Discovery (#145)

Organized by: D. Erlanson, M. Scanlon, K. Ruan, D. Tanaka, J. Tyndall
Presiding: J. Tyndall

13:00 Fragments to leads and drugs
13:00 – 141. Fragment based approach for targeting kinases. **C. Sun***
13:30 – 142. Selective inhibition of BRM bromodomain and chromatin interaction. **K. Ruan***
14:00 – 143. Fragment-based drug discovery of potent and selective CYP121 inhibitors for tuberculosis. **M.E. Kavanagh**, A.G. Coyne, G.G. James, K. McLean, L. Pedro de Carvalho, A.W. Munro, C. Abell
14:20 – 144. Novel Mcl-1/Bcl-2 dual inhibitors created by the structure-based hybridization of drug-divided building blocks and a fragment deconstructed from a known two-face BH3 mimetic. **Z. Zhang***
14:45 – 145. Fragment library screening identifies hits that bind to the noncatalytic surface of *Pseudomonas aeruginosa* DsbA1. **R.M. Mc Mahon***, K. Rimmer, B. Mohanty, S. Headey, M. Vazirani, M. Coincon, S. Tay, J. Simpson, C. Morton, J. Martin, M. Scanlon
15:05 Break
15:15 – 146. Discovery and characterization of small molecule fragments that bind and inhibit the ubiquitin specific protease 7 (USP7). **P. Di Lello**, T. Crawford, K. Deshayes, J. Drobnick, J. Drummond, J. Ernst, L. Kategaya, C. Ly, T. Maurer, J. Murray, C. Ndubaku, R. Pastor, L. Rouge, V. Tsui, X. Zhao, K. Zobel, I. Wertz
15:45 – 147. Identification of type II inhibitors targeting BRAF V600E using privileged fragment based hybrid-design approach. **Q. Zhang***, F. Wang
16:05 – 148. Selectivity of the initial fragment hits in fragment based drug design approach. **M. Takimoto-Kamimura***
16:30 – 149. FBLD yields orally active, brain penetrant inhibitors for BACE1 and PDE10A. **D.F. Wyss***

Sheraton Waikiki
Waialua

New Antibacterial Agents (#236)

Organized by: J. Finn, J. Palmer, H. Arimoto
Presiding: J. Finn

13:00 Opening Remarks
13:05 – 150. Targeting metallo-beta-lactamases (MBLs) for new antibacterial agents. **M.W. Crowder***, M. Aitha, H. Yang, A. Bergstrom, D. Tierney, B. Bennett, L. Sutton, L. Moritz, O. Sanyurah, A. Moller
13:30 – 151. Discovery of new nonantibiotics that restore MRSA susceptibility to β-lactam antibiotics. **H. Tomoda***, **N. Koyama**
13:55 – 152. Cell wall as target for discovery of novel antibiotics. **S. Mobashery***
14:40 – 153. Disarming antibiotic resistance using an adjunctive strategy. **C. Melander**
15:05 break
15:20 – 154. Synthesis and biological studies of a new class of antibiotic potentiators for methicillin-resistant *Staphylococcus aureus* (MRSA). **E. Speri**, M.A. Boudreau, J. Fishovitz, S. Mobashery*
15:45 – 155. SNAPPing Gram-negative bacteria with star-shaped polypeptides. **S. Lam**, N. O'Brien-Simpson, N. Pantarat, A. Sulistio, E. Wong, Y. Chen, A. Blencowe, E. Reynolds, G.G. Qiao*
16:05 – 156. Deciphering the structure-activity relationships of tomatidine, a steroid alkaloid with antibiotic properties against small colony variants of *Staphylococcus aureus* . **E. Marsault***, F. Chagnon, I. Guay, M. Lamontagne-Boulet, F. Malouin
16:25 closing remarks

Sheraton Waikiki
Kohala/Kona

Drug Conjugates: Approaches to Delivering Active Drugs to Where they are Needed (#385)

Organized by: N. Ihle, B. Denny, S. Roffler
Presiding: N. Ihle

13:00 Introductory Remarks
13:05 – 157. Design, synthesis, and evaluation of novel anabolic bone-targeting prodrugs for treatment of osteoporosis and other bone conditions. **R.N. Young***, G. Chen, H. Xie
13:45 – 158. Development of antibody drug conjugates for cancer therapy. **P. Senter**
14:25 – 159. Novel chemistries for antibody-drug conjugates. **T. Pillow**
15:05 BREAK
15:20 – 160. pH-tunable linker: The next generation of versatile linkers for ADC. **C.J. Choy**, C. Berkman
15:40 – 161. New molecular transporters and nanovaults for drug/probe delivery: Targeting resistant disease and AIDS eradication. **P.A. Wender***
16:20 – 162. Self-assembling drug conjugates. **H. Cui**

Royal Hawaiian
Regency II

Spectroscopic Tools for the Treatment of Cancer (#397)

Organized by: N. Miyoshi, B. Wilson, W. Ahn, M. Cherukuri
Presiding: H. Matsui, T. Yamamoto

13:00 – 163. Cancer cellular treatments with heavy atoms involved fluorescent X-ray. **H. Matsui***, H. Ito, M. Terasaki, M. Tamura, T. KANEKO
13:20 – 164. Boron neutron capture therapy for glioblastoma. **T. Yamamoto***, K. Nakai, H. Kumada, T. Aihara, E. Sato, T. Isobe, A. Matsumura
13:40 – 165. Carbon-ion therapy for patients with liver, pancreatic, and colorectal cancer. **S. Yamada***, N. Okada, S. Yasuda, Y. Isozaki, T. Kamada
13:55 – 166. Reactive oxygen species induced by X-ray and heavy-ion beam. **K. Matsumoto***, Y. Ogawa, M. Ueno, I. Nakanishi
14:10 – 167. Stereotactic body radiation therapy for non-small cell lung cancer, and hepatocellular carcinoma: Japanese experience. **T. Kimura**
14:25 – 168. Development of the accelerator based neutron source for BNCT in University of Tsukuba. **H. Kumada**, A. Matsumura, H. Sakurai, M. Yoshioka, H. Kobayashi, H. Matsumoto, T. Kurihara, T. Nakamura, H. Nakashima, T. Sugano, N. Ikeda
14:40 – 169. Development of new boron delivery system for BNCT clinical trial. **K. Nakai**, T. Yamamoto, H. Kumada, . Aihara, F. Yoshida, A. Matsumura
14:55 Break
15:05 – 170. On-time imaging of the distribution of ^{10}B in BNCT by the detection of 478keV prompt gammas with Electron Tracking Compton Camera. **T. Tanimori***
15:20 – 171. ROS generation and radiosensitizion by gold nanoparticles under MV X-ray irradiation. **M. Misawa***, M. Hayano, M. Sato, J. Takahashi, K. Fujita, K. Hayashi
15:35 – 172. Boron-neutron capture therapy for head and neck cancer. **T. Aihara**, H. Ishikawa, H. Kumada, N. Fukumitsu, K. Ohnishi, J. Hiratsuka, T. Yamamoto, A. Matsumura, H. Sakurai
15:50 – 173. Non-platinum-based halogenated compounds: A new class of potent anti-tumor agents in combination with radiation therapy. **Q. Lu***, C. Wang, Q. Zhang, Y. Wu, Y. Mei, J. Warrington, N. Ou

Wednesday Evening

Sheraton Waikiki
Waianae

Fragment-based Lead Discovery (#145)

Organized by: D. Erlanson, M. Scanlon, K. Ruan, D. Tanaka, J. Tyndall
Presiding: D. Erlanson

19:00 Poster popcorn
19:20 Special topics: TBA
19:40 Practical FBLD discussion

*** Principle Author**

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Sheraton Waikiki
Oahu

Spectroscopic Tools for the Treatment of Cancer (#397)

Organized by: N. Miyoshi, B. Wilson, W. Ahn, M. Cherukuri

19:00 – 174. Review of Session-I-III includes Posters (PDT/Clinics and Photosensitizers). **W. Ahn**
19:15 – 175. Review of Sessions-I-III includes Posters (PDT, SDT /Veterinary Animals). **Y. Okamoto**
19:30 – 176. Review of Session-II (FT-IR, Raman/Clinical screening and tumor model). **N. Miyoshi**
19:45 – 177. Review of Session-II (Tera-Hertz/ Imaging and Hyperthermia). **Y. Ogawa**
20:00 – 178. Review of Session-III, -I includes Posters (PDT/ Photosensitizers, Mechanisms). **Z. Huang**
20:15 – 179. Review of Session-III, -I includes Posters (PDT/Photochemistry, Active oxygen species). **K. Hirakawa**
20:30 – 180. Review of Session-IV includes Posters (Fluorescent X-ray/Cells and Animals). **H. Matsui**
20:45 – 181. Review of Session-IV includes Posters (BNCT, Proton, Carbon / Clinics and Animals). **T. Yamamoto**

Thursday Morning

Hawaii Convention Center
Halls I, II, III

Oligonucleotide Therapeutics: From Base Pairs to Bedsides (#8)

Organized by: M. Manoharan, M. Damha, T. Wada
Presiding: V. Mohan

Poster Session
10:00 – 12:00

182. Discovery of a "DNA zip-slider" domain in human RecQ helicases WRN and BLM. **K. Kitano***, S. Kim, T. Hakoshima
183. Intracellular delivery analysis of siRNA therapeutics based on siRNA-selective fluorescent probes. **Y. Sato**, T. Sato, M. Kaneko, S. Nishizawa*
184. Synthesis and properties of oligonucleotides containing P3'->S5' phosphorothiolates. **A. Fujisaka***, M. Islam, R. Waki, K.R. Ito, S. Obika
185. Synthesis of saccharide-modified oligonucleotide as an inhibitor of influenza virus infection. **Y. Nomura**, M. Matsuda, M. Yamabe, D. Akamatsu, Y. Ebara*
186. Synthesis of mannose-modified oligonucleotide that bind to mannose binding protein. **M. Matsuda**, Y. Nomura, M. Yamabe, D. Akamatsu, Y. Ebara*
187. Synthesis and properties of *P*-stereodefined PO/PS-chimeric oligoribonucleotides. **Y. Nukaga**, N. Oka, T. Wada*
188. Use of 4-nitrobenzyl group for the development of therapeutic oligonucleotides. **Y. Hiyoshi**, K. Iketani, K. Kondo, A. Ono, H. Saneyoshi
189. Creation of the hypoxia-specific oligonucleotide therapeutics system with intracellular environment-responsible peptide ribonucleic acids (PRNAs): Synthesis and antisense activities of new type of chimeric PRNA-DNA derivatives containing phosphoramidate linkage in PRNA-DNA junction. **M. Inagaki**, R. Uematsu, Y. Araki, S. SAKAMOTO, s. ishibashi, H. Kashida, H. Asanuma, T. Yokota, T. Wada*
190. Reduction-activatable protecting groups for pro-oligonucleotides. **K. Kondo**, K. Iketani, A. Ono, H. Saneyoshi
191. Creation of hypoxia specific oligonucleotide therapeutics system with intracellular environment-responsible peptide ribonucleic acids (PRNAs): Tuning and optimization of *on – off* switching pH of PRNA for hypoxia specificity. **M. Asai**, R. Uematsu, Y. Araki, S. SAKAMOTO, s. ishibashi, T. Yokota, T. Wada*
192. Remarkable cellular uptake enhancements of arginine introduced peptide ribonucleic acid (PRNA) for hypoxia specific oligonucleotide therapeutics. **H. Sugai**, I. Nakase, S. SAKAMOTO, Y. Araki, M. Takai, T. Wada

Sheraton Waikiki
Oahu

Chemistry for Development of Theranostic Radiopharmaceuticals (#11)

Organized by: D. Wilbur, M. Adam, P. Donnelly, Y. Arano, J. Jeong, X. Zhang
Presiding: J. Jeong, X. Zhang

8:00 – 193. Beginnings, evolution, and current status of "theragnostics". **S.C. Srivastava***
8:30 – 194. Novel treatments for arthritis in humans and animals using the theranostic isotope Sn-117m: Colloids and labeled molecules. **N.R. Stevenson***, J. Simon
8:45 – 195. Intrinsically radioactive nanoparticles for tumor imaging. **X. Chen***
9:15 – 196. Folate-conjugated polymers with ^{99m}Tc for tumor imaging. Z. Guo, P. Zhang, M. Song, R. Zhuang, C. Liu, **X. Zhang***
9:45 – 197. Radiopharmaceutical evaluation of peptide nucleic acid bioconjugates as complementary system for tumor pretargeting. **H. Stephan**
10:00 Break
10:15 – 198. Development of multifunctional nanoparticles by encapsulation with special amphiphiles. **J. Jeong***
10:45 – 199. Development of PSMA targeting therapy using Lu-177-labeled nanoparticles. **S. Oh**, S. Moon, J. Jeong*, D. Lee
11:15 – 200. Lanthanide upconversion nanoparticles for bioimaging. **F. Li***
11:45 – 201. Dragon fruit-like biocage as an iron trapping nanoplatform for high efficiency targeted cancer multimodality imaging. **M. Yang***, Q. Fan, R. Zhang, K. Cheng, J. Yan, D. Pan, Z. Cheng

Sheraton Waikiki
Waianae

Advances in Polymers for Medicine (#52)

Organized by: J. Pokorski, R. Advincula, T. Miyata, C. Boyer, K. Ishihara
Presiding: J. Pokorski

8:00 – 202. Dense peptide brush polymers as delivery systems for therapeutic peptides. **N. Gianneschi**
8:30 – 203. Shaping plant virus-based nanoparticles for applications in biomedical imaging and therapeutic intervention. **N.F. Steinmetz***
9:00 – 204. Drug-free macromolecular therapeutics - a new paradigm in polymeric nanomedicines. **J.H. Kopecek***, T. Chu, J. Yang, R. Zhang, J. Hartley
9:30 Coffee Break
9:50 – 205. Breakthroughs in imprint lithography and 3D additive fabrication to advance NextGen drug delivery technologies. J.M. DeSimone*, **J.C. Luft**
10:20 – 206. Molecularly imprinted nanogel particles that acquire stealth in situ by cloaking themselves with the body's own dysopsonic protein. **T. Takeuchi***, R. Sasao, Y. Kitayama
10:40 – 207. Molecular imaging MRI agents responsive to biological signals. C. Zhang, K. Wang, H. Peng, s. puttick, K. Thurecht, S. Rose, **A. Whittaker**
11:10 – 208. Polymer-based nanoparticles cancer therapeutics: From concept to clinic. **M.E. Davis**

Hawaii Convention Center
Halls I, II, III

Fragment-based Lead Discovery (#145)

Organized by: D. Erlanson, M. Scanlon, K. Ruan, D. Tanaka, J. Tyndall

Poster Session
10:00 – 12:00

209. Novel tools for screening fluorine containing fragments by NMR. **C. Anklin**, H. Kovacs
210. Redesign of the Merck Fragment Library. **C. Fischer***
211. Identification of novel activators of caseinolytic protease p using fragment based screening approaches. **A.P. Singh***, Y. Zhao, Z. Zheng, E. Griffith, W. Shadrick, R. Tangallapally, J. Bowling, **R. Lee***
212. Similarity analyses of ligand-binding subsites on proteins. **N. Yamaotsu***, S. Hirono
213. Natural products = Frequent hitters?. **P. Schneider***

Hawaii Convention Center
Halls I, II, III

Chemistry of Molecular Imaging (#215)

Organized by: H. VanBrocklin, G. Tamagnan, Y. Fujibayashi, L. Luyt, A. Katsifis, Y. Choe, N. Vasdev
Presiding: H. VanBrocklin, D. Wilbur

Poster Session
10:00 – 12:00

214. ^{11}C-labeling of the C(1)−C(10) dihydroxy acid moiety for the study on the synthesis of kulokekahilide-2 PET tracer. **C. Han***, H. Doi, J. Kimura, Y. Nakao, M. Suzuki*
215. ^{18}F-labeled FSHR antagonist for PET imaging of prostate cancer. **D. Pan**, Y. Xu, J. Yan, R. Yang, L. Wang, M. Yang*
216. New theranostic probe for tumor hypoxia based on triple-resonance NMR and radio-sensitization. **Y. Suzuki**, H. Yamada, Y. Kimura, A. Son, K. Tanabe, A. Toshimitsu, Y. Aoyama, T. Kondo*
217. Biocompatible phosphorylcholine polymer probes for in vivo photoacoustic imaging. **N. Matsumoto**, H. Yamada, Y. Kimura, A. Toshimitsu, Y. Aoyama, T. Kondo*
218. Catabolism of a ^{64}Cu- and Cy5.5-labeled human serum albumin in a tumor xenograft model. C. Kang, H. Koo, G. An, **Y. Choe***
219. Densely iodinated stealth dendrimers as blood-pool contrast agents for computed tomography. **Y. Kim***, H. Jung, S. You
220. Dual imaging agent for ultrasound and PET: Nanodroplets encapsulated perfluorocarbon and [Cu-64]ATSM. **K. Lee**, U. Shin, J. Lee, H. Park, G. An, C. Choi, S. Lim, B. Kim, J. Seo, J. Kim
221. Electrochemical radiofluorination of sulfur containing aliphatic acids: Potential approach to radiolabeling of amino acids. **A. Lebedev***, Q. He, F. Yang, S. Sadeghi
222. Electrochemical radiolabeling of COX-2 inhibitors: Potential PET agents for imaging of inflammation. **A. Lebedev***, Q. He, S. Sadeghi
223. Evaluation of simultaneous dual-isotope SPECT/PET/CT imaging with ^{99m}Tc and ^{64}Cu by phantom study and its in vivo application. **N. Adachi***, Y. Yoshii, T. Furukawa, Y. Takeuchi, M. Inubushi, H. Wakizaka, M. Zhang, Y. Fujibayashi, T. Saga
224. Hyperpolarized ^{15}N tripodal tetramine derivatives as sensors of free Zn^{2+} ions in vivo. **E. Suh***, L. Limata, A. Sherry, Z. Kovacs
225. Evaluation of TlOH base for Pd^0-mediated coupling of methyl iodide and excess boronic acid esters toward fabrication of short-lived ^{11}C-incorporated PET tracer. **H. Koyama**, H. Doi, M. Suzuki*
226. Hyperpolarized NMR molecular probe for long-term biomolecule analysis. **M. Hirano***, H. Nonaka, S. Sando
227. Rh(I)-mediated rapid [^{11}C]carboxylation using [^{11}C]CO_2 and organoborane at atmospheric pressure. **M. Goto**, S. Kurai, R. Yamamoto, T. Kanamitsu, M. Suzuki, Y. Watanabe, H. Doi*
228. Probe-targeted magnetic resonance imaging of tumor with a self-traceable ^{1}H–^{13}C polymeric nanoprobe. **H. Yamada***, Y. Hasegawa, Y. Kimura, H. Imai, T. Matsuda, Y. Uto, Y. Aoyama, T. Kondo
229. Non-invasive PET imaging of the glucagon-like peptide-1 receptor in the pancreas with ^{18}F labeled exendin-4 analog. **Y. Xu**, D. Pan, R. Yang, L. Wang, J. Yan, M. Yang*
230. Micelle type dual imaging probe for positron and near-infrared fluorescence imagings. **A. Makino**, A. Tomoike, H. Kimura, M. Ono, H. Okazawa, Y. Kiyono, H. Saji
231. Binding of indium, gallium, and ruthenium ions by gastrins for biomedical applications. **J.M. Pushie**, G.N. George, G.S. Baldwin
232. Impact of chelating agent on MMP-binding. **S.C. Ghosh**, N. Wilganowski, E.M. Sevick-Muraca, A. Azhdarinia*
233. Development of 2-[^{211}At]astato-α-methyl-L-phenylalanine (2-AAMP) as a novel radiopharmaceutical for internal radiotherapy. **Y. Ohshima***, H. Suzuki, H. Hanaoka, S. Watanabe, S. Watanabe, N. Watanabe, Y. Tsushima, K. Endo, Y. Arano, N.S. Ishioka
234. In-situ preparation of trivalent ^{99m}Tc/$^{186/188}$Re-labeled compounds from monovalent ligand for ready-to-use theranostic radiopharmaceuticals: Factors affecting radiochemical yields of isonitrile-based trivalent ^{99m}Tc/$^{186/188}$Re-labeled compounds. **Y. Mizuno**, C. Jen, T. Uehara, Y. Arano
235. Synthesis and biological evaluation of a ^{99m}Tc-labeled fatty acid for myocardical metabolic imaging. **L. Jianping**, x. qianqian, Z. huabei*
236. Synthesis and biological evaluation of novel ^{64}Cu-labeled dimeric c(RGD-ACH-K) peptide conjugates for tumor PET imaging. **K. Lee***, J. Park, J. Lee, U. Shin, G. An, J. Kim*
237. Synthesis of ^{89}Zr-labeled trastuzumab and thio-trastuzumab for PET imaging of HER-2 positive lesions. **K. Lee**, J. Lee, U. Shin, J. Park, H. Park, G. An, C. Choi, S. Lim, B. Kim, J. Kim
238. Synthesis and evaluation of a N-13 labeled, nitric oxide donor, 3-methyl-4-furoxancarbaldehyde for preliminary PET imaging. **A.B. Pippin***, R.J. Voll, M. Smith, D.C. Liotta, M.M. Goodman
239. Toward convenient synthesis of ^{18}F labeled MIBG analogs. **A. Yamaguchi**, H. Hanaoka, T. Higuchi, Y. Tsushima
240. Tropomyosin receptor kinase (TrkA/B/C) PET imaging: Synthesis and structure−activity relationship studies of fluorinated (2-(3-fluorophenyl)pyrrolidin-1-yl)imidazo[1,2-*b*]pyridazine-based inhibitors. V. Bernard-Gauthier, **R. Schirrmacher**

Sheraton Waikiki
Honolulu

New Antibacterial Agents (#236)

Organized by: J. Finn, J. Palmer, H. Arimoto

8:00 Opening remarks

*** Principle Author**

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8:05 – 241. Targeting HSP60/10 (GroEL/ES) chaperonin systems as a mechanistically unique antibiotic strategy. S.J. Abdeen, N. Salim, R. Veeramachanenin, A. Ambrose, P.G. Schultz, A. Horwich, E. Chapman, **S.M. Johnson***
8:30 – 242. Discovery and optimisation of new small-molecule inhibitors of bacterial DNA gyrase and topoisomerase IV. **N. Stokes***
9:00 – 243. VXc-486, a novel dual targeting GyrB/ParE inhibitor for the treatment of bacterial infections: Discovery and characterization of a water-soluble prodrug. **H. O'Dowd**
9:30 – 244. CRS3123, a novel diaryldiamine in clinical development for treatment of *Clostridium difficile* infection. **T. Jarvis***, S. Bell, I. Critchley, D. Davies, D. Drolet, S. Gill, J. Guiles, U. Ochsner, J. Rohloff, X. Sun, N. Janjic
10:00 break
10:15 – 245. SBDD approach of the novel inhibitor of bacterial multidrug efflux transporter. **Y. Inoue***, S. Yamasaki, Y. Higuchi, A. Yamaguchi, N. Kato
10:40 – 246. Targeting *nusB-nusE* binding to inhibit antitermination, a novel antibiotic target. **P. Cossar***, C. Ma, J.I. Ambrus, P.J. Lewis, A. McCluskey
11:05 closing remarks

Sheraton Waikiki
Waialua

Nutraceuticals and Functional Food Ingredients: Chemistry and Health (#285)

Organized by: F. Shahidi, C. Ho, R. Pegg, K. Miyashita
Presiding: C. Ho, K. MIYASHITA, F. Shahidi

8:00 opening
8:05 – 247. Novel phenolic antioxidants: performane and role in health and disease. **F. Shahidi***
8:25 – 248. Bioavailable antioxidants to suppress the formation of 8-hydroxy-2'-deoxyguanosine in oxidative injury of DNA. **K. Kanazawa***, K. Kanazawa
8:45 – 249. Vitamins potently inhibit thiyl radical-induced *trans* fatty acid formation in PC-12 cells. **W. Hung**, C. Ho, L.S. Hwang
9:05 – 250. Flaxseed dietary fibre association with phenolic compounds and their bioactivity. **F. Hosseinian***
9:25 – 251. Relationship between in vitro and biological antioxidant assay of pecan phenolics. **R.B. Pegg***, M. Kellett, Y. Gong, P. Greenspan
9:45 break
9:55 – 252. Controlling the gastrointestinal fate of nutraceutical-enriched lipid delivery systems for improved bioavailability. **H. Xiao***
10:15 – 253. A multiple bioactivity of flavan-3-ols was revealed through sympathetic nerve stimulation. **N. Osakabe***, N. Kamio, K. Inagawa
10:35 – 254. Dietary factors affecting bioavailability of onion flavonoids. **J. Terao***
10:55 – 255. Bioactive properties of orange peel on intestinal antioxidant, anti-inflammatory activities and cell tight junction function. **X. Chen***, D. Kitts
11:15 – 256. Antioxidant and cytoprotective activities of solventless extracts from fruit and vegetable wastes. **M.Y. Heng**, S. Katayama, E. Ong, S. Nakamura
11:35 – 257. Compounds isolated from *Osmamthus fragrans var. thunbergii* and their properties of antioxidant and anti-proliferative. **B. Lu**, **F. Zhou**
11:55 closing

Sheraton Waikiki
Kohala/Kona

Drug Conjugates: Approaches to Delivering Active Drugs to Where they are Needed (#385)

Organized by: N. Ihle, B. Denny, S. Roffler
Presiding: M. Tercel

8:00 Introductory Remarks
8:05 – 258. Arming antibodies with DNA cross-linking agents derived from the duocarmycins. **M. Tercel***, A. Giddens, G. Lu, H.H. Lee, M. Bonnet, W. Denny, J.A. Flygare, T.H. Pillow, B.S. Safina, L.R. Staben, V.A. Verma, B. Wei
8:45 – 259. Development of novel diketopiperazine-forming spacer: Gly-Pro. **S. Manabe***, Y. Aihara, H. Machida, M. Yasunaga, Y. Ito, Y. Matsumura
9:05 – 260. Optimization and tumor targeting of 1,2-bis(sulfonyl)hydrazines. **P.G. Penketh***, K. Shyam, R. Baumann, K. Ishiguro, R. Zhu, A. Sartorelli
9:45 BREAK
10:00 – 261. α-Galactosidase A loaded nanoliposomes with enhanced enzymatic activity for Fabry disease. **J. Veciana***, I. Cabrera Puig, I. Abasolo, J. Corchero, E. Elizondo, P. Rivera, E. Moreno, J. Faraudo, S. Sala, M. Bueno, M. Rivas, M. Melagarejo, D. Pulido, M. Royo, F. Albericio, A. Villaverde, M. Parajo, S. Schwartz, N. Ventosa
10:20 – 262. Discovery of TH-4000: A renaissance in hypoxia-activated prodrug design. **J. Smaill***, G. Lu, H.H. Lee, S. Silva, V. Jackson, M. Abbattista, C. Guise, M. Bull, A. Grey, H. Hsu, J. Sun, J. Jaiswal, S. Jamieson, A. Ashoorzadeh, R. Anderson, C. Hart, T. Pearce, A. Patterson
11:00 – 263. Therapeutic targeting of the hypoxic compartment of the tumor microenvironment with evofosfamide (TH-302): Translational and clinical studies. **M. Matteucci**

Thursday Afternoon

Sheraton Waikiki
Waianae

Advances in Polymers for Medicine (#52)

Organized by: J. Pokorski, R. Advincula, T. Miyata, C. Boyer, K. Ishihara
Presiding: T. Miyata

13:00 – 264. Catalysis of endogenous therapeutics at medical polymer interfaces – an alternative approach for long term device integration. **M. Reynolds***, M. Neufeld, E. Lauzon, A. Lutzke, A. Pegalajar-Jurado
13:20 – 265. Delivery of carbon monoxide using polymeric nanoparticles for bioapplications. **C. Boyer**, D. Nguyen, K. Nguyen
13:40 – 266. Biomaterials processed via melt extrusion: Molecular modification of scalable nanofibers. **J. Pokorski**
14:00 – 267. Thermally-driven self-cleaning membranes: Extending the lifetime of an implanted glucose biosensor. **M.A. Grunlan***
14:20 – 268. Directing cellular functions via hydrated mobility of polyrotaxane surfaces. **N. Yui***, J. Seo, T. Yamaoka, S. Kakinoki
14:50 Break
15:00 – 269. Photoinduced and self-initiated graft polymerization of 2-methacryloyloxyethyl phosphorylcholine on poly(ether ether ketone) for obtaining surface biocompatibility. **K. Ishihara***
15:30 – 270. Engineering biointerfaces using controlled radical polymerization. **H. Klok**
15:50 – 271. Graphene oxide/polymer antimicrobial agents and polymeric coatings. **R. Advincula***
16:10 – 272. Fabrication of drug crystalline-loaded polymer thin films (nanosheets) for biomedical applications. **S. Takeoka***, K. Ito, K. Nishiwaki, T. Fujie
16:30 – 273. Rapid neointima formation and good patency of very thin long bypass grafts with circulating cell-capturing surface. **T. Yamaoka***, M. Kitai, A. Otaka, M. Munisso, Y. Ohya, A. Mahara

Sheraton Waikiki
Oahu

Chemistry of Molecular Imaging (#215)

Organized by: H. VanBrocklin, G. Tamagnan, Y. Fujibayashi, L. Luyt, A. Katsifis, Y. Choe, N. Vasdev
Presiding: G. Tamagnan, H. VanBrocklin

13:00 Opening Remarks
13:10 – 274. Low temperature nucleophilic F-18 fluorination for bioconjugation chemistry. **D. Chi***, B. Lee, B. Kang
13:45 – 275. Iodonium ylide mediated radiofluorination: A general method for the preparation of PET radiopharmaceuticals. **S. Liang***, N. Vasdev
14:05 – 276. Copper-mediated approaches to late-stage fluorination with fluorine-18. A. Brooks, N. Ichiishi, A. Mossine, K. Makaravage, J. Miller, J. Topczewski, M. Sanford, **P.J. Scott**
14:25 – 277. Discovery and optimization of tracer ligands for CNS PET imaging. **S. Hitchcock***
15:00 Break
15:20 – 278. Imaging platform sensitive to protease activity for detection of Alzheimer's disease. J. Snir*, M. Suchy, G.A. Bindseil, R. Ta, K. St. Lawrence, **R. Hudson***, S. Pasternak*, R. Bartha*
15:40 – 279. Fluorine-18 labeled PET imaging tracer targeting the astroglial CNS excitatory amino acid transporter 2 protein. **J.E. Blecha**, S. Ahmed, J. Gerdes, H. VanBrocklin
16:00 – 280. Transport of [^{11}C] vitamin C and redox partner [^{11}C] dehydroascorbic acid in human glioma cells. **V.N. Carroll**, C. Truillet, B. Shen, X. Shao, P. Scott, F. Chin, D. Wilson
16:20 – 281. D- and L- [^{18}F]5-fluoro aminosuberic acid ([^{18}F]5-FASu) for oxidative stress imaging. **H. Yang**, S. Jenni, Q. Miao, I. Rodrigo, C. Poleschuk, J.M. Webster, F. Benard, P. Schaffer
16:40 – 282. Redox-responsive MRI contrast agents. **E. New***, E. O'Neill, K. Jankowska, P. Bonnitcha

Sheraton Waikiki
Honolulu

New Antibacterial Agents (#236)

Organized by: J. Finn, J. Palmer, H. Arimoto
Presiding: H. Arimoto

13:00 opening remarks
13:05 – 283. Bringing the full power of chemical synthesis to bear on the discovery of new antibiotics. **A.G. Myers***
13:55 – 284. Multifunctional amphiphilic aminoglycoside antibiotics and adjuvants. **F. Schweizer***, B. Gorityala, G. Guchhait
14:20 – 285. Rational design of antibiotics and NSAIDs. **M.A. Cooper**
14:45 break
15:00 – 286. Van-M-5427, a novel semi-synthetic glycopeptide with reduced nephrotoxicity. **O. Yoshida**
15:25 – 287. Mechanism of action and epitopes of clostridium difficile toxin B neutralizing antibody bezlotoxumab. **C. Strickland**, P. Orth, L. Xiao, A. Therien, L. Hernandez
15:50 – 288. Antibody-antibiotic conjugates (AACs): A novel therapeutic platform to treat invasive *S. aureus* infections. **T. Pillow**
16:15 – 289. New classes of antitubercular compounds derived from phenotypic screens and developed with different models. J. Baiget, G. Nagalingam, J. Triccas, P. Rutledge, J. Castro-Pichel, **M. Todd***
16:40 closing remarks

Sheraton Waikiki
Waialua

Nutraceuticals and Functional Food Ingredients: Chemistry and Health (#285)

Organized by: F. Shahidi, C. Ho, R. Pegg, K. Miyashita
Presiding: C. Ho, R.B. Pegg, F. Shahidi

13:00 opening
13:05 – 290. Functional foods for heart health: Managing trimethylamine oxide level through gut microbiota. **C. Ho***, L. Sheen
13:25 – 291. Prevention of procyanidins and cyanidin 3-glucoside on B(a)P-induced DNA damage through modulating drug-metabolizing enzymes hepatocytes. **H. Ashida***, Y. Yamashita, T. Zhang
13:45 – 292. Modulation of neuroprotective genes by natural dietary bioactive compounds in senescence-accelerated mice. **S. Katayama**, S. Nakamura
14:05 – 293. Antiaging effect - from discovery to clinical trial. **C. Wang***
14:25 – 294. Possibility of dietary factors to prevent and treat diabetes via the stimulation of GLP-1 secretion. **T. Tsuda***
14:45 – 295. Safety and efficacy of a novel *Trigonella foenum-graceum* seed (fenugreek seed) extract (Furocyst) in polycystic ovary syndrome in female volunteers. **D. Bagchi***
15:05 break
15:15 – 296. Processing of GABA enriched salt-free soybean paste and its blood pressure lowering effect in human volunteer test. **H. Hatta***, S. Shou, Y. Ueno
15:35 – 297. Adenine, a vasorelaxant purine, reduces intestinal inflammation in colitis mouse mode. **T. Fukuda**, T. Matsui, Y. Mine*
15:55 – 298. Beyond antioxidative and anti-inflammatory activities of phytochemicals inhibit osteoclastogenesis. **M. Uehara***, H. Inoue, N. Takahashi
16:15 – 299. Dynamic modulation of Nrf2/Keap1 system by nutraceuticals. **D. Hou***
16:35 closing

Thursday Evening

Hawaii Convention Center
Halls I, II, III

Advances in Polymers for Medicine (#52)

Organized by: J. Pokorski, R. Advincula, T. Miyata, C. Boyer, K. Ishihara

Poster Session
19:00 – 21:00

300. Enzymatically functionalized chitosan microspheres for iron sequestration. D. Huber, **A. Pellis**, I. Brzonova, G.S. Nyanhongo, G.M. Guebitz*
301. Synthesis, characterization, and in vivo evaluation of radiolabeled anti-inflammatory dendritic polyglycerol: A structure – pharmacokinetics relationship. **K. Pant***, D. Gröger, R. Bergmann, J. Pietzsch, H. Stephan, R. Haag
302. Use of biocompatible hydrogel beads for the recovery and delivery of antibiotics. **K. Ko**
303. Glyco-nanoparticles for the delivery of platinum chemotherapeutics. **M. Callari***, J. Aldrich-Wright, P. De Souza, M. Stenzel

*** Principle Author**

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304. Amylose-based glyco star polymers: A biofunctional platform for glyco-biomaterials. **T. Nishimura**, S. Mukai, S. Sawada, K. Akiyoshi*
305. Development of pH-sensitive liposomes using hyaluronic acid derivatives for target-specific intracellular drug delivery. **M. Miyazaki**, E. Yuba, H. Hayashi, A. Harada, K. Kono*
306. pH-Sensitive polymer-modified liposomes combined with multiple adjuvants as potent vaccine carriers for cancer immunotherapy. **Y. Yoshizaki**, E. Yuba, N. Sakguchi, K. Koiwai, A. Harada, K. Kono*
307. TiO_2 nanoparticles-incorporated polyion complex micelles for effective sonodynamic therapy. **S. Yamamoto**, E. Yuba, A. Harada, K. Kono*
308. NanoClik microsphere and drug delivery system. **Y. Tahara**, S. Mukai, S. Sawada, Y. Sasaki, K. Akiyoshi*
309. Heparin-mimicking supermolecules for enhancing osteoinduction ability of bone morphogenetic protein-2. **M. Terauchi**, T. Inada, T. Kanemaru, K. Nishida, A. Tamura, S. Yamaguchi, K. Harada*, N. Yui*
310. Biodegradable three-layered micelles and their hydrogel system as efficient gene delivery vectors. **D.G. Abebe**, R. Kandil, T. Kraus, M. Elsayed, M. Mohammadi, Y. Li, O. Merkel*, T. Fujiwara*
311. Preparation of photo-responsive polymer particles that form interparticle bondings by UV irradiation and their responsive assembly. **T. Moriyama**, A. Kawamura, T. Miyata*
312. Preparation of self-assemblies from amphiphilic liquid crystalline polymers exhibiting phase transition at body temperature and their drug release behavior. **Y. Inoue**, A. Kawamura, T. Miyata*
313. Fabrication of highly elastic biodegradable hydrogels by dynamic ion-crosslinking with bisphosphonate groups. **M. Noguchi***, A. Nishiguchi, M. Matsusaki, M. Akashi*
314. Controlled drug release from molecularly imprinted polypeptide hydrogels by structural transition of their network. **K. Matsumoto**, A. Kawamura, T. Miyata
315. Two release-rates from carboxymethyl starch monolithic tablets: Formulation, characterization, and in vitro/in vivo evaluation. **C.T. Le***, M. Arella, M. Mateescu
316. Polymeric device based on UV-cured poly(ethyleneglycol) dimethacrylates for controlled intraocular drug delivery. **N. Nagai***, Y. Izumida, R. Motoyama, E. Koyanagi, A. Katsuyama, S. Yamada, H. Kaji, M. Nishizawa, T. Abe
317. Design of mechanically patterned hydrogel for directing organ bud self-formation. **Y. Shimokawa***, H. Koike, T. Matsuzaki, M. Enomura, M. Kimura, S. Nakabayashi, H. Nakauchi, H. Taniguchi, T. Takebe, H. Yoshikawa
318. Mechanical manipulation of adherent cells by photodegradable hydrogel. **K. Iketaki***, F. Yanagawa, R. Kawamura, S. Nakabayashi, T. Takagi, S. Sugiura, T. Kanamori, H. Yoshikawa
319. Chymotrypsin precipitate effects on cell behaviors on silk fibroin. **Y. Tamada***
320. High resisting ability of platelet and NIH3T3 cells adhesion on poly(tetrafluoroethylene-*co*-vinyl alcohol) coating. **M. Totani**, T. Ando, M. Tanihara, H. Mouri, Y. Tanaka, T. Kanbara, J. Miki
321. Surface modification of PEEK with versatile phospholipid polymer networks. **Y. Kawasaki**, Y. Iwasaki*
322. Antifouling surface modifications of co-extruded polycaprolactone fibers. **A. Advincula**, S. Kim, E. Harker, J. Pokorski
323. Using trichlorosilane surface chemistry to capture endothelial cells: A new approach to overcome restenosis in patients with cardiac stent implants. **R. Ravindranath**, A. Romaschin, M. Thompson
324. Fundamental and applied studies of a novel nitric oxide (NO) releasing polymer-crystal composite with enhanced stability. **Y. Wo***, Z. Li, E.J. Brisbois, A. Colletta, J. Wu, T. Major, R. Bartlett, C. Xi, A.J. Matzger, M.E. Meyerhoff*
325. Surface patterning properties of photo-responsive polymer films and cell culture on their surface. **T. Noguchi**, A. Kawamura, T. Miyata*
326. Glucose-induced decomposition of multilayer film under physiological conditions. **K. Sato***, E. Abe, J. ANZAI
327. Electrochemically controlled release of polymer from 6-ferrocenylhexanethiol monolayer modified electrode. **S. TAKAHASHI***, S. SHIMIZU, J. ANZAI
328. Improved sensing of heparin in whole blood using heparin-imprinted polymer by surface modification or washing. **Y. YOSHIMI***, R. Inaba, T. Ogawa, M. Kanda, M. Inoue, K. Kuwana

Friday Morning

Sheraton Waikiki
Lanai

De Novo Drug Design (#28)

Organized by: G. Schneider, D. Winkler, K. Funatsu, Y. Okuno
Presiding: K. Funatsu, G. Schneider

8:00 Opening Remarks
8:05 – 329. Recent progress in structure-based de novo design. **H. Boehm**
8:45 – 330. De-novo design, polypharmacology and metabolism in the generation of novel lead candidates. **R.C. Glen***, M. Wang
9:15 – 331. SiteHopper: A unique method for binding site comparison. G.L. Warren, **M. Geballe**, T. Darden, J.M. Word, R. Tolbert
9:45 Break
10:05 – 332. Computer-aided drug design assisted by synthetic accessibility prediction and target/off-target prediction. **Y. Fukunishi**
10:45 – 333. Prediction of compound-protein interactions based on deep-layered learning. **M. Hamanaka***, K. Taneishi, J. Brown, Y. Okuno
11:15 – 334. Strategy of structure generation within applicability domain. **H. Kaneko**, K. Funatsu*

Sheraton Waikiki
Waianae

Advances in Polymers for Medicine (#52)

Organized by: J. Pokorski, R. Advincula, T. Miyata, C. Boyer, K. Ishihara
Presiding: C. Boyer

8:00 – 335. Shear-thinning, associative, and mucoadhesive hydrogels for improved eyedrop formulations. P. Sheikholeslami, S. Mokhtari, B. Muirhead, D. Baek, H. Wang, X. Zhao, S. Boyd, H. Sheardown, **T. Hoare***
8:20 – 336. Biodegradable injectable polymer formulation exhibiting temperature-responsive irreversible sol-gel transition by covalent bonds formation. **Y. Ohya***, Y. Yoshida, S. Mitsumune, A. Takahashi, A. Kuzuya
8:40 – 337. Soft biomatter system based on cytocompatible polymers for advanced cell engineering. **T. Konno**
9:00 – 338. Fabrication of decellularized aorta with electrospun fibers for small-diameter vascular grafts. **T. Kimura***
9:20 – 339. Stimuli-responsive behavior of bioconjugated hydrogels, particles, and thin films with dynamic crosslinks. **T. Miyata***, A. Kawamura, T. Uragami
9:40 – 340. Control of selectin-mediated cell adhesion on glycoprotein-conjugated matrices. **Y. Iwasaki**, A. Matsunaga, S. Fujii
10:10 Break
10:20 – 341. Bioinspired and degradable protein-polymer conjugate therapeutics. **H. Maynard**, C. Decker, S. Paluck, T. Nguyen, E. Pellegri-O'Day
10:50 – 342. Nano-engineered polypeptide architectures and their potential applications in nano-medicine. **G.G. Qiao***
11:20 – 343. Hydrogen sulfide-releasing micelles and their potential applications. **U. Hasegawa***, A.J. van der Vlies
11:40 – 344. Nanofiber polyplex formation based on morphology elongation by intrapolyplex PEG crowding effect. **A. Harada***, K. Nomura, E. Yuba, K. Kono

Hawaii Convention Center
Halls I, II, III

Academic Drug Discovery (#69)

Organized by: J. Leahy, A. Mendonca, S. Hong, H. Kakeya, P. Scammells
Presiding: J. Leahy

Poster Session
10:00 – 12:00

345. Discovery of a potent anticancer agent from the optimization of natural oridonin scaffold. **J. Xu**, S. Xu, H. Yao
346. Characterization of a Py-Im polyamide in models of castration resistant prostate cancer. **A. Kurmis**, F. Yang, N.G. Nickols, T.R. Welch, P.B. Dervan*
347. Non-platinum-based halogenated compounds: A new class of potent antitumor agents for natural targeted chemotherapy of cancers. **Q. Zhang**, N. Ou, J. Warrington, C. Wang, Q. Lu
348. Optimization of nitrofurazone cruzain and antitripanossomal activity by bioisosterism application. **G. Trossini***, D.G. Vital, F. Gatti, A. Andricopulo, V.G. Maltarollo
349. Isatin-dapsone based molecular hybrids as novel antimalarial and antitubercular agents. **M.M. Naseer***
350. Rational design and optimization of drug leads and conformational antibody targeting pathological misfolding and aggregation of SOD1 enzyme in amyotrophic lateral sclerosis. **V.K. Hinge**, N. Blinov, N. Cashman, A. Kovalenko
351. Development of novel therapeutics for the treatment of glaucoma. **P.I. Dosa***, M. Fautsch
352. Host-based serine protease inhibitors as an emerging treatment against influenza. **P. Boudreault**, É. Colombo, P. Thakur, É. Gravel, I. Marois, D. Cliche, A. Cloutier, A. Griffin, B. Brown, M. Richter, R. Leduc, E. Marsault
353. Exploration of the protein motion, allostery, and intra-molecular signaling pathways of GPCR activation, and its application to drug discovery. **S. Choi***
354. Promising strategy to accelerate diabetic wound healing. **M. Gao**, T. Nguyen, M.A. Suckow, W.R. Wolter, H. Pi, S. Mobashery*, M. Chang*
355. Design, synthesis, and structure-activity relationship studies of selective survivin inhibitors. M. Xiao, J. Wang, D. Miller, **W. Li**
356. Rational design of novel spinogenic benzothiazoles for enhancing cognitive function. **J. Cifelli**, T. Chung, L. Dozier, H. Liu, M. Mayer, G. Patrick, J. Yang*
357. Small-molecule inhibitor of MDM2 shows potent anticancer effect in a mouse leukemia model. **A. Draganov**, L. Gu, H. Zhang, B. Wang*, M. Zhou
358. Chemical diversification of pleuromutilin leads to discovery of a novel anticancer agent. **R.W. Hicklin**, E. Llabani, P.J. Hergenrother*
359. Catalytic radical degradation by N-heterocyclic carbene–ruthenium complexes via a transfer hydrogenation-like process. **A.G. Tennyson***
360. Synthesis of coumarin derivatives possessing an inhibitory effect on aromatase. **M. Kawabata**, Y. Yamaguchi, N. Nishizono*, K. Oda*
361. Holistic approach to collaborative drug discovery. **S. Ernst***
362. Target identification of a HIF inhibitor using functional bioprobe. **K. Lee***, Y. Choi
363. Design, synthesis, bioconversion, and pharmacokinetics evaluation of new ester prodrugs of olmesartan. **M.I. El-Gamal***, H.S. Anbar
364. High-throughput drug discovery of novel inhibitors of secretion. **A. Satoh**, Y. Honjo, H. Suzuki, Y. Nishina
365. ESI-MS probing of G-quadruplex DNA platinum(II) complex interactions. **D.L. Ang***, A. Craze, Y. Yuliani, C. Kelso, J.L. Beck, S.F. Ralph, D.G. Harman, J. Aldrich-Wright
366. Quadruplex-DNA stabilising dinuclear platinum(II) complexes. **D.L. Ang***, D.G. Harman, S.F. Ralph, J. Aldrich-Wright
367. Integrated flow and batch synthesis of 2-anilo substituted 3,4-dihydro-2*H*-benzo[*b*][1,4]oxazine-6-carboxamides. **A.J. Lin**, A. McCluskey
368. Chemical synthesis, plasmatic concentration, and antisulfatase activity in mice and rats of a tetrahydroisoquinoline derivative. **D. Poirier**, D. Ayan, R. Maltais, J. Roy
369. Design and synthesis of conformationally restricted caprazamycin analogs as antibacterial agents. **M. Yamaguchi**, A. Matsuda, S. Ichikawa
370. Discovery of novel and selective inhibitors of the Src homology-2 domain containing protein tyrosine phosphatase-2 (SHP2). **B. Czako***, P. Alessia, G. Liu, A. Yau, N. Reyna, R. Johnson, P. Leonard
371. Data-driven drug design in the era of "Big Data". **M. Zheng***
372. Novel *N*-(2,2'-disubstituted-2*H*-cromenyl)-*N*',*N*"-disubstituted- guanidine derivatives as an *S*-nitrosoglutathion reductase inhibitor. **S. Lim***, E. Kim*, G. Lee*, Y. Gong*
373. Design, optimization, and synthesis of arylethynyl-substituted-heterobicyclic compounds as trasnglutaminase 2 inhibitor. **N. Kim***, S. KIM, Y. Gong
374. Synergistic antitumor effect of T-type calcium channel blockers and chemotherapeutic agents in human lung cancer. **B. PARK**, **J. Nam**, J. Lee*
375. Computational structural analysis of 11β-hydroxysteroid dehydrogenase 1 through ensemble and induced fit docking studies to determine species difference. S.J. Macalino, **S. Choi***
376. Implications of auto-induction and heterotropic activation phenomena with cytochrome P450 enzymes: Examples of in vitro to in vivo translation from the neuroscience drug discovery field. **A. Blobaum***, F. Byers, T. Bridges, C. Niswender, C. Hopkins, C.W. Lindsley, J. Conn
377. Synthesis and biological evaluation of 2-pyrrolidone derivatives as potent M_1 muscarinic acetylcholine receptor agonists. M. Huang, N. cho, D. Bhattarai, S. Kang, A. Pae, H. Rhim, **G. Keum**
378. Chemotherapy with hybrid liposomes without drugs along with induction of apoptosis in vivo. **H. Ichihara**, Y. Matsumoto*
379. Synthesis and biological activity of phenylsulfonyl hydrazides for a potent suppressor of PGE_2 production. **E. Park**, **K. Kim**, J. Lee*
380. *N*-(3-fluoro-4-methylsulfonamidophenyl) ureas as potent TRPV1 antagonist. **J. Baek**, j. Ann, A. Jung, P.M. Blumberg, j. Lee
381. Therapeutic effects of hybrid liposome against human carcinoma using model mice of carcinoma. **K. Kuwabara**, H. Ichihara, Y. Matsumoto*

*** Principle Author**

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382. Diaza(bi)cyclic scaffold-based compounds: Using the hybrid approach for the development of new central nervous system drugs. **D. Guendisch***

383. Synthesis and in vitro antiproliferative activity of new pyrazole derivatives possessing diarylamide moiety. **M.M. Gamal Eldin**, M.I. Elgamal, M.S. Abdel-Maksoud, Y. Kyung Ho, O. Chang Hyun

384. Catalytic asymmetric syntheses and biological evaluations of α-1-*C*-substituted L-iminofuranose derivatives as α-glucosidase inhibitor. **Y. Natori**, A. Kato, I. Adachi, Y. Yoshimura

385. In silico screening for selective inhibitors of SHIP2 as a novel therapeutic agent for diabetes. **S. Ozawa**, H. Gouda, S. Hirono*

386. Design and synthesis of α-arylidene DAG-lactones as selective RasGRP3 ligands. **j. Ann**, N. Lewin, X. Zhou, P.M. Blumberg, j. Lee

387. Design, synthesis, *in vitro* antiproliferative evaluation, and kinase inhibitory effects of a new series of imidazo[2,1-*b*]thiazole derivatives. **M.S. Abdel-Maksoud**, O. Chang Hyun, M. El-Gamal, M.M. Gamal Eldin

388. Design and synthesis of a non-zinc-chelating inhibitor selective for matrix metalloproteinase 13. K. Mahasenan, **M. Bastian**, M. Gao, D. Ding, E. Frost, M. Chang*, S. Mobashery*

389. Synthesis and biological comparison of enantiomers of mepenzolate bromide, a muscarinic receptor antagonist with bronchodilatory and anti-inflammatory activities. **Y. Yamashita**, T. Mizushima

390. Design, discovery, and one-pot, multicomponent $Bi(NO_3)_3$ catalysed synthesis of novel monastrol-1,3,5-triazine conjugates targeting Rad6B as antiproliferative agent with antibacterial and antifungal activity. **U.P. Singh***, J.K. Srivastava, H.R. Bhat

391. In silico study on the interaction of high affinity ligand calystegine B_2 with β-glucocerebrosidase. **I. Nakagome***, A. Kato, T. Yoshida, N. Yamaotsu, I. Adachi, S. Hirono

392. Macrocyclic phosphopeptidomimetics as inhibitors of the polo-box domain of polo-like kinase 1. **D.L. Kunciw***, C. De Fusco, J. Fuchs, M. Rossmann, A. Bender, M. Hyvonen, D. Spring

393. Therapeutic effects of hybrid liposomes against colon carcinoma using xenograft mouse models of colon carcinoma. **M. Okumura**, H. Ichihara, Y. Matsumoto*

394. Inhibitory effects of liposomes including trehalose surfactants on the growth of tumor cells along with apoptosis. **M. Kuwano**, H. Ichihara, Y. Matsumoto*

395. Diversity-oriented synthesis of anti-inflammatory and cytotoxic 4-hetero-2-cyclopentenones. **A.G. Macabeo***, P. RUBIO, J. TIU, A. VERANO, I. SORNE

396. Finding the sweet spot: Structure-based design of Hsp90 inhibitors and their effects against drug-resistant cancer cells. **Y. Seo***

397. Three new prenylated indole alkaloids from *Aspergillus taichungensis* (IBT 19404). **I. Kagiyama**, H. Kato, S. Tsukamoto*

398. Discovery and SAR of a novel series of selective negative allosteric modulators of the metabotropic glutamate receptor subtype 2 derived from a substituted tetrahydroquinoline core. **A. Felts***, K. Smith, A. rodriguez, R. Morrison, S. Daniels, C. Niswender, J. Conn, C.W. Lindsley, K. Emmitte

399. SOAT inhibitory activity and antiatherogenic activity of beauveriolide derivatives. **T. Ohshiro***, S. Imuta, I. Hijikuro, T. Takahashi, T. Doi, H. Tomoda*

400. Progress toward the X-ray crystal structure of TREM2, a protein involved in Alzheimer's disease. **A. Sens**, H. Ng*

401. High-throughput screening for the discovery of novel inhibitors to mitigate ruminant methane emissions. **L.R. Schofield***, Y. Zhang, C. Sang, R. Atua, S. Molano, A. Beattie, D. Dey, G. Cook, J. Cheung, Y. Kobayashi, W. Whitman, C. McSweeney, M. Morrison, W. Denny, A. Sutherland-Smith, V. Carbone, R. Ronimus

402. Targeting bioactive chemical space with a small natural products library: Expanding diversity and predictability. **J.L. von Salm-Fries***, D. Santiago, N.G. Wilson, L. Calcul, D.E. Kyle, W.C. Guida, B. Baker

403. Chemical probes for drug development and target identification in amyotrophic lateral sclerosis. **K.T. Zhao**, I.T. Schiefer, R.B. Silverman

404. Screening for FtsZ dimerization inhibitors using several evaluation systems including in dry and wet. **K. Kodama**, S. Mikuni, A. Sasaki, N. Kohira, H. Maki, M. Munetomo, K. Maenaka, M. Kinjo

405. Development of WNK signaling inhibitors as new class of antihypertensive drugs. **M. Yuasa**, T. Mori, S. Fujii, Y. Watanabe, H. Suzuyama, E. Kikuchi, . Uchida, H. Kagechika*

406. Study of substituted stilbenes and flavonoids as replication inhibitor of hepatitis C virus. **A. Nag***, U. Ononuju, T. Hansberry II, N. Mateeva

407. Development of a PARP-inhibiting boron tracedrug for neutron dynamic therapy. **R. Tada***, H. Yamada, E. Nakata, K. Masuda, T. Morii, Y. Uto

408. Identification of novel small molecules for kidney disease. **E. Grimley**, C. Liao, E. Ranghini, Z. Nikolovska-Coleska, G. Dressler

409. Improved synthesis and mechanistic study of a radiosensitizer, sulfoquinovosylacylglycerol (SQAG) derivatives. **Y. Sawamoto**, t. tanaka, M. Umezawa, Y. Hisamatsu, I. Tamai, K. Sakaguchi, S. Aoki

410. Design and synthesis of novel 2,4-diaminopyrimidine analogs for anaplastic lymphoma kinase (ALK) inhibitor. **J. Ha***, J. Hwang, C. Park, C. Lee, C. Yun, H. Jung, P. Kim, S. Cho, H. Kim

411. Development of novel activators for transcriptional co-activator TAZ involved in Hippo pathway. **A. Dilihumaer**, S. Ito , K. Nakagawa, Z. Yang, M. Yuasa, Y. Hata, H. Kagechika

412. Synthesis of chromone and coumarin derivatives possessing an inhibitory effect on human CYP2A6. **Y. Yamaguchi**, N. Nishizono*, S. Toyota, D. Kobayashi, T. Yoshimura, K. Wada, K. Oda*

413. Design, synthesis, and biological evaluation of novel rosamine derivatives as inhibitor of tau aggregation. **Y. Yu**, Y. Chang, Y. Kim*, H. Ha*

Sheraton Waikiki
Oahu

Chemistry of Molecular Imaging (#215)

Organized by: H. VanBrocklin, G. Tamagnan, Y. Fujibayashi, L. Luyt, A. Katsifis, Y. Choe, N. Vasdev
Presiding: Y. Choe, N. Vasdev

8:00 – 414. Emerging role of immunoPET in the development of targeted cancer therapeutics. **J. Marik**

8:35 – 415. Medicinal chemistry of ghrelin analogues for molecular imaging. **L. Luyt***, C. Charlton, M. Fowkes, J. Hou, T. Lalonde

8:55 – 416. Synthesis and preclinical evaluation of novel ^{18}F-labeled amino acid PET tracers for brain tumor imaging. **A. Bouhlel***, D. Zhou, A. Li, L. Yuan, K. Rich, J. McConathy

9:15 – 417. Chemically modified macrophages for cancer imaging. M.A. Mingroni, D.J. Cordes, **M.E. Farkas***

9:35 – 418. Development of a fluorine-18 labeled PSMA agent for first-in-man imaging of prostate cancer. **C. Berkman***, B. Langton-Webster, H. VanBrocklin

9:55 Break

10:05 – 419. Selection of effective adjuvant therapy agent for colon cancer with a novel 3D culture screening system: Evaluation with molecular imaging technique. **Y. Yoshii***, T. Furukawa, H. Aoyama, N. Adachi, M. Zhang, H. Wakizaka, Y. Fujibayashi, T. Saga

10:25 – 420. Live cell imaging of lipid droplets and acidic vesicles using novel metal ion complexes. **S. Plush***, D. Brooks, M. Massi

10:45 – 421. Highly stable modular and functionalizable platform chelating ligands for radiometal isotopes. **C. Orvig***

11:20 – 422. Radiochemical aspects of automated production of ^{68}Ga radiopharmaceuticals - translating research to PET clinical experience. **M. Latter***

11:40 – 423. Molecular imaging of cancer using bispidine ligands. **H. Stephan***, P. Comba

Sheraton Waikiki
Waialua

Nutraceuticals and Functional Food Ingredients: Chemistry and Health (#285)

Organized by: F. Shahidi, C. Ho, R. Pegg, K. Miyashita
Presiding: K. MIYASHITA, R.B. Pegg, F. Shahidi

8:00 Opening

8:05 – 424. Novel antioxidant activity of sphingoid base on omega-3 fish oil. **K. MIYASHITA**, M. Uemura, A. Suzuki, M. Shiota, M. Hosokawa

8:25 – 425. Membrane lipid peroxidation in human nutrition and aging. **T. Miyazawa**

8:45 – 426. Enhancing solubility of bioactive lipid agents. **C.T. Le***, M. Arella, M. Mateescu

9:05 – 427. Evaluation of biological activities of marine carotenoids for nutraceuticals. **T. Sugawara**

9:25 – 428. Green approach for extraction of bioactive nutraceuticals from marine macroalgae. **A.T. Quitain***, M. Sasaki, T. Kida

9:45 break

9:55 – 429. Extraction of 7-hydroxymatairesinol from Norway spruce knots using ionic liquids aqueous solutions. **A. Ferreira***, A. Leite, J. Coutinho , B. Holmbom, T. Holmbom, M.G. Freire, A. Silvestre

10:15 – 430. Safety and efficacy of a novel *Prunus domestica* extract (CR002) on testosterone-induced benign prostatic hyperplasia (BPH) in male Wistar rats. **D. Bagchi***, A. SWAROOP, M. Bagchi

10:35 – 431. Phytochemicals as agonists of nuclear hormone receptors: The case for soy isoflavones. **N.F. Shay***, t. luo

10:55 – 432. Anthocyanins profile of Quebec wild blueberries, their oxygen radical absorbance capacity, and in-vitro human LDL oxidation inhibition effect. **K. Belkacemi***, N. Chorfa, S. Savard

11:35 Closing

11:15 – 433. From a sweetener to fighting gut inflammation. **Y. Mine***

Hawaii Convention Center
Halls I, II, III

Bench to Bedside: Chemistry of Health Care General Posters
10:00 – 12:00

Miscellaneous drug and vivo activities

434. Retrospective assessment of organophosphorus nerve agent exposure in humans. **R.N. Harding***, T.H. Corzett, A.M. Williams*

435. Influence on the bone strength due to mineral administration to osteoporosis model mouse. **A. Arakaki**, A. Onodera, H. Yasui, Y. Yoshikawa

436. Exploration of predictive blood biomarkers of the cat chronic kidney disease. **Y. Matsumura***, A. Iwasawa, T. Yoshida, K. Azuma, Y. Okamoto, N. Ito

Drug Delivery, Devices, Formulations and Instrumentation

437. Development of a laser irradiating device for hemostasis in neuroendoscopic surgery. **T. Seki***, K. Oka*, H. Akutsu*

438. Block copolymers encapsulated dendrimer silicon (IV) phthalocyanine for in vivo photodynamic efficacy of choroidal neovascularization. Z. Chen*, H. Lu, X. Yu, S. Pan, J. Wen, **Z. Huang**, Y. Peng*

439. Influence of the condensation in the heat and moisture exchangers (HME) on the measurement of temperature and humidity. **R. Fujiwara**, T. Narisawa, Y. sasaki, A. Yamashita, S. Ohwaki, M. Kamiya

440. Comparative phantom study on the spatial resolution of a small animal PET scanner using ^{11}C, ^{68}Ga, ^{18}F, ^{64}Cu, ^{89}Zr, and ^{44}Sc. **M. Bunka***, S. Haller, N. van der Meulen, R. Schibli, A. Türler, C. Müller

441. Influence of the membrane surface area and other design factors on the performance of the dialyzer. **Y. Aizawa**, Y. Yamada, A. Yamashita

442. PEO-silane amphiphiles to reduce biological adhesion onto silicone medical devices. **M.A. Grunlan**

443. Single-wall carbon nanotubes-dendrimer zinc (II) phthalocyanine nanoconjugates: Synthesis and photophysical properties. J. Wen, X. Yu, H. Lu, S. Pan, **Z. Huang**, **Y. Peng***

444. Effect of substitution position on the photophyscial property of polymer nanoparticles encapsulating aluminium phthalocyanines. K. Chen, J. Wen, D. Ma, Z. Huang, **Y. Peng* Modeling and QSAR**

445. Application of cifap for predicting the binding affinity of chk1 inhibitors derived from 2-aminothiazole-4-carboxamide. O. Erdas*, **D. Konyar**, F. Alpaslan, E. Buyukbingol

446. Amino acid residue-based 3D-QSAR analysis using PLS regression and FMO calculation. **T. Yoshida**, S. Hirono

447. mRNA structure prediction targeting antisense oligonucleotides (AONs). **M. Yamashita**, N. Kawashita, T. Yamamoto, K. Okamoto, T. Takagi*, S. Obika

448. Molecular docking study of phytochemical estrogen mimics from dietary herbal supplements. **C.N. Powers**, W.N. Setzer*

449. Novel telomerase inhibitors for cancer therapy - in silico design and biological evaluation. M. Padariya, U. Kalathiya, M. Wysocka, M. Serocki, A. Skladanowski, **M. Baginski***

450. Molecular modeling studies of neurokinin-1 receptor antagonists. **O. Ozturk***, T. Ertan-Bolelli, K. Bolelli, S. YILMAZ, I. Yalcin, E. Aki-Yalcin

451. Molecular docking studies of some new benzothiazole derivatives on human glutathione-S-transferase enzyme. **T. Ertan-Bolelli***, K. Bolelli, Y. Musdal, B. Mannervik , E. Aki-Yalcin, I. Yalcin

452. Common feature pharmacophore generation of hGST P1-1 enzyme inhibitory active benzazole derivatives. **K. Bolelli***, I. Yalcin, T. Ertan-Bolelli, S. YILMAZ, O. Ozturk, E. Aki-Yalcin

453. Development of novel fluorescent retinoid X receptor antagonists using RXR antagonist NEt-SB as a lead compound. **S. Yamada**, M. Nakayama, M. Makishima, H. Naitou, H. Kakuta*

*** Principle Author**

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454. Molecular docking studies of some novel bacterial topoisomerase II inhibitors. **S. YILMAZ***, T. Ertan-Bolelli, K. Bolelli, O. Ozturk, E. Aki-Yalcin, I. Yalcin

Medicinal Chemistry

455. Discovery of novel liver X receptor antagonists from cinnamamide derivatives as potential therapeutics for nonalcoholic fatty liver disease. W. Sim, D. Kim, K. Shin, H. Park, **B. Lee***

456. Design, synthesis, and biological evaluation of annulated 1,7-diarylhepta-1,6-diene-3,5-diones as curcumin analogs. **A. Jha**

457. Bioactivity of isohexenylnapthazarins from root extracts of *Echium* spp. in native and invaded ranges. **A. G. Duran**, **D. Skoneczny**, A. Torres, M. M. Valdivia, J.M. G. Molinillo, L.A. Weston, F.A. Macias

458. Oxopyrido[2,3-*d*]pyrimidinyl derivatives as irreversible epidermal growth factor receptor (EGFR) inhibitors with improved selectivity for the L858R/T790M mutant over wild-type. **R.P. Wurz***, L. Pettus, J. Zhan, P. Mitchell, K. Cooke, T. Wu, D.L. Reid, R. Radinsky, P. Beltran, A.S. Tasker

459. Matrix metalloproteinase-8 accelerates healing of both the diabetic and nondiabetic wound healing. **T.T. Nguyen**, M.A. Suckow, W.R. Wolter, H. Pi, S. Mobashery*, M. Chang*

460. Therapeutic effects of novel retinod x receptor partial agonist CBt-PMN on cognitive impairment in mice. T. Kobayashi, **O. Shibahara**, Y. Furusawa, T. Sasaki, M. Akehi, S. Yamada, M. Fujihara, M. Nishii, H. Kakuta

461. Degalactosylated/desialylated human serum and bovine colostrum induces macrophage phagocytic activity. **Y. Uto**, H. Yamada, D. Kuchiike, T. Inui, T. Inui, M. Mette, K. Tokunaga, A. Hayakawa, A. Go, T. Oosaki

462. Side selective covalent attachment of heparin to PES hollow fiber membranes to enchance collection of heparin-binding proteins. **S. Phillips**, J. Stenken

463. Elucidation of the reason for less side effects of retinoid X receptor full agonist NEt-3IB than bexarotene. T. Kobayashi, **S. Nakatani**, Y. Furusawa, M. Watanabe, M. Nishii, M. Fujihara, S. Yamada, H. Kakuta*

464. Antibacterial glycosides: Bioactivity and toxicity. **J.A. Justino***, A. Rauter, A. Martins, C. Dias, R. Nunes, J.P. Pais, A. Almeida, P. Serra

465. New 5'-O- and 6-substituted purine nucleoside analogs: Synthesis and cytotoxic activity on selected human cancer cell lines. **D. Sac***, M. TUNCBILEK, I. DURMAZ, R. Cetin-Atalay

466. Antiprotozoal activity of newly synthesized mono/dicationic benzimidazole carboxamidine derivatives. **C. Karaaslan***, H. Goker, R. Brun

467. MYC promotes coupling of energetic nutrient utilization to nucleotide biosynthesis via de novo amino acid synthesis. **A.N. Lane***, T.W. Fan, A. Le, Z.E. Stine, P.P. Shah, L.J. Beverly, Y. Yang, K.I. Zeller, W. Zhou, H. Ji, R.M. Higashi, C.V. Dang

468. Discovery and development of small molecule inhibitors toward the Chikungunya virus. K. Ching, J.Y. Kam, L.F. Ng, **C.L. Chai**

469. Preparation and structural characterization of the samarium EDTMP complex employed in palliative treatment of bone metastases. **J.M. Pushie***, Y. Yang, D.M. Cooper, M. Doschak

470. Therapeutic effect on inflammatory bowel disease of RXR full agonist NEt-3IB which is hardly absorbed by oral administration. Y. Furusawa, T. Kobayashi, **M. Watanabe**, K. Morishita, M. Nishii, M. Fujihara, S. Nakatani, O. Shibahara, S. Yamada, H. Kakuta*

471. Sulfur hot spring water containing hydrogen generated by UV light irradiation. **Y. Mukae**, K. Umeda, Y. Kurita, H. Niihara, S. Okouchi, A. Tsuneshige

472. Efects of magnesium hydride as a reductive bath additive for the skin. **Y. Kurita**, Y. Mukae, K. Umeda, A. Tsuneshige, S. Okouchi

473. Research supporting platform for academic drug discovery in Japan. **H. Kojima***, T. Okabe, H. Ichijo, T. Nagano

Friday Afternoon

Sheraton Waikiki
Lanai

De Novo Drug Design (#28)

Organized by: G. Schneider, D. Winkler, K. Funatsu, Y. Okuno
Presiding: Y. Okuno, D. Winkler

13:00 – 474. Drug designs by large-scale molecular dynamics simulations using a special-purpose computer. **M. Taiji***, I. Ohmura, G. Morimoto, Y. Ohno, A. Hasegawa, N. Okimoto, Y. Hirano, T. Otsuka

13:40 – 475. Creating a very large-scale virtual library for drug discovery. **A. Hasegawa***, Y. Fujihara, G. Morimoto, Y. Hirano, N. Okimoto, M. Taiji*, K. Funatsu

14:10 – 476. Development of the protein-gene sequence motif analysis system based on the codon reduced representation. **H. Kato***, J. Yamamoto

14:40 Break

15:00 – 477. Computer-aided lead optimization, synthesis, and protein crystallography for biaryltriazoles as inhibitors of macrophage migration inhibitory factor. **W.L. Jorgensen***, P. Dziedzic, J.A. Cisneros, M.J. Robertson

15:40 – 478. Development of dengue virus NS2B/NS3 protease inhibitor by ligand-based virtual screening. **N. Kawashita***, S. Pambudi, Y. Tian, K. Ikuta, K. Takeshi, T. Takagi

16:10 – 479. Characterization of hydration properties of ligand binding sites with the 3D-RISM-KH molecular theory of solvation. **N. Blinov***, A. Kovalenko

16:40 Closing Remarks

Sheraton Waikiki
Waianae

Advances in Polymers for Medicine (#52)

Organized by: J. Pokorski, R. Advincula, T. Miyata, C. Boyer, K. Ishihara
Presiding: K.L. Lee, J. Pokorski

13:00 – 480. Bioactive polysaccharide-based pH-sensitive polymers for cytoplasmic delivery of antigen and activation of antigen-specific immunity. **E. Yuba**, A. Yamaguchi, A. Harada, K. Kono*

13:20 – 481. Novel cancer vaccine using peptide/CpG-DNA/β-1,3-glucan complex. **S. Mochizuki***, H. Morishita, K. Sakurai

13:40 – 482. Highly efficient, directional mucosal drug delivery system by employing Janus patch. **S. Im***, K. Lee, J. You

14:00 – 483. Aluminium phthalocyanine incorporating nanoparicles: Photophysical property, size, and in vitro photodynamic therapy efficacy. S. Pan, Z. Chen, J. Wen, D. Ma, Z. Huang, **Y. Peng***

14:20 – 484. Improving cellular uptake of siRNA: Native chemical ligation of cell penetrating peptides to polymeric siRNA delivery vectors. **E.G. Williams***, F. Louvet de Verchere, P. Duggan, O. Hutt, G. Thilak, T. Hinton, T. Le, s. thang, X. Nguyen

14:40 – 485. Development of a virus-based stealth filament for cancer therapy. **K.L. Lee**, S. Shukla, K. Weber Bonk, R.A. Keri, N.F. Steinmetz

15:00 Break

15:20 – 486. Combating thrombosis and infection with nitric oxide (NO)-releasing polymers. **E.J. Brisbois**, T. Major, J. Wu, H. Handa, R. Bartlett*, M.E. Meyerhoff*

15:40 – 487. Characterization of a chitosan/dextran-based surgical hydrogel for protein and stem cell delivery. **J. Cabral***, M. Mcconnell, E. Mathis , E. Tan, J. Faed, L. Hanton, S.C. Moratti

16:00 – 488. Bubble elimination with a temperature-responsive polymer for cell culture. **N. Tanaka***, Y. Tanaka

16:20 – 489. Chitosan composites encapsulating cellobiose dehydrogenase: An antimicrobial system for wound applications. **G. Tegl***, B. Thallinger, B. Beer, G.S. Nyanhongo, G.M. Guebitz

Sheraton Waikiki
Maui

Academic Drug Discovery (#69)

Organized by: J. Leahy, A. Mendonca, S. Hong, H. Kakeya, P. Scammells
Presiding: H. Kakeya

13:00 – 490. Academic drug discovery: A growing role in advancing biomedical research and sustaining healthcare. **R.N. Young***

13:30 – 491. Building a pipeline - drug discovery at Beth Israel Deaconess Medical Center. **L. Sun**

13:50 – 492. Electron-transfer-based combination therapy of cisplatin with a molecular promoter for cancer treatment. **Q. Zhang**, N. Ou, Q. Lu

14:10 – 493. Developing photoswitchable tools for manipulating the activity of native neuronal systems with light. **M. Schoenberger**

14:30 – 494. Developing small molecules targeting Gli-2,3 transcription factors as cancer suppressing agents. **N. TRINH***, I. Bernstein, C. Gordon, E. McLaughlin, A. McCluskey

14:50 – 495. Soluble epoxide hydrolase (sEH) inhibitors have high target engagement and block neuropathic pain. **B. Hammock**

15:15 – 496. Mitotic kinase inhibitors of novel structure as potent anticancer agents: Case studies from academia. **H.W. Pauls***

15:40 – 497. Drug discovery in academia: A successful case study. **M.E. Jung**

16:20 – 498. CPP-115: A novel GABA aminotransferase inactivator and potential new treatment for multiple indications. **R.B. Silverman***

Sheraton Waikiki
Oahu

Chemistry of Molecular Imaging (#215)

Organized by: H. VanBrocklin, G. Tamagnan, Y. Fujibayashi, L. Luyt, A. Katsifis, Y. Choe, N. Vasdev
Presiding: V.N. Carroll, L. Luyt

13:00 – 499. Molecular imaging with high aspect ratio, protein-based, macromolecular MRI contrast agents. **N.F. Steinmetz**

13:35 – 500. Hybrid polarizing solids for pure hyperpolarized liquids through dissolution dynamic nuclear polarization. **D. Gajan***, A. Bornet, B. Vuichoud, J. Milani, R. Melzi, H. Van Kalkeren, L. Veyre, C. Thieuleux, M. Conley, W. Gruning, M. Schwarzwälder, A. Lesage, C. Copéret, G. Bodenhausen, L. Emsley, S. Jannin

13:55 – 501. Synthesis and functional evaluation of novel chiral dendrimer-triamine-coordinated Gd complexes as a highly sensitive MRI contrast agent. **Y. Miyake**, Y. Kimura, T. Matsuda, H. Imai, A. Toshimitsu, T. Kondo

14:15 – 502. Schiff-base macrocycles as a platform for small molecule-based bimodal MRI contrast agents. **M. Pilkington***

14:35 – 503. Bimodal nanoassemblies for cell tracking and ultrasensitive detection. A. Faucon, S. Nedellec, P. Hulin, H. Benhelli-Mokrani, F. Fleury, M. Tramier, S. Dutertre, F. Gauffre, L. Lartigue, **E. Ishow**

14:55 Break

15:05 – 504. Optimization of a fibrin-targeted radiopharmaceutical for thrombus imaging. **P. Caravan***

15:40 – 505. Hybrid poly acrylate nanoparticles as novel photoacoustic imaging probes. **Z. LIU***

16:00 – 506. Thiophene conjugated donor-acceptor systems are an universal platform for the development of ratiometric fluorescent probes. **S. Maity**, N. Murthy

16:20 – 507. Phosphorescent ruthenium complexes bearing a nitroimidazole unit that image oxygen fluctuation in tumor tissue. **A. Son**, A. Kawasaki, K. Tanabe*, T. Kondo*

16:40 – 508. Inorganic nanomaterials as multimodal platforms for molecular imaging. **K. Sorasaenee***, B. Rodriguez, P. Promdet, T. Khuu, C. Blumenfeld, A. Henry, G.E. Fernandez, D. Koos, S. Fraser, R. Moats, R.H. Grubbs, H.B. Gray, J. Galan-Mascaros

Sheraton Waikiki
Waialua

Nutraceuticals and Functional Food Ingredients: Chemistry and Health (#285)

Organized by: F. Shahidi, C. Ho, R. Pegg, K. Miyashita
Presiding: C. Ho, K. MIYASHITA, R.B. Pegg, F. Shahidi

13:00 opening

13:05 – 509. Capsaicinoids not capsinoids lower plasma cholesterol and possess beneficial vascular activity. **Z. Chen***, W. Huang, L. Lei, X. Wang, Y. Liu

13:25 – 510. Egg protein derived bioactive peptides show insulin mimetic activity against metabolic syndrome. **J. Wu***, F. Jahandideh, S. Chakrabarti

13:45 – 511. Angiotensin-I converting enzyme (ACE) and dipeptidyl peptidase (DPP)-IV inhibitory activities of exopeptidase-treated whey protein hydrolysates. **E.C. Li-Chan***, L.K. Cheung, I.M. Lacroix, R. Aluko, M.A. Cliff

14:05 – 512. Arginase from *Rummeliibacillus pycnus* SK31.001: Purification, characteristics, and implications for L-ornithine biosynthesis. **B. Jiang**

14:25 – 513. Antitumor activity of combined pectic-enzyme treated pectin against A549 lung cancer cells. C. Huang, Y. Wang, **M. Wu**

14:45 break

14:55 – 514. Preparation of hydroxyapatite/collagen composite from grass carp scale. P. Tsai, Y. Wang , T. Lin, **C. Kuo**

15:15 – 515. Cyclin D1 proteasomal degradation by kahweol as the molecular target for cancer chemoprevention. **G. Park***, J. Jeong

15:35 – 516. Inhibitory effect of silymarin on Wnt signaling through downregulation of β-catenin and TCF-4 in human colorectal cancer cells. **H. Eo***, J. Jeong

15:55 – 517. Identification of benzyl isothiocyanate-targeted genes using a yeast screening system. **N. Abe***, N. KUNISUE, S. Munemasa, Y. Murata, A. Satoh, H. MORIYA, Y. Nakamura

16:15 – 518. Dysthymia and S-adenosyl-L-methione. **A. Stergiou***, G. Uechi, N.D. Sachinvala

16:35 – 519. Enzyme-assisted extraction of anticoagulant polysaccharide from *Liparis tessellatus* eggs. **B.F. Ticar***

*** Principle Author**

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16:55 closing

Friday Evening

Hawaii Convention Center
Halls I, II, III

Nutraceuticals and Functional Food Ingredients: Chemistry and Health (#285)

Organized by: F. Shahidi, C. Ho, R. Pegg, K. Miyashita
Presiding: C. Ho, K. MIYASHITA, R.B. Pegg, F. Shahidi

Poster Session
19:00 – 21:00

520. Betulinic acid supplementation reduces lipid accumulation in differentiated 3T3-L1 adipocytes via a SREBP1-related pathway. **G. Go***
521. Cyclic GMP as a critical signal mediator for green tea polyphenol epigallocatechin-3-*O*-gallate through the sensing receptor 67LR. **H. Tachibana**
522. Phytochemical content and antidiabetic properties of *Aloe ferox* and *Aloe greatheadii var. davyana*. **M. Pieters***, D. Loots
523. Effects of methanol extracts of traditional Okinawa vegetables on the activation of antigen-presenting cells (J774.A1) and histamine release from KU812 cells. **J. Nagata***, T. Matsuzoe, S. Aono, G. Maeda
524. Engineering anti-listerial Class IIa bacteriocin Leucocin A for application in food storage. **K. Kaur**, M. Stiles, R. Dangeti
525. Hypolipidemic effect of orally administrated Oligonol, a low-molecular-weight polyphenol derived from lychee fruit, in rats fed diet with lard. K. Hayashi, S. Kawai, K. Hinohara, **K. Osada***
526. Evaluation of the action of the solvent molecules to the weak interaction between the large-sized γ-cyclodextrin and the chiral lipoic acid. **M. Doe***, K. Nishikawa, Y. Tachi, Y. Morimoto
527. Effects of Uva tea on α-glucosidase activity and blood glucose levels. **N. Takamizawa***, A. Nakamura, M. Moto, K. Katsuraya, K. Yazawa
528. Comparison of flavan-3-ols components on the sympathetic nerve stimulation activity. **Y. Nakagawa***, K. Ishimura, S. Abe, N. Osakabe
529. Anti-inflammatory effects of extracts from *Chaenomeles sinensis* leaves on RAW264.7 macrophages. **N. Jeon**, Y. Kim, J. Hwang, S. Kim, B. You, X. Dong, P. Park
530. Purification and characterization of a compound from *Umbilicaria esculenta* and evaluation of its antioxidative property. **X. Dong**, Y. Kim, J. Hwang, S. Kim, B. You, N. Jeon, P. Park
531. Piperine enhances glucose uptake through AMPK signaling pathway in skeletal muscle. **A. Maeda**, M. Akagawa, Y. Yamashita, H. Ashida*
532. Characterizations of a novel heteropolysaccharide isolated from seeds of *Plantago asiatic L.* and its anti-inflammatory activities. **Y. Niu***, L. Gong, S. Alaxi, L. Chen, L. Yu
533. Procyanidin promotes translocation of glucose transporter 4 in muscle of mice through activation of insulin and AMPK signaling pathways. **Y. Yamashita**, H. Ashida
534. Role of phosphate groups on anti-FCV activity of casein phosphopeptide. **N. LEBETWA***, S. Katayama, S. Nakamura
535. Anticancer effect of thymol on AGS human gastric carcinoma cells. **P. Park**, Y. Kim, J. Hwang, S. Kim, B. You, N. Jeon, X. Dong
536. Physicochemical characteristics of a high molecular weight bioengineered α-D-glucan from *Leuconostoc citreum* SK24.002. **M. Miao**, B. Jiang
537. Potential of microalgae as a novel cosmetic ingredient. **S. Kamako***
538. Anti-hyperglycemic compounds isolated form *Acer* spp. **Y. FU***, A. Honma, T. Ohshima, T. Koyama*
539. 4-Hydroxyderricin and xanthoangelol from Ashitaba (*Angelica keiskei*) suppress differentiation of preadiopocytes to adipocytes via AMPK and MAPK pathways. **H. Ashida**, T. Zhang, Y. Yamashita, N. Yamamoto
540. Effects of dietary whey protein on the body fat-reducing potential of conjugated linoleic acid in rats. **K. Koba***, S. Tamaru, M. Hirata, Y. Arimoto, K. Kawabeta, T. Noda, N. Tateiwa, S. Matsuda, T. Iwata
541. Immunological tolerance effects of attenuated buckwheat allergens prepared by dry-heating with pyrophosphate. **D. Yamaguchi**, S. Katayama, S. Nakamura
542. Antidiabetic effect of hijiki with lower-molecular-weight fucoidan in type 2 diabetes model KK-A^{y} mice. **A. Nakamura***, M. Moto, N. Takamizawa, K. Katsuraya, K. Iwasaki, K. Tanaka, A. Murota
543. Phenolic compounds and anti-oxidant capacities of the whole grain rice from China. **X. Liu**, L. Ye, S. Zhou
544. Mung bean protein isolate improves glucose tolerance by enhancing glucose transporter 4 translocation and glucose uptake in skeletal muscle. **X. Wang**, Y. Yamashita, N. Tachibana, S. Wanezaki, M. Kohno, H. Ashida
545. Effect of oolonghomobisflavan on chemical mediators release from mast cells. **H. Arai***, K. Toda, E. Sukhbold, L. Yang, M. Takasugi
546. Evaluation of freshness of fermented foods by aging index criterion: A case for yogurt. **Y. Hattori***, Y. Kurita, T. Suzuki, S. Okouchi, A. Tsuneshige
547. Screening for a candidate agent capable of inducing immune tolerance using TGF-secretion system from dendritic cell. **F. Ohno**, S. Katayama, S. Nakamura
548. Effect of oral ingestion of wheat peptide on enterocyte turnover during methotrexate-induced intestinal mucositis in rats. B. Yan*, l. liu, **S. Zhou**
549. Effect of steam explosion-assisted extraction on phenolic acid profiles and antioxidant properties of wheat bran. **l. liu***
550. Regulating role of nuclear factor-kappaB in benzyl isothiocyanate-induced antiproliferation in p53-deficient colorectal cancer cells. N. Abe, D. Hou, S. Munemasa, Y. Murata, **Y. Nakamura***
551. Comparing the effect of temperature and pH on the stability of betalains from beetroot and dragon fruit. **M.I. Hashmi***, K. Ruying, B. Rasti
552. Large scale growth of *Haematococcus pluvialis* for astaxanthin production using a semi-continuous culture system. **G.L. Wagner***
553. Hepatoprotective activity of *Momordica charantia* water extract in stress mice. **Y. Deng***, Y. Zhang, R. Zhang, Z. Wei, H. Ti, L. Liu, M. Zhang*
554. Anti-atherosclerotic activity of litchi pericarp procyanidins and the mechanism of nf-κB inhibition. **R. Zhang***, H. Ti, Y. Deng, L. Liu, Y. Zhang, Z. Wei, M. Zhang*
555. Characterization and quantification of phenolic compounds of *Tetrastigma hemsleyanum* by a combination of UPLC-QTOF-MS and UPLC-QqQ-MS and their antioxidant/antiproliferative activities. **Z. Deng***
556. Intestinal absorption and bioactivity of ginsenoside Rh2 and its esterification derivative. **J. Hu***, B. Zhang, Z. Deng
557. Antihypertensive effects of choline esters in fermented foods. **K. Nakamura***, M. Koyama, N. Igari
558. Carotenoid from green algae effectively suppresses mast cell degranulation via an alteration of cellular sphingomyelin metabolism. **Y. Manabe**, T. Hirata, T. Sugawara*

Saturday Morning

Sheraton Waikiki
Maui

Academic Drug Discovery (#69)

Organized by: J. Leahy, A. Mendonca, S. Hong, H. Kakeya, P. Scammells
Presiding: A. Mendonca

8:00 – 559. Academic drug discovery and chemical biology: A tale of two targets. **S.V. Frye***
8:30 – 560. Design and discovery of PWT33597 (VDC-597), a dual inhibitor of PI3-kinase alpha and mTOR. **G.W. Rewcastle***, A. Giddens, J. Flanagan, S.A. Gamage, S.K. Tsang, J.D. Kendall, B.C. Baguley, C.M. Buchanan, D.J. Matthews, M. O'Farrell, S. Jamieson, W. Denny, P.R. Shepherd
8:50 – 561. Click-and-release approach to CO prodrugs. **B. Wang**
9:10 – 562. Natural product inspired fragment-based drug discovery: Development of inhibitors of *M. tuberculosis* CYP121 inhibitors. **M.E. Kavanagh**, J. Gray, A.G. Coyne, H. Davis, K. McLean, A.W. Munro, C. Abell
9:30 – 563. Small molecule control of intracellular protein levels: A therapeutic strategy. **C.M. Crews***
10:10 – 564. Discovery of Trofinetide (NNZ2566) - the first drug for Rett syndrome. **M.A. Brimble**
10:40 – 565. Invention of SAHA and some related more selective compounds. **R. Breslow***

Hawaii Convention Center
Halls I, II, III

Small Molecule Epigenetic Modulators (#146)

Organized by: C. Burns, P. Brown, S. Frye

Poster Session
10:00 – 12:00

566. Relevant epigenetic chemical space: A chemoinformatic characterization of small molecules – DNMT inhibitors. **E. Fernández de Gortari***

Sheraton Waikiki
Waianae

In Vivo Chemical Strategies for Functional and Translation Studies of Biological Networks and Pathways (#212)

Organized by: M. Bogyo, K. Kikuchi, B. Cravatt, H. Kwon

8:00 – 567. Activity-based proteomics - applications for enzyme and inhibitor discovery. **B.F. Cravatt**
8:30 – 568. New chemical probe technologies for diagnostic and intra-operative imaging applications. **M. Bogyo**
9:00 – 569. Differential scanning calorimetry as a new tool for biomarker research. **N.C. Garbett**, M. Granger-Delacroix, N.C. Allen, A. Kaliappan, M.L. Merchant, D.M. Miller, J.A. Chesney
9:20 – 570. Ribonuclease: From k_{cat}/K_M to the clinic. **R.T. Raines***
9:50 – 571. daVinci surgical system and other platforms for the clinical translation of molecular imaging agents. **J. Sorger***
10:20 break
10:30 – 572. Small-molecule inhibitors of Gli transcription factor function. A. Ondrus, T. Sakata-Kato, **J.K. Chen***
11:00 – 573. Rationally designed activatable fluorescence probes appropriate for assisting interventional and theranostic procedures. **H. Kobayashi***

Sheraton Waikiki
Lanai

Molecular Design in Medicine: Concept to Commerce (#295)

Organized by: J. Siegel, M. Martinelli, M. Brimble, M. Platz, H. Wong, K. Baldridge
Presiding: K. Baldridge

8:00 Speaker Prep
8:15 – 574. Importance of molecular design in the development of new platform analytical and purification tools for pharmaceutical discovery and development. **C. Welch**
8:40 – 575. Designing potential new medicines. **M.E. Jung**
9:05 – 576. Chemical discovery through a computational lens. **R. Amaro***
9:30 – 577. Targeting key apoptosis regulators for new cancer therapeutics: From discovery to clinical development. **S. Wang**
9:55 – 578. Drug design based on ligand-target binding thermodynamics and kinetics. **H. Jiang***
10:20 – 579. Meeting the challenge of F18 labeling through molecular design to create a new class of PET imaging agent for clinical applications. **D. Perrin**, Z. Liu, R. Ting, K. Lin, F. Benard
10:45 – 580. Medicinal chemistry challenges and opportunities using phenotypic assays. **D.M. Huryn***
11:10 – 581. QSAR on biomolecular interaction. **Z. Xi**
11:35 – 582. Asymmetric total synthesis of (−)-Lingzhiol via a novel type of Rh-catalyzed [3 + 2] cycloaddition. **Z. Yang***

Sheraton Waikiki
Oahu

Non-canonical Approaches to 18F-labeling: New Frontiers in Stable Non-carbon-fluorine Bonds (#337)

Organized by: D. Perrin, F. Gabbai, F. Li, R. Schirrmacher

7:55 Break
8:00 – 583. One-step 18F-labeling of peptides and other complex bioligands. **D. Perrin***, Z. Liu, K. Lin, F. Benard
8:20 – 584. Application of the ^{18}F-^{19}F isotope exchange reaction on an ammoniomethyl trifluoroborate moiety for the design of cancer-targeting PET tracers. **K. Lin***, J. Pan, Z. Zhang, J. Lau, S. Jenni, N. Hundal-Jabal, N. Colpo, Z. Liu, D. Perrin, F. Benard
8:40 – 585. Silicon fluoride acceptors (SiFAs): From bench toward bedside. **R. Schirrmacher***
9:20 – 586. Radiofluorination of pre-formed group 13 aza-macrocyclic complexes - toward next generation PET imaging agents. R. Bhalla, W. Levason, S. Luthra, G. McRobbie, **G. Reid***, G. Sanderson
10:00 Break
10:10 – 587. Labeling with F-18 through novel reaction chemistry. **T. Ritter**
10:50 – 588. Synthesis, indirect radiolabelling, and bioconjugation studies of [^{18}F]sulfonyl fluoride based synthons. **B.H. Fraser***, N.A. Wyatt, B. Zhang, L. Matesic, M.P. Roberts, I. Greguric, T.Q. Pham, A.J. Robinson, G. Pascali

*** Principle Author**

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11:20 – 589. Aluminum fluoride chemistry: From bench to bedside translation. **X. Chen***

Royal Hawaiian
Regency II

Cancer-Targeted Delivery of Therapeutics and Diagnostics (#393)

Organized by: Y. Kwon, K. Kaur, W. Kim, Y. Shen
Presiding: Y. Kwon

8:00 – 590. Peptide-functionalized microcantilever arrays as detection platforms for circulating tumor cells in human blood. **K. Kaur**, H. Etayash, T. Thundat
8:30 – 591. Selective inhibitors of glutathione transferase P1 with 1,2,4-trioxane structure as anticancer agents. **M.L. Bräutigam**, A.G. Griesbeck, M. Pietsch, N. Teusch
8:55 – 592. Diagnostic and therapeutic targeting of EGF-receptor positive cancer cells using single-domain antibodies. **K. Zarschler***
9:20 – 593. Structural control and visualization of a smart bispecific and bivalent antibody. **H. Fujii**, Y. Tanaka, H. Nakazawa, R. Asano, I. Kumagai, M. Umetsu*
9:45 Break
9:50 – 594. Bubble-generating carrier systems for localized controlled release. K. Chen, M. Chung, C. Hsiao, Z. Liao, W. Chia, K. Lin, **H. Sung***
10:20 – 595. Enhancement of EPR effect of nanomedicine by using nitric oxide-releasing liposome. **T. Yoshikawa***, Y. Tahara, A. Kishimura, T. Mori, Y. Katayama
10:45 – 596. Development of a dual pH- and thermo-responsive magnetic nanocarrier for application in thermo-chemotherapy of cancer. **A. Hervault***, A. Dunn, M. Lim, T. Toshiaki, K. Matsumura, D. Mott, S. Maenosono, T.T. Nguyen
11:10 – 597. Targeted nanomedicine for cancer therapy. **A. Lavasanifar***, K. Kaur, S.M. Garg, R. Soudy

Saturday Afternoon

Sheraton Waikiki
Maui

Academic Drug Discovery (#69)

Organized by: J. Leahy, A. Mendonca, S. Hong, H. Kakeya, P. Scammells
Presiding: J. Leahy

13:00 – 598. Synthesis of potential chaperone inhibitors as novel antileishmaniasis agents. **J. Leahy***, D.E. Kyle
13:20 – 599. Dual inhibition of *Plasmodium falciparum* M1 and M17 metalloaminopeptidases by a novel series of hydroxamic acid-based Inhibitors. **P.J. Scammells***, S. McGowan, N. Vinh, N. Drinkwater
13:40 – 600. Medical structural genomics of pathogenic protozoa and its follow-up drug discovery efforts for protozoan infections. **E. Fan***, C. Verlinde, E. Merritt, W. Van Voorhis, F.S. Buckner, W.G. Hol
14:00 – 601. Neglected tropical disease drug discovery using a distributed drug discovery model. **M.P. Pollastri***
14:30 – 602. Does plasmepsin V make the 'cut' as an antimalarial drug target?. **B.E. Sleebs***, T. Hodder, M. Gazdik, C. Peter, P. Rajasekaran, D. Marapana, M. O'Neill, K. Lowes, B. Smith, A. Cowman, J. Boddey
14:50 – 603. Open source approaches to drug synthesis, discovery, and development. A. Williamson, P. Willis, P. Olliaro, J. Castro-Pichel, J. Baiget, **M. Todd***
15:10 – 604. Discovery of Q203, a novel chemical entity as a drug candidate for the treatment of tuberculosis. **J. Kim***
15:40 – 605. Drug discovery for malaria in the age of multidrug resistance and the malaria eradication campaign. **D.E. Kyle***, R. Manetsch
16:20 – 606. Discovery of novel therapeutics for treating various types of viral diseases, cancers, and inflammatory disorders. **D.C. Liotta***

Sheraton Waikiki
Honolulu

Small Molecule Epigenetic Modulators (#146)

Organized by: C. Burns, P. Brown, S. Frye
Presiding: P.J. Brown, S.V. Frye

13:00 Introduction
13:05 – 607. Targeting epigenetic pathways to treat cancer. **C. Carpenter**
13:35 – 608. Novel inhibitors of BET bromodomains. **C. Burns***, P.P. Sharp, J. Garnier
14:05 – 609. LP99: Discovery and synthesis of the first selective BRD7/9 bromodomain inhibitor. P. Clark, L. Viera, C. Tallant, O. Fedorov, D. Singleton, C. Rogers, O. Monteiro, J. Bennett, R. Baronio, S. Muller, D. Daniels, J. Mendez, S. Knapp, P. Brennan*, **D.J. Dixon***
14:35 – 610. Kinetically selective inhibitors of histone deacetylase 2 (HDAC2) as cognition enhancers. **E. Holson***
15:05 Break
15:25 – 611. SGI-110, journey from discovery to phase 3 for a new generation of DNA hypomethylating agents. **M. Azab***
15:55 – 612. Development of DNA methyltransferase inhibitors using computational approaches. **J.L. Medina-Franco**, E. Fernández-De-Gortari, J. Naveja, O. Méndez-Lucio, J. Yoo
16:25 – 613. From hit to clinic, the discovery and preclinical development of the EZH2 inhibitor EPZ6438. **R. Chesworth**
16:55 Closing Remarks

Sheraton Waikiki
Waianae

In Vivo Chemical Strategies for Functional and Translation Studies of Biological Networks and Pathways (#212)

Organized by: M. Bogyo, K. Kikuchi, B. Cravatt, H. Kwon

13:00 – 614. Chemcial biology tools for manipulating β-cell signaling. **C. Schultz***
13:30 – 615. Linking carbohydrate signaling to cancer metabolism and tumor growth. **L. Hsieh-Wilson***
14:00 – 616. Redox imaging with europium. **M.J. Allen***
14:30 – 617. Chemical tools for monitoring and manipulating the immune system. **T. Kodadek***
15:00 – 618. Membrane-permeant sulfonate dyes for live cell imaging. **M. Schultz**, R. Müller, C. Schultz*
15:20 – 619. Effect of drug residence time on in vivo drug efficacy. **K. Lee**, J. Yang, J. Niu, C.J. Ng, K. Wagner, H. Dong, J. Liu, B. Hammock*
15:40 break
15:50 – 620. Development of MRI and positron emission tomography (PET) probes for noninvasive detection, staging, and measuring response to treatment in fibrotic disorders. **P. Caravan**
16:20 – 621. Development of multifunctional ^{19}F MRI contrast agents with fluorine-encapsulated silica nanoparticle. **K. Kikuchi***

Sheraton Waikiki
Lanai

Molecular Design in Medicine: Concept to Commerce (#295)

Organized by: J. Siegel, M. Martinelli, M. Brimble, M. Platz, H. Wong, K. Baldridge
Presiding: H. Wong

13:00 – 622. Chemical adventures in the natural world. **R.P. Borris***
13:25 – 623. Development of silicon-based biological active compounds by focusing on silyl functionality as a *cis*-olefin mimetic. **D. Kajita**, M. Nakamura, Y. Matsumoto, M. Ishikawa, Y. Hashimoto, S. Fujii*
13:40 – 624. Development of therapeutic agents from a New Zealand perspective. **M.A. Brimble***
14:05 – 625. Syrbactins: New structural class of natural product-inspired proteasome inhibitors. **A.S. Bachmann***, M. Pirrung, C. Archer, J. Opoku-Ansah, M. Groll, R. Dudler
14:30 – 626. Novel bioactive conjugate agents targeting both estrogen receptor and histone deacetylase for treatment of breast cancer. **H. Zhou***
14:45 – 627. Self-assembled synthetic ion channels. **D. Yang***
15:10 – 628. Synthetic analogs of diphosphoinositol polyphosphates ($InsP_7$). **H.J. Jessen***
15:35 – 629. Bioactive molecules/scaffolds derived from symbionts. **R.X. Tan***
16:00 – 630. Template creation to the selective functional group introduction-applications in molecular library synthesis for drug discovery. **J. Huang***
16:15 – 631. Seeking opportunities for C–H functionalization methods in organic synthesis. **E.J. Sorensen***

Sheraton Waikiki
Oahu

Non-canonical Approaches to 18F-labeling: New Frontiers in Stable Non-carbon-fluorine Bonds (#337)

Organized by: D. Perrin, F. Gabbai, F. Li, R. Schirrmacher

13:00 – 632. High affinity chelators of fluorine-18. **R. Bhalla***, A. Jackson
13:30 – 633. Increasing the specific activity of isotope exchange radiofluorination using microfluidics. M.S. Lazari, **M.E. Sergeev**, Z. Liu, D. Perrin, R. van Dam*
14:00 – 634. Zwitterionic boron-based [^{18}F]-fluoride captors. K. Chansaenpak, m. wang, s. liu, F.P. Gabbai, **Z. Li**
14:30 – 635. 18F-labeling of large molecules for multimodality imaging applications. **R. Ting**
15:00 Break
15:15 – 636. Design and synthesis of boron containing retinoid based potential PET Imaging agent for glioblastoma. **B.C. Das**, K.F. Ginn, A. Mintz
15:35 – 637. Cationic boranes and trifluoroborates: Attractive alternate introduction of ^{18}F. **E. GRAS***, D. Pla-Queral, B. Mestre, C. Perrio, S. Schmitt, K. Chansaenpak, F.P. Gabbai
16:05 – 638. ^{18}F-boramino acid: The traceable amino acid mimics for cancer imaging. **Z. Liu**, X. Chen
16:35 – 639. Development of trifluoroborate-LLP2A peptidomimetic conjugates as VLA-4 specific ^{18}F-radiotracers for in vivo PET imaging of melanoma. **A. Roxin***, S. Huh, K. Lin, F. Benard, D. Perrin
16:50 – 640. Fluorine-18 labeling of biomolecules using silicon-fluoride chemistry. **S.M. Ametamey***

Royal Hawaiian
Regency II

Cancer-Targeted Delivery of Therapeutics and Diagnostics (#393)

Organized by: Y. Kwon, K. Kaur, W. Kim, Y. Shen
Presiding: K. Kaur

13:00 – 641. Polymeric nanoparticles for cancer-targeted drug and gene delivery. **W. KIM***
13:30 – 642. Hemagglutinating virus of Japan envelope as a versatile vector for photodynamic therapy against advanced and recurrent prostate cancer. **M. Inai***, N. Honda, H. Hazama, H. Nakamura, H. Yasuda, T. Nishikawa, Y. Kaneda, K. Awazu
13:55 – 643. Iron oxide nanocubes coated with thermoresponsive polymers for magnetically induced hyperthermia and drug delivery. **D. Niculaes**, T. Mai, H. Kakwere, M. Materia, T. Pellegrino*
14:20 Break
14:25 – 644. Harnessing oncolytic adenovirus for tumor targeting by nanocomplex. **C. Yun***
14:55 – 645. Glutathione responsive antiproliferative nanoparticle for efficient delivery of therapeutic gene in colon cancer xenograft mouse model. **I. PARK***, H. Park, S. Lee, I. Kwon
15:20 – 646. Development of boronated liposomes as efficient boron delivery vehicles for neutron capture therapy. **H. Nakamura***, s. Tachikawa, C. Viñas, M. Suzuki, K. Ono
15:45 – 647. Molecular targets: Emerging trends in personalized cancer therapeutics. **S.M. Blaih***
16:10 – 648. Targeted and synergistic therapy for leukemia using viral/nonviral chimeric nanoparticles. C. Hong, S. Cho, J. Kim, B. Pham, **Y. Kwon***

Saturday Evening

Hawaii Convention Center
Halls I, II, III

In Vivo Chemical Strategies for Functional and Translation Studies of Biological Networks and Pathways (#212)

Organized by: M. Bogyo, K. Kikuchi, B. Cravatt, H. Kwon

Poster Session
19:00 – 21:00

649. Metabolomic profiling of kidney-yang deficiency mice model infected with influenza virus and Mahuang-Xixin-Fuzi decoction treatment. Q. Sun, H. Jiang, L. Gong, Y. Yang, Z. Yang, J. Tian*, **R. Rong***
650. Stable isotope resolved metabolomics (SIRM) of fresh human tissue slices as a preclinical drug testing platform. **T.W. Fan***, A. Belshoff, J. Tan, M. Bousamra, J.T. Martin, R.M. Higashi, A.N. Lane
651. Understanding photosensitization caused by ingestion of the pasture legume *Biserrula pelecinus*. **J.C. Quinn***, S. Gurusinghe, X. Zhu, L.A. Weston
652. New caging agent having a PNA tag for sequence selective nucleotide caging. **W. Hashiba**, T. Furuta*
653. Chemo-enzymatic preparation of site-selectively modified caged DNAs. **S. Tada**, W. Hashiba, E. Ikeda, A.Z. Suzuki, T. Furuta*
654. Design and synthesis of clickable caged compounds. **A.Z. Suzuki**, R. Aikawa, K. Kakehi, T. Furuta*
655. Stimulus-responsive antimicrobial peptides for compound release from nanocarrier. **M. Kashibe**, S. Mizukami, K. Kikuchi
656. Two-photon live imaging of osteoclastic bone resorption in living mice using pH-activatable fluorescence probe. **H. Maeda***, T. Kowada, K. Kikuchi
657. Improvement of photostability of fluorescent dyes by using lanthanide complex. **T. Imoto**, S. Mizukami, K. Kikuchi

*** Principle Author**

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658. Development of activatable ^{19}F MRI contrast agents based on paramagnetic relaxation enhancement. **K. Akazawa***, F. Sugihara, Y. Yoshioka, S. Mizukami, K. Kikuchi
659. Development of detection system for histone deacetylase activity using fluorescent probe and DNA. **M. Minoshima**, T. Matsumoto, K. Kikuchi*
660. Development of fluorescent probe for visualizing local Mg^{2+} dynamics in living cells. **Y. Matsui**, S. Mizukami, Y. Funato, H. Miki, K. Kikuchi

Hawaii Convention Center
Halls I, II, III

Molecular Design in Medicine: Concept to Commerce (#295)

Organized by: J. Siegel, M. Martinelli, M. Brimble, M. Platz, H. Wong, K. Baldridge

Poster Session
19:00 – 21:00

661. Design and synthesis of novel ROR inverse agonists based on silicon-containing heterocyclic core structure. **H. Toyama**, M. Nakamura, Y. Hashimoto, S. Fujii*
662. Quantitative prediction of kinase inhibitor selectivity. **X. Wen***, H.T. Li*, Y. He, Q. Yu, Z. Xi*
663. Studies on structural modification of gossypol and its antitumor activity. **H. Chen***

Hawaii Convention Center
Halls I, II, III

Cancer-Targeted Delivery of Therapeutics and Diagnostics (#393)

Organized by: Y. Kwon, K. Kaur, W. Kim, Y. Shen

Poster Session
19:00 – 21:00

664. Oxygen releasing hollow microparticles for prolonged cell survival in hypoxia. H. Lee, H. Kim, J. Lee, **S. Oh***
665. Synthesis and functional evaluation of doxorubicin-loaded and gelatin-modified Gd_2O_3 nanoparticles (DOX-gelatin-Gd_2O_3 nanoparticles) as a theranostic probe. **Y. Imai***, Y. Kimura, H. Imai, T. Matsuda, A. Toshimitsu, T. Kondo
666. Design, synthesis, and evaluation of tamoxifen derivatives as new selective estrogen receptor down-regulators. **T. Shoda***, M. Kato, K. Okuhira, Y. Demizu, H. Inoue, M. Naito, M. Kurihara
667. Enhanced transduction efficiency and antitumor efficacy of oncolytic adenovirus coated with bioreducible polymer in the treatment of CAR-negative tumors. **S. Jung**, **S. LEE**, D. Kasala, J. Choi, S. KIM, C. Yun*
668. Design and biological evaluation of cell-penetrating peptide–curcumin conjugates as prodrugs. **A. Nasrolahi Shirazi**, N.s. El-Sayed, R.K. Tiwari, K. Parang*
669. Photosensitizer-trastuzumab conjugates for targeted photodynamic therapy in a gastric cancer model. B. Korsak, C. Oliveira, B. Sarmento, J.P. Tomé, **R.J. Schneider***
670. Development of photoreactive silicon wafer and magnetic beads for isolating target cells based on photolysis of 8-quinolynyl sulfonate based linkers. **K. Matsumoto**, R. Takeda, S. Ariyasu, Y. Mukai, S. Aoki
671. Design and synthesis of PEGylated hydroxamic acid-type histone deacetylase inhibitor prodrugs having targeting ability to cancer tissues. **G. Kimura**, H. Aihara, H. Kamijo, M. Katsuragi, Y. Fukushima, S. Uesato, T. Sumiyoshi, Y. Nagaoka*

Sunday Morning

Sheraton Waikiki
Maui

Academic Drug Discovery (#69)

Organized by: J. Leahy, A. Mendonca, S. Hong, H. Kakeya, P. Scammells
Presiding: P.J. Scammells

8:00 – 672. Vanderbilt Center for Neuroscience Drug Discovery. **C.W. Lindsley**
8:40 – 673. Effort to develop a pre-emptive treatment of Alzheimer disease targeting GAβ. **A. Kawai***, K. Yanagisawa*, K. Takahashi, T. Hiramoto, M. Kawanishi
9:00 – 674. Structure based design of covalent Inhibitors of LRRK2 kinase mutants linked to familial Parkinson's disease. **S. Ray***, M. Liu*
9:20 – 675. Uncovering potential of Indonesian medicinal plants for dual actions as anti-diabetes and anti-obesity. **L. Lahrita***, E. Kato, J. Kawabata
9:40 – 676. Harnessing nature's biodiversity for therapeutics. M. Apaya, L. Acuram, **C.C. Hernandez***
10:00 – 677. Drug discovery based on microbial bioactive natural products. **T. Sunazuka***, S. Omura
10:40 – 678. Sialoglycobiology and targeting disease processes. **M. von Itzstein**
11:20 – 679. Seeking the right TRAIL: reassignment of a cancer therapeutic that has advanced to clinical trials. **K.D. Janda***

Sheraton Waikiki
Honolulu

Small Molecule Epigenetic Modulators (#146)

Organized by: C. Burns, P. Brown, S. Frye
Presiding: C. Burns

8:00 Introduction
8:05 – 680. Targeting histone lysine methylation in cancer. **P. Trojer***
8:35 – 681. Progress toward chemical probes for methyl-lysine readers. **S.V. Frye***
9:05 – 682. Epigenetic chemical probes for target validation. **P.J. Brown***
9:35 Break
9:50 – 683. Targeting epigenetic modifiers: Potent selective inhibitors of protein arginine methyltransferase 5. **I. Street***, H. Falk, Y. Bergman, S. Walker, S. Sonderegger, E. Allan, J. Baell, M. Camerino, L. Cerruti, S. Charman, M. de Silva, M. Devlin, O. Dolezal, R. Foitzik, D. Ganame, J. Grusovin, S. Hermans, C. Hemley, I. Holmes, W. Kersten, H. Lagiakos, R. Lessene, K. Lowes, G. Lunniss, B. Morrow, A. Natoli , M. Parker, T.S. Peat, J. Pinson, P. Pilling, S. Spall, A. Stupple, Y. Tan, A. Thistlethwaite , E. Toulmin, K. White, D. Curtis, S. Jane, B. Monahan, P. Stupple*
10:20 – 684. Design of peptidomimetics and non-peptide small-molecule inhibitors to target the MLL-WDR5 protein-protein interaction. **S. Wang***
10:50 – 685. Generation of chemical similarity models as filters for virtual screening of LSD1 reversible allosteric inhibitors. **G.L. Genesi**, V.G. Maltarollo, G.H. Trossini*
11:20 Closing remarks

Sheraton Waikiki
Waianae

In Vivo Chemical Strategies for Functional and Translation Studies of Biological Networks and Pathways (#212)

Organized by: M. Bogyo, K. Kikuchi, B. Cravatt, H. Kwon

8:00 – 686. Development of protein-tag-based research tools in live cell imaging. **S. Mizukami***, K. Kikuchi
8:20 – 687. Modular caging groups – new platforms for multifunctional caged compounds. **T. Furuta**
8:50 – 688. Identification of small molecule modulators of cancer stem cells via phenotype-specific cell binding screening with combinatorial chemical library. L. Chen, C. Long, **J. Lee***
9:20 – 689. Exploiting exogenous chemistry for intracellular protein manipulations. **P. Chen***
9:50 – 690. Reverse chemical proteomics with natural products for cellular and clinical applications. **P. Karuso***, A. Piggott, M. Gotsbacher
10:20 break
10:30 – 691. Emerging approaches and challenging targets in drug discovery. **R. Hannoush**
11:00 – 692. Target identification of bioactive small molecules toward functional and translational studies of angiogenesis. **H. Kwon***

Sheraton Waikiki
Lanai

Molecular Design in Medicine: Concept to Commerce (#295)

Organized by: J. Siegel, M. Martinelli, M. Brimble, M. Platz, H. Wong, K. Baldridge
Presiding: M. Martinelli

8:00 Speaker Prep
8:30 – 693. Timely chemical process research is a critical part for efficient drug development. **C. Senanayake**
8:55 – 694. Route design toward durable simplicity. **T.Y. Zhang**
9:20 – 695. Discovery of MK-8449, a SYK/ZAP70 inhibitor for rheumatoid arthritis. **A. Haidle***, M. Altman, K. Childers, M. Ellis, C. Fischer, F. Gervais, H. Houshyar, S. Kattar, S. Lee, M. Lowinger, M. Maddess, R. Miller, A. Northrup, R. Otte, A. Schell, S. Vincent
9:35 – 696. Biological roles of steryl glycosides within the context of an integrated chemical ecology. **J. Gervay Hague***
10:00 – 697. Process development of drug candidates post approval: A case study for a Gamma amino acid candidate. **T. Braish***
10:25 – 698. Aging, neurodegeneration, and chemical targeting of mitochondria. **P. Wipf***
10:50 – 699. Discovery and optimization of a novel series of LPA receptor antagonists with efficacy in multiple mouse models of fibrosis. **J. Seiders**
11:15 – 700. Developing an international pharmacy school in Tianjin, China. **J. Siegel**

Royal Hawaiian
Regency II

Cancer-Targeted Delivery of Therapeutics and Diagnostics (#393)

Organized by: Y. Kwon, K. Kaur, W. Kim, Y. Shen
Presiding: W. KIM

8:00 – 701. Anticancer nanomedicines through controlled chemistry. **J. Cheng***
8:30 – 702. Multifunctional liposomes having target-specificity, imaging, and temperature-responsive drug release for cancer chemotherapy. **K. Kono***, M. Takashima, E. Yuba, A. Harada, D. Kokuryo, I. Aoki, K. Maruyama, S. Aoshima
8:55 – 703. High throughput screening of cancer therapeutic small antibody designed from domain library. **A. Sugiyama**, M. Umetsu, H. Nakazawa, K. Hosokawa, R. Asano, I. Kumagai
9:20 – 704. On-chip profiling of clinically relevant exosomes using a SPR biosensor. **L.G. Carrascosa**, A. Sina, R. Vaidyanathan, S. Dey, M. Shiddiky, M. Trau
9:45 Break
9:50 – 705. New strategies for imaging infectious diseases and oxidative stress. **N. Murthy***
10:20 – 706. "Caged" molecular glue uncaged by cancer specific signal. **C. Chen**, J. Hatano, K. Okuro, T. Aida
10:45 – 707. Dendrimer porphyrin-incorporated nanoparticles for cancer theragnosis. **W. Koh***, U. Chung
11:10 – 708. Development of mixed nanostructure composed of self-assembled monolayer and ultrathin silver chloride for electrochemical biosensing. **M. TABATA**, T. Goda, A. Matsumoto, Y. Miyahara*
11:35 – 709. Radioembolization with second generation biodegradable microspheres. **K. SAATCHI**, M. Bokharaie, A. Thakor , P. Esquinas, J. De La Vega, A. Celler, D. Liu, U. Hafeli

SCTY

Area 11 – Connecting Chemistry to Society

Tuesday Morning

Hawaii Convention Center
303A

The Evolving Nature of Scholarly Communication: Connecting Scholars with Each Other and with Society (#173)

Organized by: J. Maclachlan, A. Williams, K. Hayashi, D. Martinsen, B. Brown
Presiding: J. Maclachlan

8:00 Opening Remarks
8:05 – 1. Social media and *Inorganic Chemistry*: Successes and challenges. **W.B. Tolman***
8:45 – 2. Chem-Station: A virtual location where chemists assemble. **J. Yamaguchi**
9:10 – 3. Digital tools for the chemist: An editor's perspective. **G. Armstrong***, S. Cantrill, S. Davey, A. Pichon, R. Johnson
9:50 – 4. The social author, the social publisher. **E.C. Wiringi***
10:15 – 5. Turning the tide: The "article last" content approach. **A. Brownsell**
10:55 – 6. A Christmas Carol: The evolving landscape of scientific publishing. **J.Y. Chen***, D. Martinsen
11:20 – 7. Opportunities for chemists to have meaningful interactions and do better science through social media platforms. **W. Dichtel**

Hawaii Convention Center
302A

Bioactive Natural Products and Public Health in the Pacific Rim: From Aquatic Dietary Supplements to Marine and Freshwater Toxins (#230)

Organized by: J. Hungerford, W. Rourke, P. McNabb, J. Betz
Presiding: J.M. Betz

8:00 Joseph Betz
8:05 – 8. Exploring for bioactive secondary metabolites from Chinese medicinal mangroves. **Y. Guo***

*** Principle Author**

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8:45 – 9. Identification of marker compounds to distinguish herbal medicines originating from different *Vitex* species. **S. Masada**, N. Oshima, T. Yahagi, R. Suzuki, Y. Takahashi, H. Matsufuji, M. Watanabe, S. Yahara, O. Iida, N. Kawahara, T. Maruyama, Y. Goda, **T. Hakamatsuka***
9:05 Break
9:20 – 10. Nuclear magnetic resonance-based metabolomics of hawthorn species for natural health product optimization. J.A. Lund, P.N. Brown, **P.R. Shipley***
9:40 – 11. Cyanobacteria reference materials: Design and development. **C.A. Rimmer**, A. Stindt, L. Sander
10:20 – 12. Cyanobacteria in the dietary supplement and natural health product marketplace. **J.M. Betz***

Hawaii Convention Center
302B

Chemistry Education: International and Multicultural Perspectives (#365)

Organized by: S. Sandi-Urena, D. Salter, C. Do
Presiding: C.H. Do, C.V. Gauthier

8:00 Introductory remarks
8:05 – 13. Development of microscale corrosion experimental teaching materials for engineers. **D. Ito***
8:25 – 14. First chemistry and biology joint laboratory course in English for international students at the University of Tokyo. **Y. Nakamura***, M. Wang, M. Sato
8:45 Intermission
9:00 – 15. Establishing successful interdisciplinary collaborations in Peru. **C.V. Gauthier***
9:20 – 16. PROJECT SEED: Summer research experiences for economically disadvantaged high school students. **A.G. Cavinato***, **C. Hernandez**
9:40 – 17. Reach-out and pro bono programs for the dissemination of chemical knowledge. **C.H. Do***
10:00 Discussion

Hawaii Convention Center
303B

Safety in the Academic Research Laboratory (#460)

Organized by: E. Reichmanis, H. Horton, D. Kennedy

8:00 Elsa Reichmanis
8:05 – 18. Safe science: Promoting a culture of safety in academic research. **H. Thorp***
8:35 – 19. Safety first culture in Australian laboratories. **A. Vecchio-Sadus***
9:05 – 20. Comprehensive and effective program for environmental safety education in universities. **Y. Tsuji***
9:35 – 21. Laboratory safety in ChBE at Georgia Tech and the PALS collaboration with ExxonMobil. D. Sholl, **S. Nair**, C. Dixon, T. Alford
10:05 – 22. International differences in laboratory safety preparation for chemistry graduate students. **R. Phifer**
10:25 – 23. Evolution of safety culture in University of California academic research laboratories. **J.G. Palmer**, **L. Wong***
10:45 – 24. Laboratory scale risk assessment. **N. Langerman**
11:05 – 25. Study of students' engagement in various styles of safety videos. **H. Weizman***

Tuesday Afternoon

Hawaii Convention Center
303A

The Evolving Nature of Scholarly Communication: Connecting Scholars with Each Other and with Society (#173)

Organized by: J. Maclachlan, A. Williams, K. Hayashi, D. Martinsen, B. Brown
Presiding: J. Maclachlan

13:00 Opening Remarks
13:05 – 26. Don't panic: A scientist's guide to Twitter. **K.E. James***
14:05 – 27. Engaging students, alumni, and colleagues through social media. **S.C. Burdette**
14:35 – 28. Reactions to the open spectral database. **S.J. Chalk**
15:05 – 29. Open science framework (osf): A free, open source platform for sharing research works. **S.D. Bowman**
15:30 – 30. Open software platforms for chemistry on the desktop and web. **M. Hanwell***
15:55 – 31. Implementing and assessing the efficacy of open access chemwiki textbook resource. **D.S. Larsen***
16:20 – 32. Is Twitter changing the face of science?. **B. Campos Seijo***

Hawaii Convention Center
302A

Bioactive Natural Products and Public Health in the Pacific Rim: From Aquatic Dietary Supplements to Marine and Freshwater Toxins (#230)

Organized by: J. Hungerford, W. Rourke, P. McNabb, J. Betz
Presiding: J. Hungerford

13:00 James Hungerford
13:05 – 33. Analytical methods and reference materials for cyanobacterial toxins. **M.A. Quilliam**, D. Beach, P. McCarron, C. Hollingdale, E. Kerrin, K. Thomas, S. Giddings, N. Lewis
13:45 – 34. Natural environmental neurotoxins: The case of β-N-methylamino-L-alanine. **S. Murch***
14:20 – 35. Accurate detection and quantification of β-N-methylamino-L-alanine in food and environmental samples. T.C. Baker*, S. Murch, **P.N. Brown**
14:55 Break
15:10 – 36. Screening assays for new palytoxin analogs detection. **A. Tubaro***, M. Pelin
15:40 – 37. Marine STAR: Getting environmental contaminant data to the masses. **J.M. Ragland***, J.L. Reiner, S.S. Vander Pol, R. Pugh, P. Becker
16:00 – 38. In the Pacific Rim with AOAC's Marine and Freshwater Toxins Task Force. **J. Hungerford***

Hawaii Convention Center
302B

Chemistry Education: International and Multicultural Perspectives (#365)

Organized by: S. Sandi-Urena, D. Salter, C. Do
Presiding: C.H. Do, C.V. Gauthier

13:00 Introductory remarks
13:05 – 39. Teaching methodologies for how to fully integrate students who are blind into chemistry laboratory experiences. **C.A. Supalo***
13:25 – 40. Identity, intersectionality, and the culture of science. **M. Grunert Kowalske***
13:45 – 41. Educating LGBT chemical scientists: Mentoring, professional associations, and successful integration of the whole person. **C.J. Bannochie***, B. Belmont, R. Hernandez
14:05 – 42. Bringing "relevance" into the chemistry curriculum. **G.M. Bodner***
14:35 Intermission
14:50 – 43. Demarginalizing global competency and global citizenship in the 21st century chemistry classroom: The risks and benefits of a deprogrammed chemistry program. **J. Bhattacharya***
15:10 – 44. Trends, opportunities, and best practices in graduate chemistry study abroad. **R. McKlmon***, B. Miller
15:30 – 45. Global Chemists Code of Ethics: How international collaboration can lead to sustainable, responsible chemistry education. **S. Hill***, J. Uddin Ahmad*, B. Miller
16:00 Discussion

Hawaii Convention Center
303B

Safety in the Academic Research Laboratory (#460)

Organized by: E. Reichmanis, H. Horton, D. Kennedy

13:00 – 46. From accident analysis to accident prevention at UCLA. **C. Merlic***, I. Schroeder
13:20 – 47. A student's perspective on safety in the academic lab. **N. Persson***, E. Reichmanis
13:40 – 48. Assessment and management of chemical risks in academic laboratories (1) Important factors for risk assessment in chemical laboratories. **H. Yamamoto***, Y. Nezu, Y. Oshima
14:00 – 49. Advancing safety culture in academic research laboratories: A case study. **L.M. Gibbs***
14:20 – 50. Assessment and management of chemical risks in academic laboratories (2) Influence of laboratory layout on airflow in university laboratory. **Y. Nezu***, Y. Nabeshima, H. Yamamoto, Y. Oshima
14:40 – 51. Assessment and management of chemical risks in academic laboratories (3) Observing behavior of experimenter and chemical reagents in an actual chemical laboratory. **Y. Oshima***, Y. Nezu, H. Yamamoto
15:00 – 52. Ensuring a safe and successful research laboratory for deaf and hard-of-hearing undergraduate students. **T. Pagano***, A.D. Ross, S.B. Smith
15:20 – 53. Supporting a prudent safety culture through job hazard analysis and information literacy skills. **R.B. Stuart**
15:40 – 54. Critical role of public access to chemical data and information in supporting safety culture in academic research laboratories. **L. McEwen**, E. Bolton, S. Heller
16:00 – 55. Leveraging academic safety culture as a value-added tool for maximizing the undergraduate research experience. **G.M. Ferrence***, N.K. Fredstrom

Wednesday Morning

Hawaii Convention Center
303A

The Evolving Nature of Scholarly Communication: Connecting Scholars with Each Other and with Society (#173)

Organized by: J. Maclachlan, A. Williams, K. Hayashi, D. Martinsen, B. Brown
Presiding: J. Maclachlan

8:00 Opening Remarks by Tom Connelly, Executive Director and CEO of the American Chemical Society
8:05 – 56. Linked-In® and Facebook® for business: Learn how to leverage these powerful social tools. **J. Maclachlan**
8:30 – 57. Connecting through social media (Part I). **M. Feliu-Mojer***, R.M. Burks, L. Neeley, D. Lee, B. Lillie
9:00 – 58. Connecting through social media (Part II). **M. Feliu-Mojer***, R.M. Burks, L. Neeley, D. Lee, B. Lillie
9:30 – 59. Connecting with the media (Part I). **R.M. Burks***, L. Neeley, M. Feliu-Mojer, D. Lee, B. Lillie
10:00 – 60. Connecting with the media (Part II). **R.M. Burks***, L. Neeley, M. Feliu-Mojer, D. Lee, B. Lillie
10:30 – 61. Reaching your target audience after publication. **L. Stemmle***
11:00 – 62. Scholarly journals in China involved in Friends circles: Promotion or profit. **X. Zhu**
11:30 – 63. ACS *Crystal Growth & Design*: Founding a journal in the cusp of electronic publishing and open access. **R.D. Rogers**

Hawaii Convention Center
Halls I, II, III

Bioactive Natural Products and Public Health in the Pacific Rim: From Aquatic Dietary Supplements to Marine and Freshwater Toxins (#230)

Organized by: J. Hungerford, W. Rourke, P. McNabb, J. Betz

Poster Session
10:00 – 12:00

64. Anti breast cancer effect of *Ecklonia cava*-derived dieckol. **N. Jeon**, Y. Kim, J. Hwang, S. Kim, B. You, X. Dong

Hawaii Convention Center
302B

Chemistry Education: International and Multicultural Perspectives (#365)

Organized by: S. Sandi-Urena, D. Salter, C. Do
Presiding: C.H. Do, I. Montes

8:00 Introductory remarks
8:05 – 65. ASCIv2 as a tool to investigate student attitudes in Australia and the United States. **J. Alexander***, A.T. Baker, S. Chadwick
8:25 – 66. Sink or swim: Perspectives of tertiary pedagogical content knowledge (PCK). **G.A. Lawrie***, M. Schultz
8:45 – 67. Pedagogical content knowledge in tertiary chemistry: The culture of subdisciplines. **M. Schultz**, G.A. Lawrie
9:05 – 68. Authentic Thinking with Argumentation (ATA): Learning model for fostering learners could solve problems with scientific thinking and processes. **J. Baek***, D. Jeong
9:25 Intermission
9:35 – 69. Using web-based learning activities to enhance understanding of acids and bases. **S.D. Woodgate***
9:55 – 70. Chemistry education collaborations across cultural and national borders: The Middle East. **M.Z. Hoffman***, Z.M. Lerman
10:25 – 71. *"Festival de Química,"* a successful international non-formal educational model. **I. Montes**
10:55 Discussion and concluding remarks

Hawaii Convention Center
302A

Women in Chemistry: Changing the Face of Science (#382)

Organized by: E. Nalley, K. Kurihara, V. Chen, L. Watkins
Presiding: V. Chen, E. Nalley

8:00 Opening Remarks
8:25 – 72. Women leaders of the Global Chemistry Enterprise. **M. Wu***
8:50 – 73. Why are women underrepresented in science? Evidence for and against 5 common hypotheses. **K.S. McCain***
9:15 – 74. Change in demographics of STEM faculty at research universities over the last decade. **D.J. Nelson***
9:40 – 75. Women in chemistry: An Australian perspective. **K.A. Jolliffe**
10:05 Break

*** Principle Author**

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10:30 – 76. Promotion of women scientists and engineers in Japan: Achievements and challenges. **K. Kurihara**
10:55 – 77. Challenges and strategies for increasing participation of women and girls in STEM fields. **C. Crudden***
11:20 – 78. Program to accelerate the appointment of women faculty at Kobe University. **Y. SOUMA***

Hawaii Convention Center
303B

University-Industry Collaboration, Regulatory Environments, and Commercialization of Emerging Technology (#453)

Organized by: E. Reichmanis, S. Usselman, H. Slotten, H. Choi

8:00 Steven Usselman
8:05 – 79. Of *Kimchi* and spectroscopy: Chili powder, free trade, and the boundaries of regulatory science. **B. Park***
8:35 – 80. Catalysis research for polymer electrolyte fuel cells (CaRPE-FC): A perspective of path to marketplace for nanomaterials through a program in Canada. **T. Navessin***, S. Holdcroft
9:05 – 81. Commercialization of semiconductor nanomaterials research: A study of the US Department of Energy's Solid-state lighting research program. **A.M. Smith***
9:25 – 82. Centralization and collaboration at Energy Frontier Research Centers. **S.Y. Lai***, A.M. Smith, J. Bea-Taylor, R.B. Hill, N. Kleinhenz
9:45 – 83. Minerals, metals and materials: Understanding the world around us. **J. Cutler***, L. Van Loon, J. Zhou, J. Reid, J. Olson, T. Bond, E. Bergen
10:05 – 84. Impact of climate on the LCOE for thin film and crystalline photovoltaic technologies. **M. Smith***, J. McGrath , D. Boyuk, L. Yates, D. Gordon , M. Flowers, A. Parsekian
10:25 – 85. Support for innovation in America's technical workforce from the U.S. National Science Foundation's Advanced Technological Education program. **D.R. Brown***
10:45 – 86. Utilization of advanced radiation facilities under research cooperation with academics. **K. Hirota***, K. Shidomi, H. Sawahata
11:05 – 87. Nanotechnology in Thailand: Adding value to exports, promoting sustainable development. **J. Bea-Taylor**
11:25 – 88. Industry expectations for new hires – safety awareness. **N. Langerman***

Hawaii Convention Center
Halls I, II, III

Safety in the Academic Research Laboratory (#460)

Organized by: E. Reichmanis, H. Horton, D. Kennedy

Poster Session
10:00 – 12:00

89. Introducing general chemistry students to academic safety culture through participatory case study development. **G.M. Ferrence***, S.M. Schelble
90. Safety regulations and awareness in the academic research laboratory at a community college. **P. Flores Gallardo***

Wednesday Afternoon

Hawaii Convention Center
303A

The Evolving Nature of Scholarly Communication: Connecting Scholars with Each Other and with Society (#173)

Organized by: J. Maclachlan, A. Williams, K. Hayashi, D. Martinsen, B. Brown
Presiding: J. Maclachlan

13:00 Opening Remarks
13:05 – 91. Advancing chemistry and communicating chemistry for the benefit of Earth and its people. **B.Z. Shakhashiri***
14:05 – 92. Social media and outtreach from a National Laboratory perspective. **G.B. Balazs**
14:30 – 93. From the Cape Cod Science Cafe 2011 to STEM Journey 2016: How we have sustained our chemistry outreach beyond the International Year of Chemistry. **J. Maclachlan***, J. Driscoll
14:55 – 94. Recent progress and future plan of our activities bridging science and society in Japan. **K. Shimada**, M.O. Watanabe, S. Ohtake*
15:20 – 95. Creatively connecting chemistry to society. **G.S. Ruskin***
15:45 – 96. Challenge for scientists of parsing personal vs. organizational social media obligations and observations. **T. Holme**
16:10 – 97. Ethics in publishing: Editorial and related experiences. **P.S. Weiss***
16:35 – 98. Tweeting and cheating - connecting with students as an author. **S. Kean***

Hawaii Convention Center
302B

Effective Collaboration Strategies to Drive Innovation in Drug Discovery and Development (#179)

Organized by: M. Armstrong, S. Kim, Y. Zhu, J. Blount
Presiding: M. Armstrong

13:00 Opening Remarks
13:05 – 99. How to effectively protect your invention with collaborative research. **M. Armstrong***
13:35 – 100. Tips for choosing and protecting proprietary names and trademarks for drugs. **R.J. Kenney**
14:05 – 101. What early-stage life science companies need to know now: Challenges and opportunities when communicating with the U.S. Food and Drug Administration. **A.G. Minsk***
14:35 Break
14:45 – 102. Successful industry-academia collaboration toward the development of new host-based antivirals against influenza. **E. Marsault**, P. Boudreault, M. Azzi, A. Griffin, B. Brown, R. Leduc, M. Richter
15:15 – 103. Open source pharmaceutical industry. **M. Todd***
15:45 General Questions
15:55 Closing Remarks

Hawaii Convention Center
302A

Women in Chemistry: Changing the Face of Science (#382)

Organized by: E. Nalley, K. Kurihara, V. Chen, L. Watkins
Presiding: E. Nalley

13:00 Opening Remarks
13:05 – 104. Activities of Gender Equality Promotion Committee in The Society of Chemical Engineering, Japan. **N. Shibasaki-Kitakawa**
13:30 – 105. Women in chemical engineering: Australian perspective. **V. Chen***
13:55 – 106. Encouragement of female students in high school and junior high school to study science. **Y. Hosokoshi***, K. Morizawa, M. Onda, N. Ohmido, S. Kasahara, S. Tajima, M. Shinohara, Y. Matsuoka, T. Kobayashi, T. Tsunemi, Y. Harada, E. Enoki, Y. SOUMA
14:20 – 107. Gender inequalities: Will the change from past to present stand the P-test for significance in change?. **I. Black**
14:45 Break
15:00 – 108. Transforming the pipette of progress: Growth and opportunities. **A. Wilson**
15:25 – 109. Overcoming the stereotype of the Big Bang theory. **E. Nalley***
15:50 – 110. Positive action for female researchers at Hokkaido University. **M. Kato***

Wednesday Evening

Hawaii Convention Center
Halls I, II, III

The Evolving Nature of Scholarly Communication: Connecting Scholars with Each Other and with Society (#173)

Organized by: J. Maclachlan, A. Williams, K. Hayashi, D. Martinsen, B. Brown
Presiding: J. Maclachlan

Poster Session
19:00 – 21:00

111. Social media and managing business relationships: Transitioning from marketing to sales of scientific instrumentation. **J. Maclachlan***, J. Driscoll
112. Visualization of chemistry: Role of graphic design in chemistry. **A. Sato***
113. Connecting the judiciary with science: The legal and social issue of marijuana. **M.A. Celeste**

Hawaii Convention Center
Halls I, II, III

Chemistry Education: International and Multicultural Perspectives (#365)

Organized by: S. Sandi-Urena, D. Salter, C. Do
Presiding: C.H. Do, S. Sandi-Urena

Poster Session
19:00 – 21:00

114. Learning inquiries for Spanish-speaking exchange students taking chemistry classes at a community college. **G. Coronado***, P. Flores Gallardo*
115. Educational activties within the European Union's Tempus NETREL project. **I. Špánik***, G. Mills, B. Vrana
116. Development of a pre-service and in-service "Color Science" training program for teachers, in cooperation with Toho University, JACI, and DIC Co., Ltd. **I. Imai***, M. Takahashi, K. Tominaga, K. Makide
117. From STEM to STEAM: Thermodynamics and the art of Japanese swordsmithing. **C.B. Johnson***, **M.M. Day**, **L. Pesterfield**
118. Research on chemistry education referring to common materials: The effect of UV cosmetics. **M. Karayama**, **A. AKIMOTO***
119. Application of tablet devices to chemistry classes at college of technology. **H. SATO***, K. Fukumoto, A. OSHIO, Y. HATTORI, O. KATAYAMA
120. Oxidation reaction experiment of iron powder (disposable warmer) using handmade oxygen sensor. **M. TAKAHASHI**, Y. Tateizumi
121. Science craft for chemistry education. **A. Yanase**, M. Kamata

Thursday Morning

Hawaii Convention Center
303A

Green and Sustainable Chemistry Education for Tomorrow's Citizens of the World (#334)

Organized by: J. Jackson, F. Zheng, R. Resendes, D. Kovacs, J. Jackson, K. Saito
Presiding: J. Jackson

8:00 – 122. Green chemistry programs at the University of Massachusetts Boston. **W. Zhang***
8:25 – 123. Green chemistry education roadmap to advance greener solutions throughout the chemical enterprise. **J. Hutchison***
8:50 – 124. Designing partnerships that drive innovation in general education chemistry courses: Paving the way for a green chemistry education roadmap. **J.A. Haack***
9:15 – 125. Designing effective curricula and assessments to promote deep learning of green chemistry. **M.M. Cooper**
9:40 – 126. Greening the organic lab: A comparison of microwave-assisted and classical nucleophilic aromatic substitution reactions. **D.R. Latimer**
10:00 Break
10:10 – 127. Self-education in green chemistry and engineering – a retrospective look. **D.C. Constable**
10:40 – 128. Greening the curriculum through the School of Green Chemistry and Engineering at the University of Toledo. **G. Lipscomb**, M. Mason
11:00 – 129. Chemistry in engineering education: A course outline for sustainable bioenergy systems. **C.M. Saffron***, F. Pan
11:20 – 130. Climate change effects and the sustainability of cacao and chocolate. **H.M. Peters***, S.B. Peters

Hawaii Convention Center
302B

Policies and Procedures Regarding Primary Research Data (#335)

Organized by: D. Martinsen, K. Hayashi, N. Adams

8:00 – 131. What's a publisher to do about research data?. **D. Martinsen***
8:20 – 132. Sharing science data: Semantically reimagining the IUPAC solubility series data. **S.J. Chalk***, R.J. Hanisch, A. Morey, D.R. Burgess, A.Y. Lee
8:45 – 133. Open science in Japan: Recent progress in policy and research programs. **S. Ohtake***, Y. Ogasaka
9:15 – 134. A chemical view on research data: Identifying critical structures for management in the machine era. **L. McEwen**
9:45 Break
9:55 – 135. Recent state of policy development and research activites in Japan for sharing research outputs. **K. Hayashi**
10:20 – 136. Helping the chemical science community preserve and share data: An international society publisher's perspective. **J. Griffiths***, D. Zhang
10:45 – 137. Facilitating and incentivizing openness to enhance reproducibility. **S.D. Bowman**
11:15 – 138. Sustaining access to research data: A 50 year case study. **I. Bruno***, C. Groom
11:45 Panel Discussion

Hawaii Convention Center
302A

Women in Chemistry: Changing the Face of Science (#382)

Organized by: E. Nalley, K. Kurihara, V. Chen, L. Watkins
Presiding: K. Kurihara

8:00 Opening remarks
8:05 – 139. Tennessee women in chemistry: Changing the face of science. **J. Iriarte-Gross***
8:30 – 140. Studying the persistency of women in the field of chemistry in North Carolina. **E.C. Gravely**, G.P. Redd
8:55 – 141. Changing the face of Hiroshima University. **M. Aida***
9:20 – 142. Women in chemistry - a view from the other side. **K. Vitense***
9:45 Break

*** Principle Author**

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10:00 – 143. Balancing the equation: A mentoring program for first year female students. **E.J. Smith**, K. Harris, N. Iamsuk, T. McGuren, J. Miller, J. Wilkes, J. Reid
10:25 – 144. Contributions of women chemists toward peace in the Middle East. **Z.M. Lerman***
10:50 – 145. Leadership across multiple cultures: Providing workplace fairness regarding common issues faced by women in chemistry. **K.M. Elkins**, **S.M. Schelble***
11:15 – 146. Positive and sustainable action for gender equality at Nara Women's University. **T. Takeuchi***

Hawaii Convention Center
303B

Active and Inquiry Learning in the Chemistry Classroom and Laboratory (#443)

Organized by: M. Buntine, S. Boniface, J. Lewis
Presiding: S. Boniface

8:00 Welcome Remarks
8:05 – 147. Process oriented guided inquiry learning (POGIL): A student-centered approach to chemistry instruction. **R. Moog***
8:40 – 148. Overview of peer-led team learning (PLTL). **P. Varma-Nelson***
8:55 – 149. Connecting with our students through interactive lecture demonstrations. **S. Schmid***, A. Bridgeman, K.A. Badiola
9:10 – 150. Teaching ethics and professionalism through active learning and engagement. **S.M. Schelble***, **M.C. Loui**, **G.M. Ferrence**
9:25 – 151. Inquiry-driven organic laboratory incorporating current research. A.R. Prosser, D.C. Liotta, **M.F. McCormick***
9:40 – 152. Introducing students to research in second year analytical chemistry laboratories using inquiry-based projects. **J.R. Rodriguez Nunez***, E.J. Maxwell
9:55 Break
10:15 – 153. Improving student engagement in active learning by strengthening self-confidence in the application of underpinning core concepts in chemistry. **V.G. Barnett***
10:30 – 154. Enhancing active learning and student engagement in first year chemistry classes. **E. New***, A. Bridgeman, A. George, P. Rutledge
10:45 – 155. Prion disease as a short, in-lecture, "choose-your-own-experiment" biochemical case to teach nature of science and protein misfolding. **J.K. Hines***, A. Serrano, J. Liebner
11:00 – 156. Active teaching and learning strategies: A synthesis of lecture and lab. **R. Venkateswaran***
11:15 – 157. Experiences with the use of a Classroom Response System (CRS) in a Chemistry Foundation Course. **C.M. Arewgoda***
11:30 – 158. PLTL: A large scale transformative program in general and organic chemistry at UT Dallas. **J. Sibert**
11:45 – 159. Combining green chemistry and guided-inquiry learning to improve students' conceptual understanding. **T.J. Greenbowe**, D. Exton*, B. Baldock

Thursday Afternoon

Hawaii Convention Center
303A

Green and Sustainable Chemistry Education for Tomorrow's Citizens of the World (#334)

Organized by: J. Jackson, F. Zheng, R. Resendes, D. Kovacs, J. Jackson, K. Saito
Presiding: K. Saito

13:00 – 160. A personal vision of sustainable chemistry at the National Science Foundation. **M.S. Platz***
13:30 – 161. Green chemistry through six editions of *Chemistry in Context*. **C.H. Middlecamp***
13:50 – 162. Making the green chemistry connection with high school students. **D.M. Cullen**
14:10 – 163. Microscale experiment for elementary school science using anthocyanin from grape peel. **T. Nakagawa***
14:30 – 164. Project iLASER: Engaging the public in an appreciation for chemistry with a focus on sustainable energy. **D.R. Brown***
14:50 Break
15:00 – 165. Sustainability and green chemistry: Our role as scientist-citizens. **B.Z. Shakhashiri***
15:40 – 166. Maximizing the impact from an industrial/academic research collaboration: ACS GCI Pharmaceutical Roundtable collaboration with UCLA leads to creation of a new green chemistry teaching lab experiment for undergraduates. **D. Richter***
16:10 – 167. Need for green chemistry at the undergraduate level. **I. Sidhwani**, R. Sharma
16:30 – 168. Sustainability benefits of scientific research in the energy industry. **A. Bishop**

Hawaii Convention Center
302A

Women in Chemistry: Changing the Face of Science (#382)

Organized by: E. Nalley, K. Kurihara, V. Chen, L. Watkins
Presiding: G. Thomas

13:00 Opening Remarks
13:05 – 169. Advancing gender equity at a minority serving institution. **Z.S. Wilson***, G.S. Byrd, S. Luster-Teasley, R. Coger
13:30 – 170. Women chemists of color: An institutional change approach. **K. Mack***, M. Soto, N. Cantor, P. McDermott
13:55 – 171. Ongoing challenges for Hispanic women. **I. Montes***
14:20 Break
14:30 – 172. Progress of women chemists of color in the United States. **G. Thomas**, L.M. Watkins, J. TItus-Young, Z.S. Wilson
14:55 – 173. Native American women in STEM. **N. Jackson**
15:20 – 174. A chemical imbalance. P.L. Arnold*, S. Rodnes, M. Liden, C. Conant, **J. Rieb**

Hawaii Convention Center
303B

Active and Inquiry Learning in the Chemistry Classroom and Laboratory (#443)

Organized by: M. Buntine, S. Boniface, J. Lewis
Presiding: J.E. Lewis

13:00 – 175. Efficacy and cultural transferability of student inquiry learning approaches in foundation chemistry: Improving conceptual understanding and confidence. **S.S. Qureshi***
13:35 – 176. Chemistry in context: Promoting information literacy in the general chemistry lecture and lab. **S. Brydges***
13:50 – 177. Method for the validation of a first year experiment. **R. Pullen***, B.F. Yates, G. Dicinoski, N. Brown, J. Smith
14:05 – 178. Chemistry converged: A pedagogy-led curriculum for the 21st century. **D. Southam***, M. Buntine
14:20 – 179. Evolution and evaluation of a (peer led) team learning implementation in organic chemistry at an undergraduate institution. **J.G. Gillmore***
14:35 – 180. MitoNEET folding and iron sulfur cluster stability investigations in the undergraduate lab course as a unique experiential learning environment. **T.C. Leeper***, D.L. Morris
14:50 – 181. Student perceptions and staff misconceptions about the undergraduate laboratory learning experience. **M. Buntine**, K. Burke da Silva, K.F. Lim, S. Pyke, J. Read, M. Sharma, A. Yeung, **S. Kable***
15:05 Break
15:25 – 182. Impact of course preparation assignments on student learning in chemistry and biochemistry courses. **N.J. Ronkainen***
15:40 – 183. Discovery based molecular structure determination lab module integrating chemical crystallography into advanced undergraduate laboratories. **J.M. Tanski***
15:55 – 184. Active learning in chemistry and the transition from high school to university. **S. Boniface***, A. Moeed
16:10 – 185. "I'm trying to think of what else we could do": Analysis of student discourse during pre-lab problem solving sessions. **G.V. Shultz***
16:25 – 186. Using threshold concepts to guide changes in active learning classrooms. **J. Loertscher***, J.E. Lewis, V. Minderhout, T. Morgan, X. Xu

Thursday Evening

Hawaii Convention Center
Halls I, II, III

Green and Sustainable Chemistry Education for Tomorrow's Citizens of the World (#334)

Organized by: J. Jackson, F. Zheng, R. Resendes, D. Kovacs, J. Jackson, K. Saito
Presiding: J. Jackson, F. Zheng

Poster Session
19:00 – 21:00

187. Partnership between university and high schools for wise use of biodiversity. **K. Kanno**, K. Miyagawa, M. Ueno
188. Illustrating green and sustainable chemistry concepts through the synthesis and characterization of renewable triblock copolymers in the organic chemistry laboratory. **J.E. Wissinger**, D. Schneiderman, G. Fahnhorst, M. Wentzel, Z. Swingen
189. Preparation of chiral flavors by asymmetric oxidation. **H. Tian**
190. Teaching of chemistry from green chemistry perspective. **P.J. González***, C. Perez-Mendez, S. Figueroa-Duarte
191. Developing an undergraduate chemistry lab involving mechanochemistry and green chemistry metrics. **S. Kingston**, R. Chetram, T. Hamilton*
192. Green chemistry and sustainability initiatives at the state level: Education through public policy in the United States. **E.P. Jackson***, C. Affeldt, J. Jackson, D.G. Kovacs
193. Stories of sustainability in communities: Bridging science and society. **E.P. Jackson***, D.G. Kovacs, J. Jackson
194. Development of green chemistry of synthetic fragrance/flavor substances. **F. Zheng***
195. The Green Chemistry Initiative at the University of Toronto. E.N. Daley, I. Mallov, **J. Moir**, L.M. Reyes, F. Tsao
196. Discovery of novel, potent, and low-toxic angiotension II receptor type 1 (AT_1) blockers: Design, synthesis, biological evaluation, and molecular docking studies of 6-substituted aminocarbonyl benzimidazoles with a chiral center. **Z. Zhou***

Hawaii Convention Center
303B

Active and Inquiry Learning in the Chemistry Classroom and Laboratory (#443)

Organized by: M. Buntine, S. Boniface, J. Lewis
Presiding: M. Buntine

19:00 – 197. Expert vs. novice: Can undergraduates ever become expert problem solvers?. **T. Overton***
19:35 – 198. Supporting student understanding of chemistry through the use of guided inquiry materials and instructor facilitation. **R. Cole***, C. Stanford
19:50 – 199. Electrochemical sensors to detect heavy metals and carcinogenic compounds: Inquiry-based modules to meet today's interest. **S.K. Lunsford***, C. Spradlin, M. Sullivan
20:05 – 200. Enhancing student engagement in laboratory learning using inquiry-based activities: Expanding ASELL into schools. **A. Yeung***, M. Sharma, S. Kable, K.F. Lim, L. Sutherland, M. Buntine, V. Dawson, D. Southam, N. Maynard
20:20 – 201. Talking science: Productive student discourse in university-level chemistry courses. **D. Southam***, **G. RUSHTON**
20:35 – 202. Amalgamating flipped classroom and peer-led team learning pedagogies in general chemistry and organic chemistry instruction: An instructional experiment. **J.R. Raker**, S.E. Lewis, J. Antilla
20:50 Symposium close

Friday Morning

Hawaii Convention Center
Halls I, II, III

Connecting Ionic Liquids to Societal Issues: Materials, Medicines, Energy, and Water (#113)

Organized by: R. Rogers, D. MacFarlane, R. Rogers, H. Ohno
Presiding: G. Gurau

Poster Session
10:00 – 12:00

203. Polyiodide formation in room temperature ionic liquids: 1-alkyl-3-methylimidazolium iodide. **H. Abe***, H. Kishimura, M. Aono, Y. Yoshimura, N. Hamaya
204. Hydrophobic ionic liquids for cellulose dissolution: Effect of respective alkyl chain length of cations and anions. **D. Sato**, K. Kuroda, M. Abe, H. Ohno
205. Electrocarboxylation of aromatic ketones in ionic liquids: The Influence of the substrate and proton availability in ionic liquids on product distribution. **S.F. Zhao***, M. Horne, A.M. Bond, J. Zhang
206. Design and synthesis of amino-substituted task-specific ionic liquids for platinum group metal ions extraction. **A. Miyazaki***, K. Funaki, K. Kanie, A. Muramatsu
207. Design of ionic liquids to dissolve chitin without heating. **M. Shimo**, H. Ohno*, M. Abe
208. Ionic liquids based on cationic ruthenium sandwich complexes: Effects of substituents on the thermal properties. **T. Higashi**, A. Komurasaki, T. Ueda, T. Mochida*
209. Photoreactive organometallic ionic liquids containing the $B(CN)_4$ anion. **T. Ueda**, T. Mochida*
210. Acidity in protic ionic liquids studied by NMR spectroscopy. **M. Hasani***, C. Angell*
211. Control of surface wettability by ionic liquid interface. **T. Ono***

*** Principle Author**

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212. Protic ionic liquids as direct dissolution solvents for lignocellulose based textile fiber production. **A.P. Parviainen***, A.W. King, I. Kilpeläinen, U. Liimatainen, H. Sixta, M. Hummel, R. Wahlström, A. Suurnäkki
213. Ternary phase behavior of phytosterol ethoxylate, water, and imidazolium-based ionic liquids: Effect of alkyl chain length in cation and anion species on the phase behavior. **T. Misono***, K. Nakamura, R. Sekihara, T. Endo, K. Sakai, H. Sakai, M. Abe
214. Development of environmental-benign ionic liquids with dissolution ability of cellulose. M. Yasui, **Y. Takagi***
215. Development of environmental-benign teaching materials using ionic liquids. **R. Nishida**, Y. Takagi*
216. Distribution of chemically modified cytochrome *c* in the ionic liquid/buffer biphasic system. **K. Ikeda**, K. Fujita, N. NAKAMURA*, H. Ohno
217. Preparation and characterization of novel magnetic ionic liquids. **N. Fukui**, Y. Takagi*
218. Improved performance of conducting-bridge random access memory using ionic liquids. **A. Harada**, H. Yamaoka, K. Watanabe, S. Kishida, K. Kinoshita, T. Nokami, T. Itoh
219. Dynamic structure of *N*,*N*-diethyl-*N*-methyl-*N*-(2-methoxyethyl)ammonium tetrafluoroborate-water mixture. **K. Kaneko**, K. Saihara, Y. Yoshimura, A. Shimizu
220. Sugar chain recognition of lectin stored in hydrated ionic liquid. **M. Sanada**, K. Fujita, H. Ohno*
221. Design of self-organized soft materials changing their nanosegregated structures by the addition of acids or salts. **T. Matsumoto***, T. Ichikawa, T. Kato, H. Ohno
222. Synthesis of an ionic liquid with hydronium cation encapsulated by crownether. **S. Takeoka**, A. Kitada, K. Fukami, K. Murase
223. Which structures hinder the dissolution of lignocellulose in ionic liquids?. **K. Yoshida**, **H. Nonaka***
224. Ionic liquids from cationic ruthenium sandwich complexes with trialkoxybenzene ligands. **T. Ueda**, T. Mochida*
225. Preparation and properties of cyclam complexes with the Tf_2N anion. **Y. Oba**, T. Mochida*
226. Artificial neural networks and the melting temperature of imidazolium-type and ammonium-type ionic liquids. **J.O. Valderrama***
227. Saccharification of biomass with zwitterion/acid composites (VI)- catalyst ability of sulfonic acid group. **S. Suzuki***
228. Synthesis of polyureas from diamines and CO_2 activated by ionic liquids. **M. Yoneyama***
229. Complete dissolution of woody biomass with tetra-*n*-butylphosphonium hydroxide aqueous solution and the effect of additives. **S. Yamanaka**, H. Ohno*
230. Development of ionic liquids equipped with hetero-atom containing substituents for Li-ion batteries. **N. Handa**, K. Matsumoto, Y. Fukaya, T. Nokami*, T. Itoh*
231. Design of zwitterions to show temperature-sensitive reversible phase change after adding water. **Y. Mieno**, H. Ohno*
232. Ionic liquids formed from cationic metal-chelate complexes bearing ether side chains. **X. Lan**, H. Hosokawa, Y. Funasako, T. Mochida
233. Role of ionic liquids in electroactive devices. **R. Sotoike**, T. Yasuda, M. Watanabe, M. Nakano, Y. Iwasa
234. Development of temperature responsive polyelectrolyte hydrogels derived from polymerized ionic liquid. **A. Okafuji**, Y. Deguchi, Y. Kohno, H. Ohno*
235. Effectiveness of ionic liquids for recovery process of useful substrates accumulated in cyanobacteria. **K. Fujita**, D. Kobayashi, N. NAKAMURA, H. Ohno
236. Structural transition of proteins in condensed aqueous ionic liquid solutions. **T. Takekiyo***, E. Yamaguchi, Y. Yoshimura
237. Suppression effect on insulin amyloid by the use of ionic liquids. **E. Yamaguchi***, T. Takekiyo, Y. Yoshimura
238. Synthesis of cage-forming silicate polymers and evaluation as electrolyte (II) - solidification of protic ionic liquids. **K. Okuda**, M. Fujita, Y. Takeoka, M. Rikukawa
239. Hydrated ionic liquids as effective solvent of renaturation of aggregated recombinant cellulase expressed in Escherichia coli. **M. Kajiyama**, K. Fujita, H. Ohno*
240. Synthesis and characterization of ionic liquids as electrolytes for battery applications: Investigation of charge and discharge characteristics. **S. Horiuchi***, M. Fujita, Y. Takeoka, M. Rikukawa
241. Design of amino acid ionic liquids containing aspartic acid anion and their application as solvents for lyotropic liquid liquid crystals. **H. Takeuchi**, T. Ichikawa, M. Yoshio, T. Kato, H. Ohno*

Hawaii Convention Center
302A

Technology and Assessment Strategies for Improving Student Learning in Chemistry (#132)

Organized by: T. Holme, P. Mahaffy, M. Schultz
Presiding: M. Schultz

8:00 Adjust starting time
8:30 – 242. Exploring the interrelationship between technology, instructional-styles, assessment strategies, and learner experiences. **B.M. McCollum***
8:50 – 243. Screencasts vs. simulations for chemistry learning. **D. Herrington***, R. Sweeder, **J.R. VandenPlas**
9:10 – 244. Designing assessments to characterize both what students know and what they can do with that knowledge. **M.M. Cooper***
9:40 Break
10:00 – 245. Using a web-based activity to enhance understanding of mole-mass calculations. **S.D. Woodgate***
10:20 – 246. SoftChalk and iClickers combination in the chemistry classroom: 21st century pedagogy for 21st century learners. **G.P. Redd**, **E.C. Gravely**, T.O. Lewis
10:40 – 247. Electronic lab notebooks in chemical education: The importance of the lab infrastructure to the optimal learning environment. **K. Albizati***
11:00 – 248. Assessing the assessments: Evidencing and benchmarking student learning outcomes in Chemistry. **S. Schmid***, S. Bedford, A. Bridgeman, G. O'Brien, I. Jamie, K.F. Lim, S. Pyke, M. Schultz, D. Southam

Hawaii Convention Center
302B

Small Businesses Reaching Out for Market Share: Tool Kit and Success Stories (#185)

Organized by: J. Sabol, D. Lainson, A. Blunn, W. Chung
Presiding: J. Sabol

8:00 Coffee and Conversation
8:30 Opening Remarks
8:35 – 249. Enigma of job creation through entrepreneurial ventures: Need for a new structure. **P.J. Wyatt***
9:05 – 250. Bootstrapping a chemical company in the steel city. **B. Bosley**, B. Bosley
9:35 – 251. Innovative organic materials for highly efficient energy storage capacitors. **t. goodson***
10:05 Intermission
10:20 – 252. Knowing what you've got, what you know, what you don't, how to protect it, and push the boundaries. **M. Clark***
10:50 – 253. ABR: Finding strategic value in chemical process development. **A. Blunn***
11:20 – 254. Starting up a technology company and sustaining through the valley of death. A. Rahman*, **J. Sabol**
11:50 Closing Remarks

Hawaii Convention Center
303A

Green and Sustainable Chemistry Education for Tomorrow's Citizens of the World (#334)

Organized by: J. Jackson, F. Zheng, R. Resendes, D. Kovacs, J. Jackson, K. Saito
Presiding: D.G. Kovacs

8:00 – 255. What is the value of an undergraduate certification in green chemistry?. **D.G. Kovacs***
8:20 – 256. Making greener chemistry choices at the University of Toronto. **A.P. Dicks***, L. Hoch, M. Mastronardi
8:45 – 257. Green Chemistry Initiative: Promoting green chemistry across all levels of education. **L.M. Reyes**
9:05 – 258. Berkeley Center for Green Chemistry: An interdisciplinary approach to education, research and engagement. **M.J. Mulvihill**
9:30 Break
9:40 – 259. Pitching profitable projects and protecting the planet: Green chemistry outreach for an industry audience. **M.O. Clarke**
10:05 – 260. Green chemistry education in Japan for tomorrow's citizens. **K. Ogino***
10:30 – 261. Introducing middle school students to green nanoscience as a means toward protecting the environment. **S.O. Obare***
10:55 – 262. Synthesis and mechanical testing of bioplastics and degradable polymers in the high school classroom as a mechanism to engage students in issues of sustainability. **J.E. Wissinger***, R. Harris, M. Yu, D. Schneiderman
11:15 – 263. Chemistry, creativity, and sustainability. **M. Kirchhoff***

Hawaii Convention Center
Halls I, II, III

Active and Inquiry Learning in the Chemistry Classroom and Laboratory (#443)

Organized by: M. Buntine, S. Boniface, J. Lewis
Presiding: M. Buntine

Poster Session
10:00 – 12:00

264. An international perspective on AP Chemistry course curriculum and pedagogy. **M. DeWane**
265. Engaging our students in conversations on teaching and learning. **S. Brydges***
266. Computer simulations and animations coupled with guided-inquiry tutorials to improve students' understanding of chemistry. **T.J. Greenbowe**, J.I. Gelder, M.R. Abraham
267. Incorporation of benchtop NMR spectroscopy into undergraduate laboratories: An active-learning approach. **S. Riegel**
268. Breaking down barriers to student learning in organic chemistry utilizing undergraduate teaching assistants and student-centered classroom activites. **R.M. Kissling***
269. Teaching with a 3D printer: New hands-on models for active learning in organic and physical chemistry. **F.A. Carroll***, **D.N. Blauch**
270. Effective S-STEM program at a small Mid-Atlantic liberal-arts college. **M.J. D'Souza***
271. Incorporating authentic research in an optional component of the second semester organic laboratory course. **J.G. Gillmore**, T.L. Smith
272. Debunking nuclear chemistry misconceptions using a POGIL activity and simulations. **M.L. Golden**, J. Wood, A. Lolinco
273. Bouncing batteries: Exploring the chemistry of alkaline cells. **J. Hall**, J. Amend, T. Kuntzleman
274. Conversion of soybean biomass into valuable chemical products: An active learning technique. M. Veillette, **M. Heitz***
275. Illustrating catalysis with interlocking building blocks: Catalysts from the 2010, 2005, and 2001 Nobel Prizes in Chemistry. **R. Horikoshi***
276. Year-long integrated biochemistry laboratory: An instrument-intensive approach to the study of biomolecules. **S. Kirk***, T. Silverstein*
277. Development of electronic textbook linked with computer graphics for college chemistry-experiment. A. Ikuo*, Y. Yoshinaga, **H. Ogawa**
278. LMS-supported active learning in general chemistry course. **Y. Oikawa***, Y. Hirano, M. Hirokawa, H. Suzuki, H. Baba, Y. Yasumori
279. A two-year four-year collaboration to establish an investigative approach to the General Chemistry laboratory experience. **K.S. Owens***, A.M. Johansen, A. Murkowski, H. Price
280. Interdisciplinary investigations (IDIs) for use in the first-year chemistry classroom. **K.S. Owens**, A. Murkowski, H. Price, A.M. Johansen
281. Introductory biochemical technology lab to help chemistry, environmental science, and biology students explore microbes in different environments. **N.L. Paiva***
282. How to avoid health problems and accidents in chemical laboratory. **R.P. Ramadhani**, **A.R. Gerhana**, **N. Rahmanastiti**, **A.E. Sarajar**
283. Guided inquiry learning in an introductory chemistry course. **N.M. Williamson***, G.F. Metha, D.M. Huang, S.G. Bell

Hawaii Convention Center
Halls I, II, III

Connecting Chemistry to Society General Posters
10:00 – 12:00

Education and Teaching
284. Microscale experiments on various physicochemical properties of aqueous solutions for high school chemistry. **T. Nakagawa***
285. Laser-induced breakdown spectroscopy for undergraduate chemistry research and teaching. **R.R. Hark**, A.I. Whitehouse
286. Teaching online chemistry courses with a hands-on lab component. **R.R. Klepper***
287. Infinity scholars, an NSF funded project that includes interdisciplinary undergraduate research. **R.R. Klepper***
288. Content, concepts, context: first-year chemistry curriculum reform to improve both cognitive understanding and learning attitudes. **W. McNeil***, T.K. Freeman
289. Role of faculty promotion in ensuring a successful first-year chemistry supplemental learning program. C.A. Bourne, S. McKeown, **T.K. Freeman***, W. McNeil
290. Concerns with food and food labels. **M. Kurotani***, A. Yamamoto, M. Moriyama, M. shimizu, M. Shimamura

Emerging Research Trends
291. Customized technology foresighting method. **D. Kim***, K. Choi
292. Developing the integrated analysis of research trends called 4P analysis. **K. Choi***, D. Kim*

*** Principle Author**

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Friday Afternoon

Hawaii Convention Center
303A

Connecting Ionic Liquids to Societal Issues: Materials, Medicines, Energy, and Water (#113)

Organized by: R. Rogers, D. MacFarlane, R. Rogers, H. Ohno
Presiding: R.D. Rogers

13:00 Introduction
13:05 – 293. Can ionic liquids contribute to the world's energy economy?. **J.S. Wilkes**
13:35 – 294. Using ionic liquids as a synthetic platform for energy conversion nanomaterials. **A.V. Mudring***
14:00 – 295. Durable and effective ionic liquids for a sustainable nuclear fuel cycle. **J.F. Wishart***, S. Dhiman, I.A. Shkrob
14:25 – 296. Speciation and dynamics of alkali metal ions mixed salt/ionic liquid electrolytes: Toward improved Li and Na based energy storage. **M. Forsyth***, P. Howlett, H. Yoon, H. Zhu, L. O'Dell, D. MacFarlane
14:50 – 297. Development of functional ionic liquid-crystalline materials for energy and environment. **T. Kato***
15:15 – 298. Using ionic liquids to harvest waste heat. **J. Pringle***, D. Al-Masri, D. MacFarlane
15:40 – 299. Glyme-Li salt solvate ionic liquids for energy conversion and storage. **M. Watanabe***
16:05 – 300. Reversible photo-induced liquefaction and crystallization of ionic azobenzene derivatives with photon energy storage characteristics. **K. Ishiba**, C. Chikara, M. Morikawa, T. Yamada, N. Kimizuka*
16:20 – 301. Ionic liquid lubrication technologies for energy generation systems. **S. Glavatskih**, O. Antzutkin
16:35 – 302. Phosphonium-based ionic liquids for energy storage devices. **C. Pozo-Gonzalo***, M. Forsyth, D. MacFarlane, P. Howlett

Hawaii Convention Center
302A

Technology and Assessment Strategies for Improving Student Learning in Chemistry (#132)

Organized by: T. Holme, P. Mahaffy, M. Schultz
Presiding: T. Holme

13:00 – 303. Use of written explanations to characterize student understanding of reaction mechanisms. **J.R. Raker**
13:30 – 304. Investigation of video tutorial effectiveness and student use for general chemistry laboratories. **J.A. Key***, M. Paskevicius
13:50 – 305. Making the case: Why should others believe our assessment results?. **J.E. Lewis***
14:20 Break
14:40 – 306. Formative assessment leading to self-directed learning in large, first-year chemistry classes. **M. Schultz***, G.A. Lawrie, S. Bedford, T. Dargaville, G. O'Brien, R. Tasker, M. Williams, A. Wright
15:10 – 307. Effective instruction medium for improving student learning of laboratory techniques. **J.P. Canal***, L. Hanlan, S. Lavieri, J. Lowe
15:30 – 308. Cyber peer-led team learning (cPLTL). **P. Varma-Nelson***
15:50 – 309. What do we test vs. what do we want to test. **K. Murphy**, T. Holme, C. Luxford

Hawaii Convention Center
302B

Small Businesses Reaching Out for Market Share: Tool Kit and Success Stories (#185)

Organized by: J. Sabol, D. Lainson, A. Blunn, W. Chung
Presiding: A. Blunn

13:00 Introductory Remarks
13:05 – 310. Creating innovation in an isolated region. **R. Melton**
13:35 – 311. Inception sciences and the "build-to-buy" model: A novel paradigm for translation of emerging academic research into novel small molecule therapeutics. **B. Stearns***
14:05 – 312. Anybody can swim downstream: Get out of the fry pan, dance on the fire, and swim upstream. **J. Sabol**
14:35 Intermission
14:50 – 313. ACS Committee on Corporation Associates and small chemical businesses. **N. Langerman***
15:20 – 314. Building businesses based on integration of basic and applied research: Value creation and new opportunities for chemists. **M.S. Chorghade***, R.S. Chorghade
15:50 – 315. Member benefits, programs, resources, and entrepreneurial activities from the ACS Division of Small Chemical Businesses SCHB. **J. Sabol**
16:20 Concluding Remarks

Friday Evening

Hawaii Convention Center
303A

Connecting Ionic Liquids to Societal Issues: Materials, Medicines, Energy, and Water (#113)

Organized by: R. Rogers, D. MacFarlane, R. Rogers, H. Ohno
Presiding: G. Gurau

19:00 – 316. Improvement of electrochemical properties of electrolyte materials by addition of liquid zwitterions. **M. Fujita***, S. Yamaguchi, Y. Takeoka, M. Rikukawa
19:15 – 317. Fundamental characterization of solvate ionic liquid/CO_2 binary system as electrolyte materials. **K. Watanabe***, T. Makino, M.L. Thomas, Y. Kamei, T. Mandai, M. Kanakubo, K. Dokko, M. Watanabe
19:30 – 318. Ionic liquid/polymer composites for low friction materials. **T. Sato***, T. Morinaga, T. Kamijo, H. Arafune, Y. Tsujii
19:45 – 319. Diciationic imidazolium salts as a new class of organic ionic plastic crystals (OIPCs). **M. Lee***, H.W. GIbson
20:00 – 320. Task-specific ionic liquids: Using charge to your advantage for the selective extraction of rare earth elements. **N.J. Williams**, C. Do-Thanh, J. Stankovich, H. Luo, S. Dai
20:15 – 321. Efficient decomposition of perfluorinated ionic liquid anions to fluoride ions in subcritical and supercritical water. **H. Hori***, A. Takahashi
20:30 – 322. Organometallic ionic liquids from sandwich complexes: Liquid properties and chemical reactivities. **T. Mochida***, Y. Funasako, S. Hamada
20:45 – 323. Immobilized ionic liquid catalysts supported on solid supports for organic reactions. **T. Sasaki***, E.N. Kusumawati, K. Harada, L.A. Sari, B.M. Bhanage

Hawaii Convention Center
Halls I, II, III

Technology and Assessment Strategies for Improving Student Learning in Chemistry (#132)

Organized by: T. Holme, P. Mahaffy, M. Schultz

Poster Session
19:00 – 21:00

324. Distinction of structural isomers of esters by hydroxamic acid iron (III) method. **S. Nogami***, M. Inoue
325. Rapid measurement of iodine value utilizing *N*-chlorosuccinimide. **S. Kobayashi***, M. Inoue
326. Development of experimental materials for stepwise oxidation of toluene. **M. Shimamura***, M. Inoue
327. Oxidation of vegetable oils utilizing photoradical initiator. **K. Osanai***, M. Inoue
328. Synthesis of esters utilizing acetylsalicylic acid as the reagent for acetylation. **H. Fujiwara***, M. Inoue
329. Chemistry education and research using the desktop NMR spectrometer: pico-Spin 80. **K. Hiroki***, H. Sawada, N. Yamashita
330. Small-scale experiments in chemical engineering for chemical education for undergraduates. **S. Ohki**, Y. Konno, S. Kuwahara, K. Katayama*
331. Using web-based activities to study student facility with the acid-base conjugate pair concept. **S.D. Woodgate**

Saturday Morning

Hawaii Convention Center
303A

Connecting Ionic Liquids to Societal Issues: Materials, Medicines, Energy, and Water (#113)

Organized by: R. Rogers, D. MacFarlane, R. Rogers, H. Ohno
Presiding: D. MacFarlane

8:00 – 332. Ionic liquid composite membranes for CO_2 /light gas separations. **R.D. Noble**, W. McDanel, M.G. Cowan, Z. Singh, D. Gin
8:25 – 333. Ionic liquid gas absorption - toward industrialization. **R. Fehrmann***, A. Riisager, A. Kunov-Kruse, P. Thomassen, H. Kolding, S. Mossin
8:50 – 334. Advanced CO_2 capture solvents and polymer materials from imidazoles and imidazolium cations. **J.E. Bara**, D. Wallace, J.D. Roveda, M. Mittenthal, S. Yue
9:15 INTERMISSION
9:35 – 335. Sustainable materials for energy harvesting – how shrimp shell waste and ionic liquids can make an impact on today's society. **G. Gurau***, J.L. Shamshina, N. Abdul Faruk Khan, S.P. Kelley, P. Berton, R.D. Rogers
10:00 – 336. Adsorbents for uranium uptake from seawater: Toward sustainable nuclear energy. **C. Tsouris***, W. Liao, S. Das, R. Mayes, C. Janke, T. Saito, S. Dai, L. Kuo, G. Gill
10:20 – 337. Investigation of TODGA in ionic liquid for rare earth ion separation. **H. Luo***, S. Dai, J. Stankovich
10:35 – 338. Solvation dynamics and charge transfer in prototypical ionic liquid + conventional solvent mixtures: Experiment and simulation. B. Conway, M. Liang, X. Zhang, **M. Maroncelli***
10:55 – 339. Stability of penicillin G in ionic liquid and ionic liquid-based extraction. **Q. LIU**, X. Liang, Y. Li, C. Zhang, H. Liu
11:10 – 340. Applications of switchable solvents in energy production and water purification. **P.G. Jessop***, M. Cunningham

Hawaii Convention Center
302A

Technology and Assessment Strategies for Improving Student Learning in Chemistry (#132)

Organized by: T. Holme, P. Mahaffy, M. Schultz
Presiding: S. Schmid

8:00 Adjust Starting Time
8:30 – 341. Exploring how students make sense of animations in variance in connection to experimental evidence. **R.M. Kelly***
8:50 – 342. Making learning smart through connections: Learnsmart and Connect in introductory general chemistry classes. **R. Venkateswaran***
9:10 – 343. Assessing high level skills in a chemistry context – the New Zealand Scholarship examination. **S. Boniface***
9:40 Break
10:00 – 344. Implementation of the computer version of the ACS General Chemistry Exam: A pilot study. **K.M. Elkins***, **K. Murphy**
10:20 – 345. Automated detection of problem-solving strategies from logs of student interactions with a virtual laboratory: A scalable approach to assessing inquiry skills. **D.J. Yaron***, Y. Gal, O. Uzan, R. Belford, M. Karabinos
10:40 – 346. Barriers and boundaries to e-learning in chemical and physical sciences. **I. Koeper**
11:00 – 347. Automated alignment of instructor-created test Items with the ACS Anchoring Concepts Content Map. **D.M. Hart***, T. Holme

Hawaii Convention Center
302B

Educational Approaches to Help Students Connect Chemistry to World Issues of Sustainability and Climate (#149)

Organized by: T. Holme, P. Mahaffy, M. Kirchhoff, M. Chiu, R. Kelly
Presiding: M. Kirchhoff

8:00 Starting time adjustment
8:30 – 348. CLEAR: Collaborative learning through environmental and aerosol research. **H. Weizman***, R. Pomeroy, K.N. Busby
8:50 – 349. Flipped classroom approach to increase student engagement with algal harmful metabolites separation from water. **L. Azouz***, A. Zamyadi, R. Stuetz, R.K. Henderson
9:10 – 350. Context or content? Both! (part 1). **C.H. Middlecamp***
9:40 Break
10:00 – 351. Context or content? Both! (part 2). **B.D. Fahlman**
10:30 – 352. Using local environmental concerns to provide contexts to raise student interest in General Chemistry topics. **T. Holme**
10:50 – 353. Hybridization of knowledge sets in middle-school students peer-group discourse during a scientific café on drinking water. **G.P. NICCOLAI***, C. Polo, K. Lund, C. Plantin
11:10 – 354. An international perspective on sustainability education. **G.M. Bodner**

Hawaii Convention Center
303B

Advancing Sustainability: Catalyzing Interdisciplinary Scholarship for Green Chemistry (#383)

Organized by: R. Peoples, S. Maguire, M. Hearn

8:00 Opening Remarks
8:05 – 355. Green chemistry as institutional entrepreneurship. **S. Maguire***, **C. Hardy**
8:45 – 356. Push and pull: The role of regulation in advancing green chemistry. **T. Malloy***

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9:25 – 357. Moving toward sustainable chemistry and engineering is an interdisciplinary necessity. **D.C. Constable**
9:45 Break
10:00 – 358. Greener solutions program: A private/public partnership advancing the design of safer chemistry. **M.J. Mulvihill**, M. Schwarzman
10:20 – 359. Green chemistry at McGill University: An experience of interdisciplinarity. **A. Moores**, S. Maguire, C. Li, S. Ghoshal
10:40 – 360. Knowledge commons for green chemistry. **A. Kokai***, A. Iles
11:00 – 361. Fabrication of electrode materials for super-capacitor purposes prepared from graphite occurred by natural products. **M. Komatsu***, H. Okabayashi, K. Uehara
11:20 – 362. Transparency in cleaning product formulation: What do we know about ingredients, their hazards, and potential for human exposure?. **P. DeLeo***, E.S. Williams, M. Ciarlo, C. Pacelli, W. Greggs
11:40 Q&A Plus Discussion
11:55 Closing Comments

Saturday Afternoon

Hawaii Convention Center
303A

Connecting Ionic Liquids to Societal Issues: Materials, Medicines, Energy, and Water (#113)

Organized by: R. Rogers, D. MacFarlane, R. Rogers, H. Ohno
Presiding: H. Ohno

13:00 – 363. Utilizing natural fiber welding for the fabrication of renewable biocomposite materials. **H. DeLong**, E. Fox, D. Durkin, R. Russel, M. Brusoski, T. Price, E. Brown, P. Trulove
13:25 – 364. Catalytic oxidation of lignin in ionic liquids: Is lignin a future alternative source for green chemicals?. **R.D. Singer***, B. Hurisso
13:50 – 365. Development of phosphonate type ionic liquids having functional groups for biomass processing. **Y. Fukaya**, R. Asai, T. Itoh*
14:05 – 366. Interfacial strategies for controlling nanoscale growth using ionic liquids. **G.A. Baker***
14:30 – 367. Functional ion gels. **T.P. Lodge***
14:55 Intermission
15:25 – 368. Transdermal delivery and pathogen neutralization with ionic liquids. **R. Del Sesto***, A. Koppisch, D.T. Fox, A. Newsham, M. Jones, T. Kern, M. Zakrewsky, S. Mitragotri
15:50 – 369. Aqueous biphasic systems composed of ionic liquids: Remarkable purification platforms for biopharmaceuticals. **M.G. Freire***
16:15 – 370. Control of temperature-driven phase change of ionic liquid/water mixtures. **H. Ohno***
16:30 – 371. Reversible aqueous biphasic systems of polymers and ethanolamine-based ionic liquids. M.G. Freire, J. Coutinho , **A. Ferreira***

Hawaii Convention Center
302B

Technology and Assessment Strategies for Improving Student Learning in Chemistry (#132)

Organized by: T. Holme, P. Mahaffy, M. Schultz
Presiding: S. Boniface

13:00 – 372. Measuring meaningful learning in the undergraduate chemistry laboratory. **S. Bretz***, K.R. Galloway
13:30 – 373. Development of chemistry instructional videos to improve first year students learning. **S. Lavieri***, J.P. Canal
13:50 – 374. Identifying at-risk students in general and organic chemistry and in different institutional settings using cluster analysis of affective characteristics. **C. Bauer**, J.Y. Chan*, A. Grushow
14:20 Break
14:40 – 375. Using assessment to drive development of transferable skills. **T. Overton***
15:10 – 376. Assessing student preparation for general chemistry and student learning during the semester using ALEKS. **T. McGill***, D. Mulford
15:30 – 377. Assessing assessment: How instructors use and understand information that chemistry tests provide. **T. Holme**
15:50 – 378. Evidencing learning in student-generated representations and explanations using web 2.0 technologies as vehicles for assessment. **G.A. Lawrie***

Hawaii Convention Center
302A

Historical Evolution of the Chemical Community in the Countries of the Pacific Rim (#198)

Organized by: S. Rasmussen, G. Patterson, I. Rae, Y. Furukawa, T. Levere
Presiding: S. Rasmussen

13:00 Introductory Remarks
13:05 – 379. Impact of the 1862 Morrill Land Grant College Act on chemistry education in the United States. **R.A. Egolf***
13:40 – 380. International relations of the Japanese chemical community. **Y. Kikuchi***
14:15 – 381. Out with the old, in with the new: Australian chemists and the United States of America. **I.D. Rae***
14:50 Break
15:00 – 382. Two centuries of chemistry In Canada. **T. Tidwell***
15:35 – 383. How the German PhD model crossed the Atlantic: Professionalization of American chemistry. **N. Heindel***, J. Sturchio
16:10 – 384. Transformation of organic chemistry in Japan: From Majima Riko to the third international symposium on the chemistry of natural products. **M. Kaji***

Hawaii Convention Center
303B

Advancing Sustainability: Catalyzing Interdisciplinary Scholarship for Green Chemistry (#383)

Organized by: R. Peoples, S. Maguire, M. Hearn

13:00 Opening Comments
13:05 – 385. Green chemistry and advanced materials from renewable polymers: Education, research, and entrepreneurship to motivate the next generation of scientists. **R.D. Rogers***
13:45 Break
14:00 – 386. Technology-driven field convergence in the field of bioplastic. **I. Milne**
14:40 – 387. Role of psychology in combating stress through green chemistry in the undergraduate chemistry laboratory. **V. Tucker***, I. Sidhwani, S. Chowdhary, N. Udgirkar
15:00 – 388. Partnerships as a vehicle for system change in the chemical industry. **H. Lin***, I. stadtler , N. Antadze
15:20 Q&A and Discussion
15:50 Closing Comments

Sunday Morning

Hawaii Convention Center
303A

Connecting Ionic Liquids to Societal Issues: Materials, Medicines, Energy, and Water (#113)

Organized by: R. Rogers, D. MacFarlane, R. Rogers, H. Ohno
Presiding: R.D. Singer

8:00 – 389. Transport properties of aprotic heterocyclic anion (AHA) ionic liquids for electrochemical applications. **J.F. Brennecke***, L. Sun
8:25 – 390. 3D nanostructure of the EmIM TFSI – graphite interface as a function of potential and added electrolyte. A. Elbourne, S. McDonald, K. Voitchovsky, G. Warr, **R. Atkin***
8:50 – 391. Using MD simulation and different aggregation analysis tools to probe the distinctive interactions and structures of ionic liquids and their mixtures. **J. Canongia Lopes***, K. Shimizu, C. Bernardes
9:15 – 392. Structure and transport in ionic liquids, mixtures, and at interfaces. **E.W. Castner***
9:40 – 393. Solute dynamics, how does it relate to ionic-liquid structure?. J.C. Araque, S.K. Yadav, M. Shadeck, M. Maroncelli, **C.J. Margulis***
10:05 INTERMISSION
10:35 – 394. *IL*Thermo version 2.0: Archival storage and retrieval of thermophysical properties for ionic liquids. **J.W. Magee***, A. Kazakov, R. Chirico, V. Diky, C. Muzny, K. Kroenlein, M. Frenkel
11:00 – 395. Designing surfactants fit for purpose in ionic liquid systems. **G. Warr***, R. Atkin, H. Jlang, M. Araos, A. Dolan, T. Murphy, S. Imberti
11:15 – 396. Application of impedance spectroscopy as a tool to identify critical temperature in thermoresponsive materials. **R. Vedarajan***, K. Jain, S. Gupta, M. Watanabe, M. Ishikiriyama, N. Matsumi
11:30 – 397. Solubility of H_2S and SO_2 in ionic liquids: Correlation and thermodynamic consistency of data. **J.O. Valderrama***
11:45 – 398. Ionic transport property in the binary systems consisting of glyme-lithium salt solvate ionic liquids and polymers. **Y. Kitazawa**, R. Kido, K. Iwata, K. Ueno, K. Dokko, M. Watanabe*

Hawaii Convention Center
302B

Educational Approaches to Help Students Connect Chemistry to World Issues of Sustainability and Climate (#149)

Organized by: T. Holme, P. Mahaffy, M. Kirchhoff, M. Chiu, R. Kelly
Presiding: T. Holme

8:00 Adjust start time
9:00 – 399. Environmental success stories: Major pollution problems that we have solved and how our past successes empower us for the future. **F.M. Dunnivant***
9:20 – 400. Guided inquiry learning materials on sustainability for two chemistry courses. **K.B. Aubrecht***, J.P. Hoffmann, A.K. Cassidy, H.J. Quigley
9:40 – 401. Bringing real-world issues of sustainability to premedical organic chemistry. **J. Tripp***
10:00 Break
10:00 – 402. Energy and climate change presentation in undergraduate introductory chemistry textbooks. **R. Yoho**, B. Vanmali
10:20 – 403. Taking the passenger seat: Student-driven discourse and argumentation in the chemistry classroom. **D. Ragland***
10:40 – 404. Sustainability, creativity, and chemical education in a research-based environment. **J.L. Blatti***
11:00 – 405. Can general chemistry education contribute meaningfully to global sustainability literacy? An exemplar using climate science as a rich context. **P. Mahaffy***, M. Towns, m. kirchhoff, b. martin, I. Mckenzie, T. Holme

Hawaii Convention Center
302A

Historical Evolution of the Chemical Community in the Countries of the Pacific Rim (#198)

Organized by: S. Rasmussen, G. Patterson, I. Rae, Y. Furukawa, T. Levere
Presiding: S. Rasmussen

8:00 – 406. History of the modern chemistry doctoral program in mainland China. **V.V. Mainz**
8:35 – 407. Vehicles for discussion and publication of chemistry in 19th century Australia. **A.T. Baker***
9:10 – 408. History of the Korean Chemical Society. **G. Patterson**
9:45 – 409. Gen-itsu Kita and the Kyoto School's formation. **Y. Furukawa***

*** Principle Author**

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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KEY — PLEN – Plenary
ANYL – Analytical (1)
INOR – Inorganic (2)
MACR – Macromolecular (3)
ORGN – Organic (4)
PHYS – Physical, Theoretical & Computational (5)
ENVR – Agrochemistry, Environmental and Geochemistry (6)
BIOL – Biological (7)
MTLS – Materials & Nanoscience (8)
ENRG – Chemistry of Clean Energy Conversion, Storage, and Production (9)
HLTH – Bench to Bedside: Chemistry of Health Care (10)
SCTY – Connecting Chemistry to Society (11)

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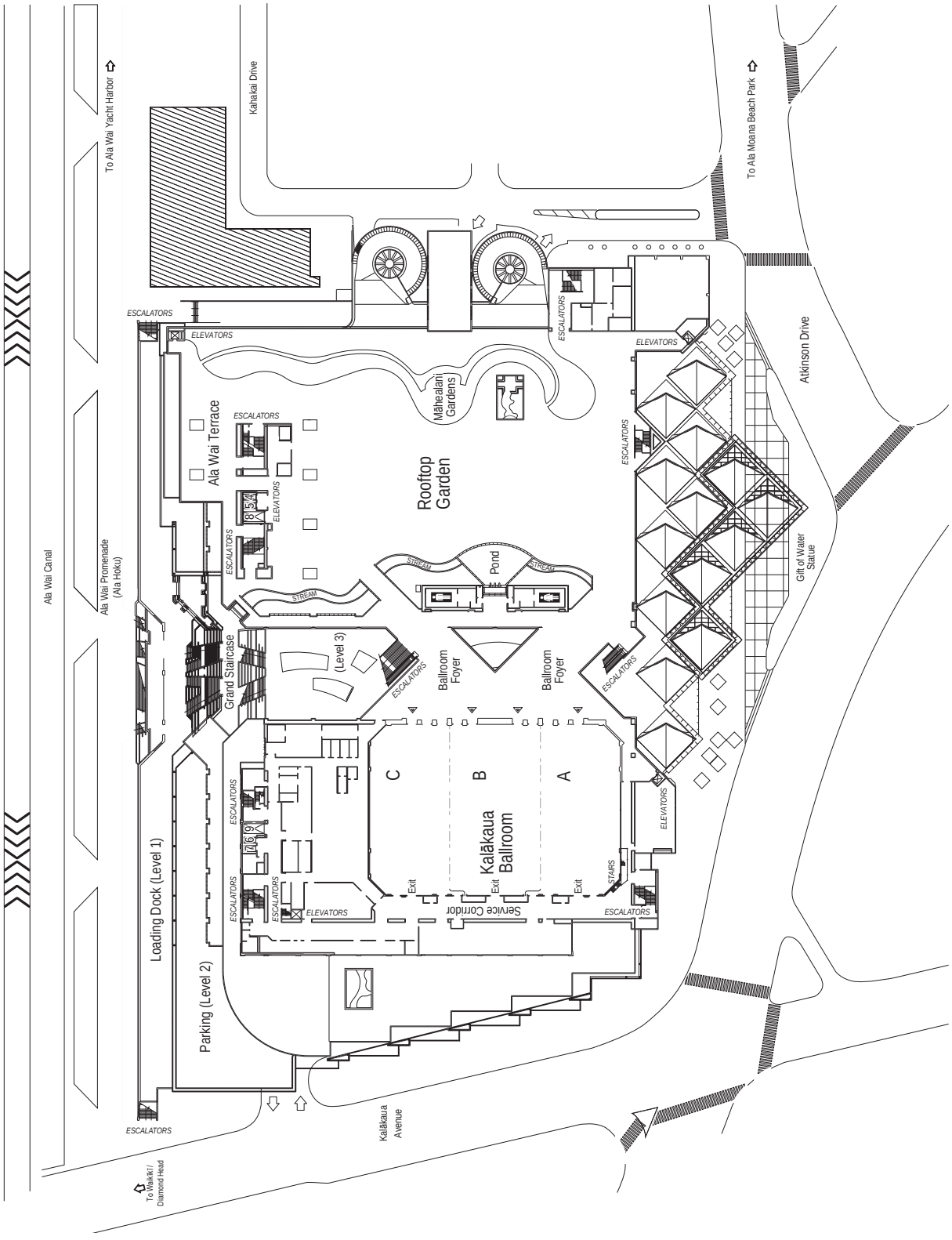
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NOTES

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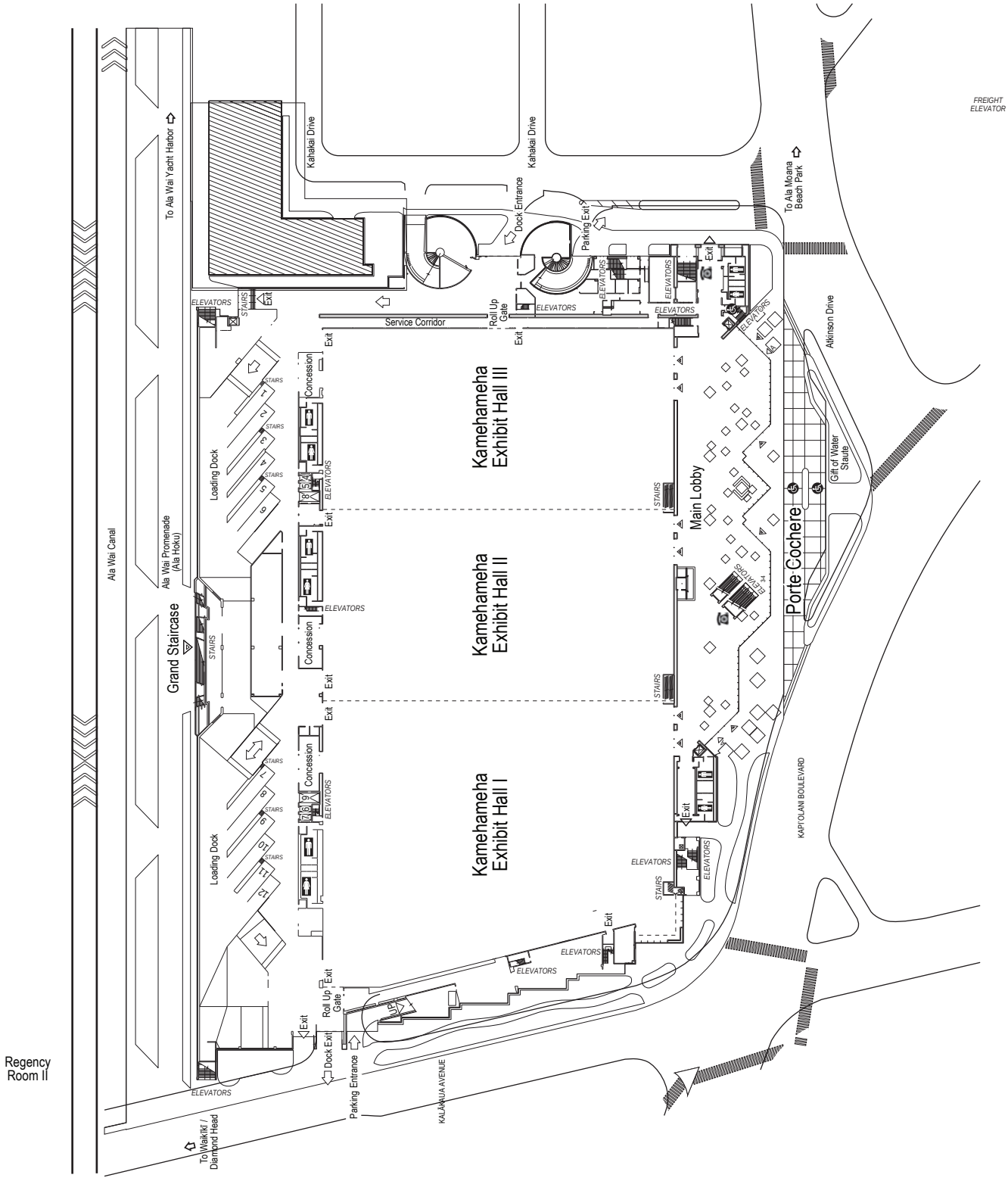
HAWAII CONVENTION CENTER

Ballroom & Parking Level



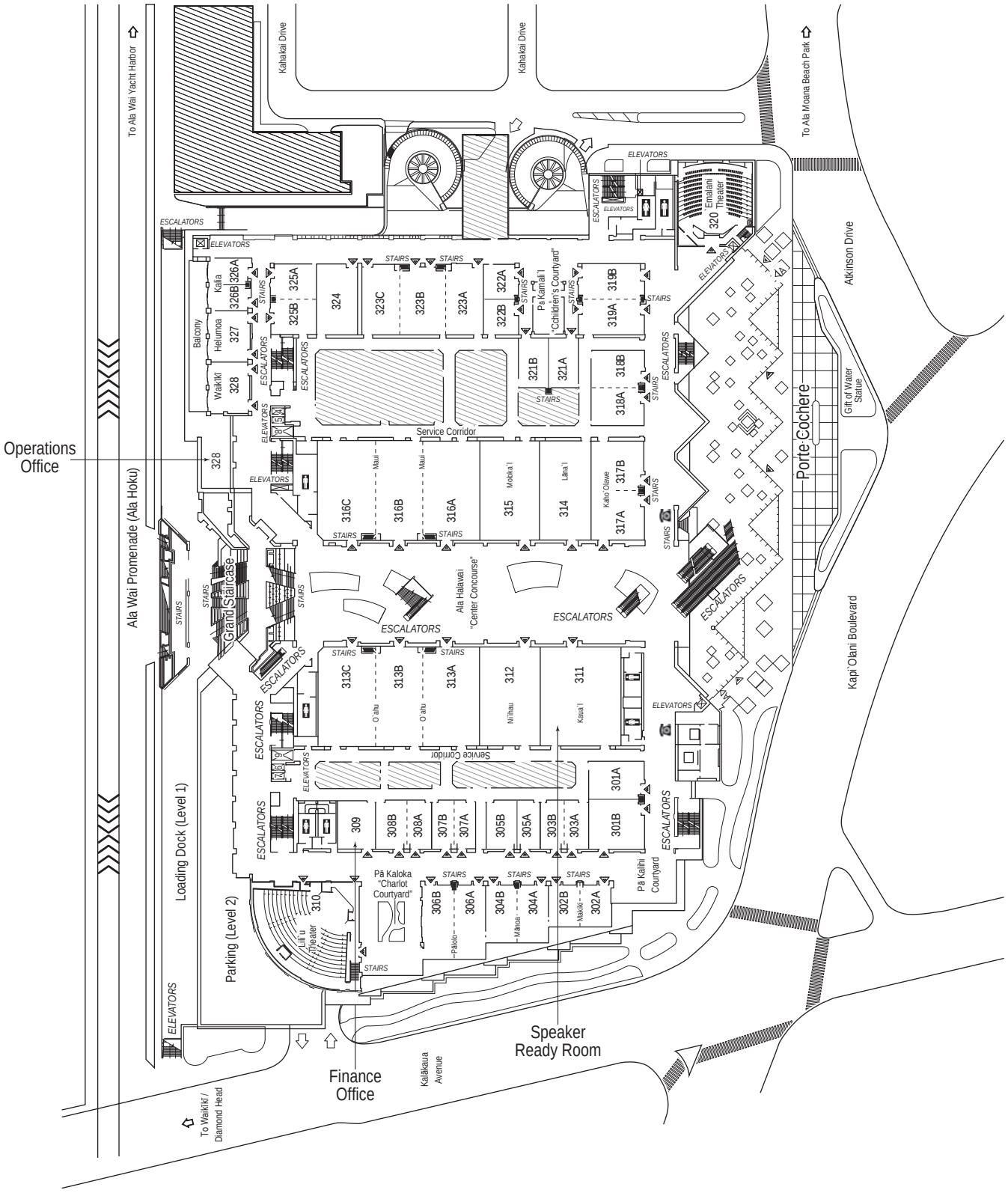
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Exhibit Level



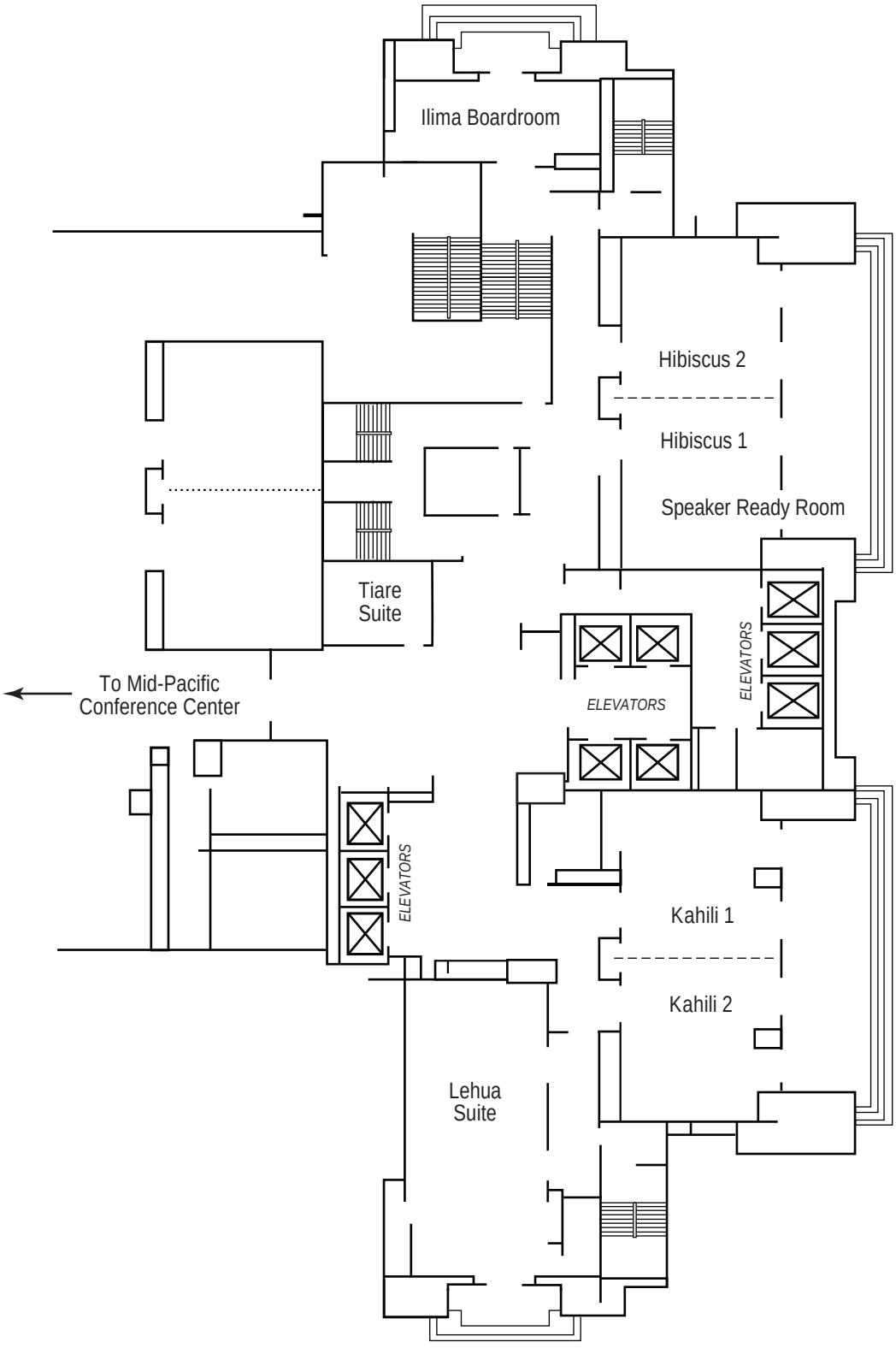
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Meeting Room Level



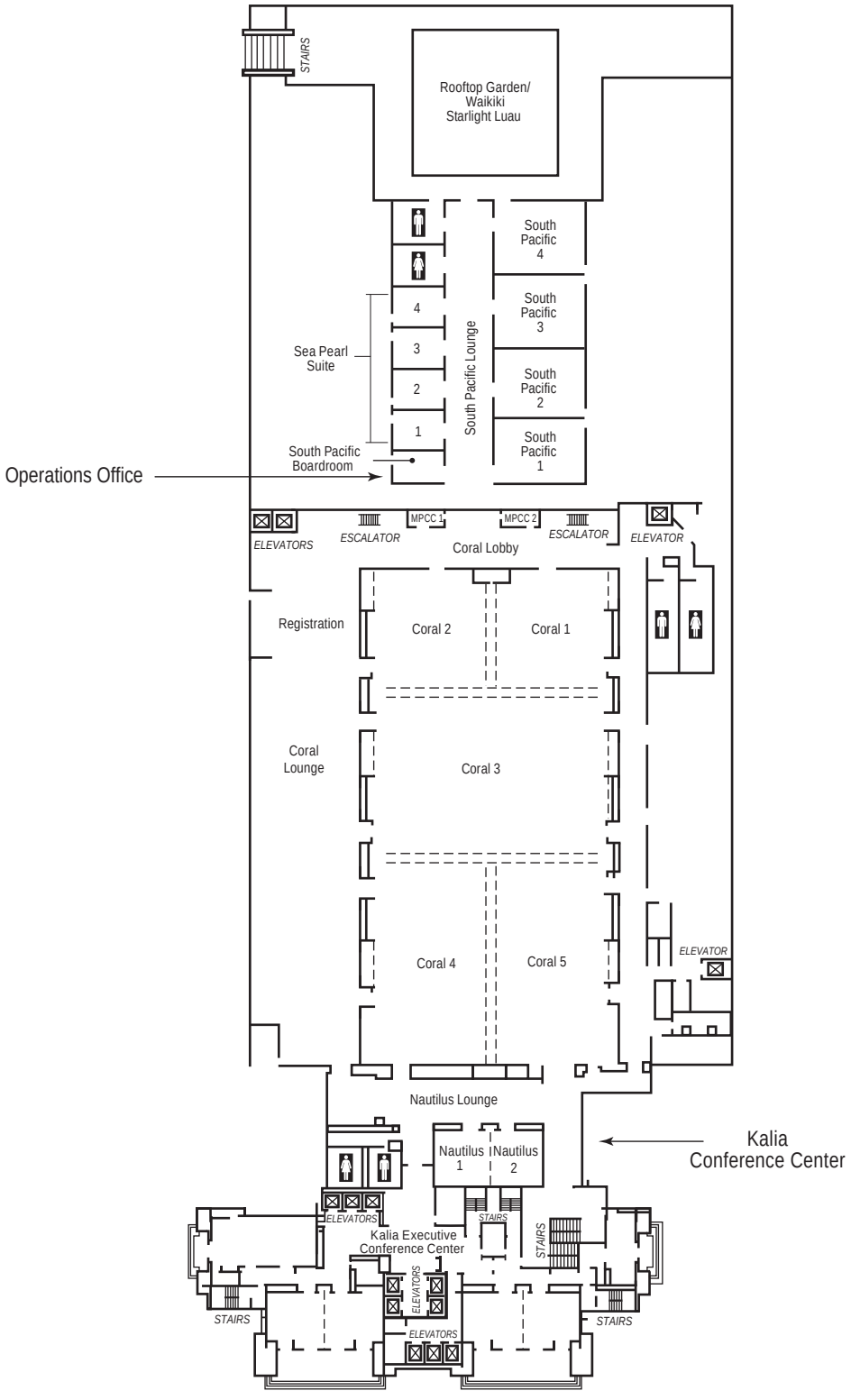
HILTON HAWAIIAN VILLAGE

Kalia Tower–Second Floor
Kalia Conference Center



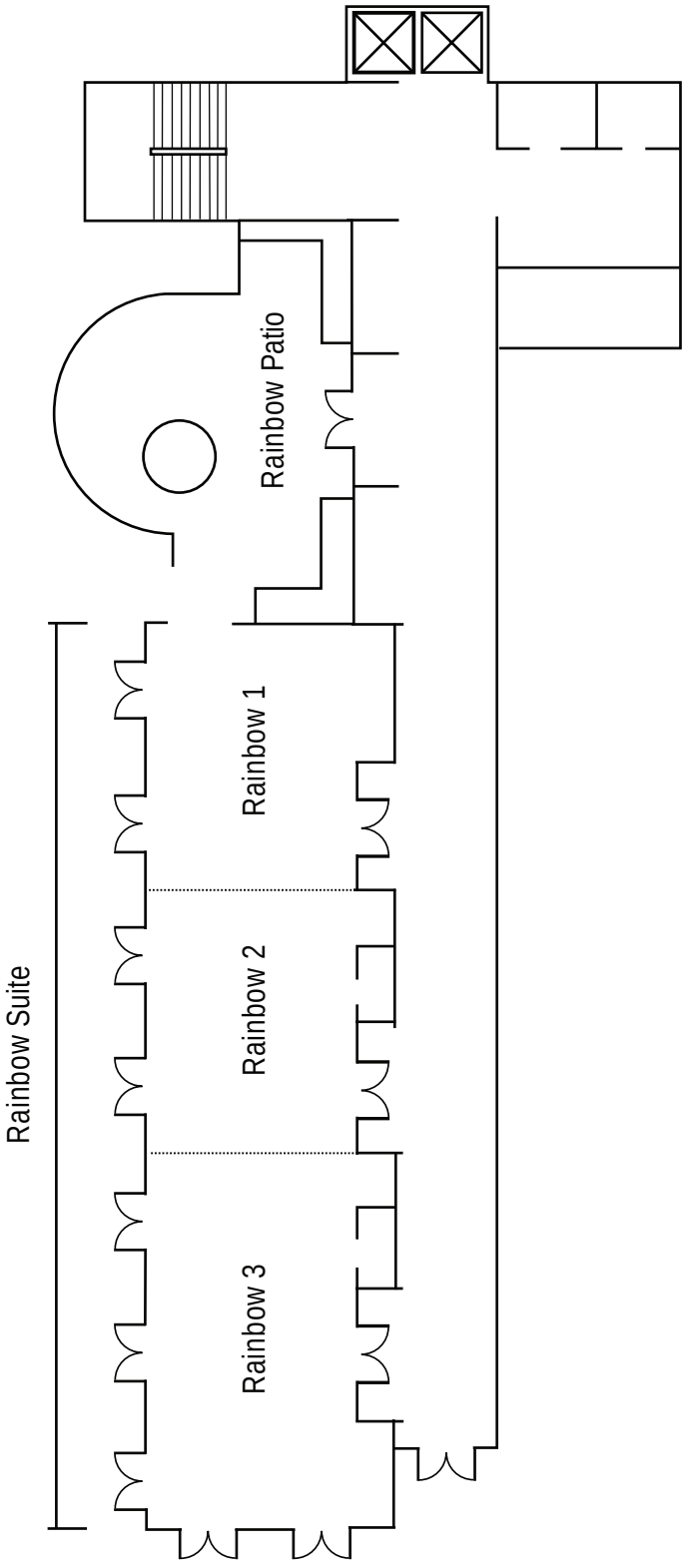
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Mid Pacific Conference–Sixth



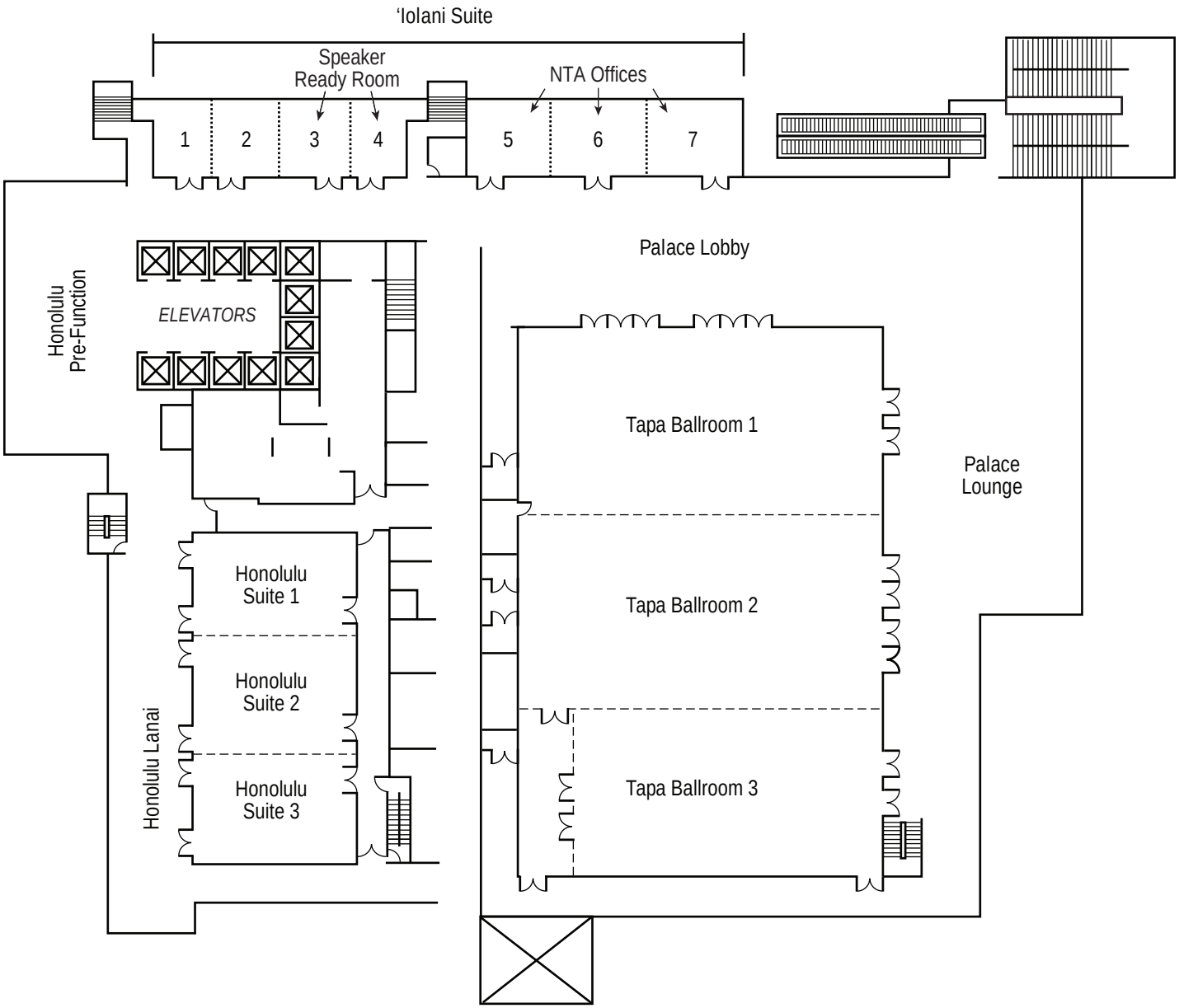
HILTON HAWAIIAN VILLAGE

Rainbow Tower–Lower Level



HILTON HAWAIIAN VILLAGE

Rainbow Tower–Second Floor

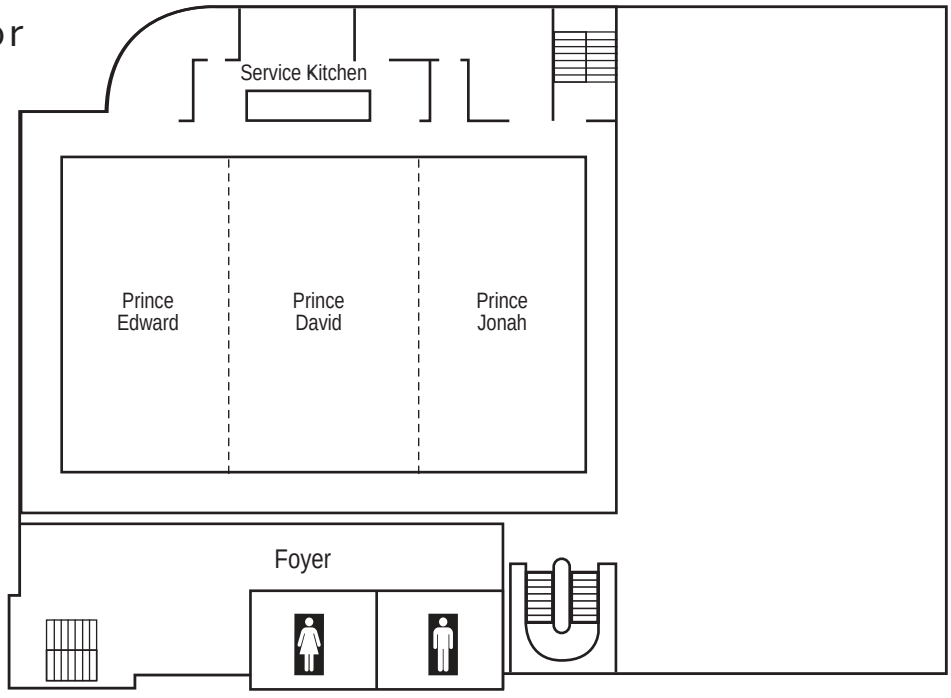


HILTON HAWAIIAN VILLAGE PROPERTY MAP

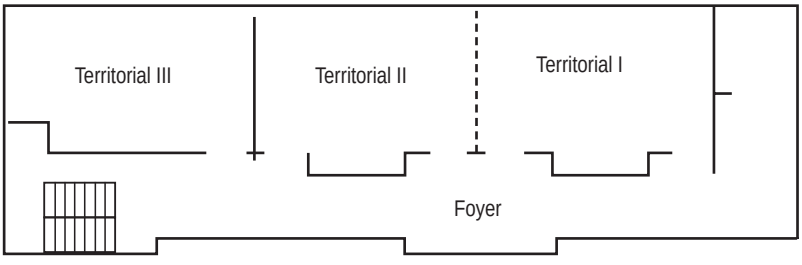


HILTON WAIKIKI BEACH

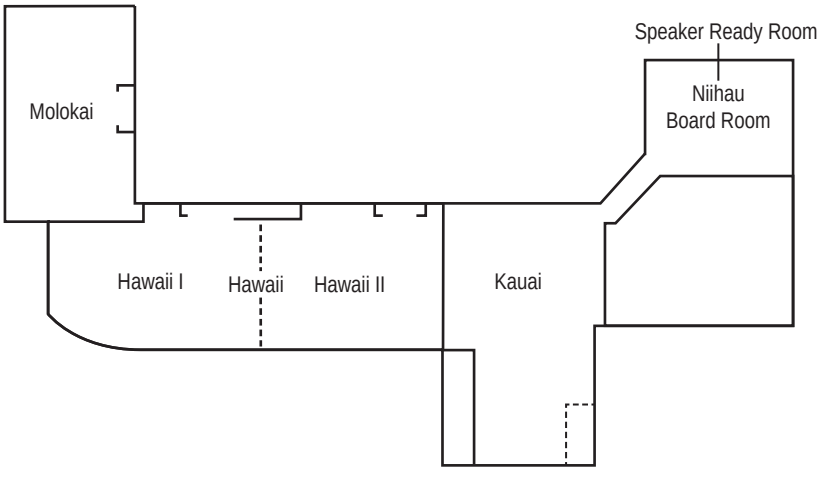
Third Floor



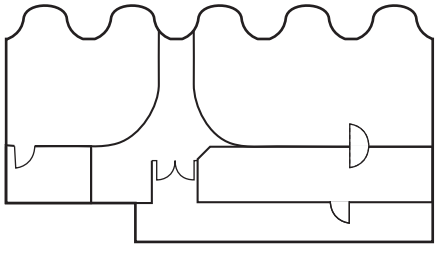
Fourth Floor



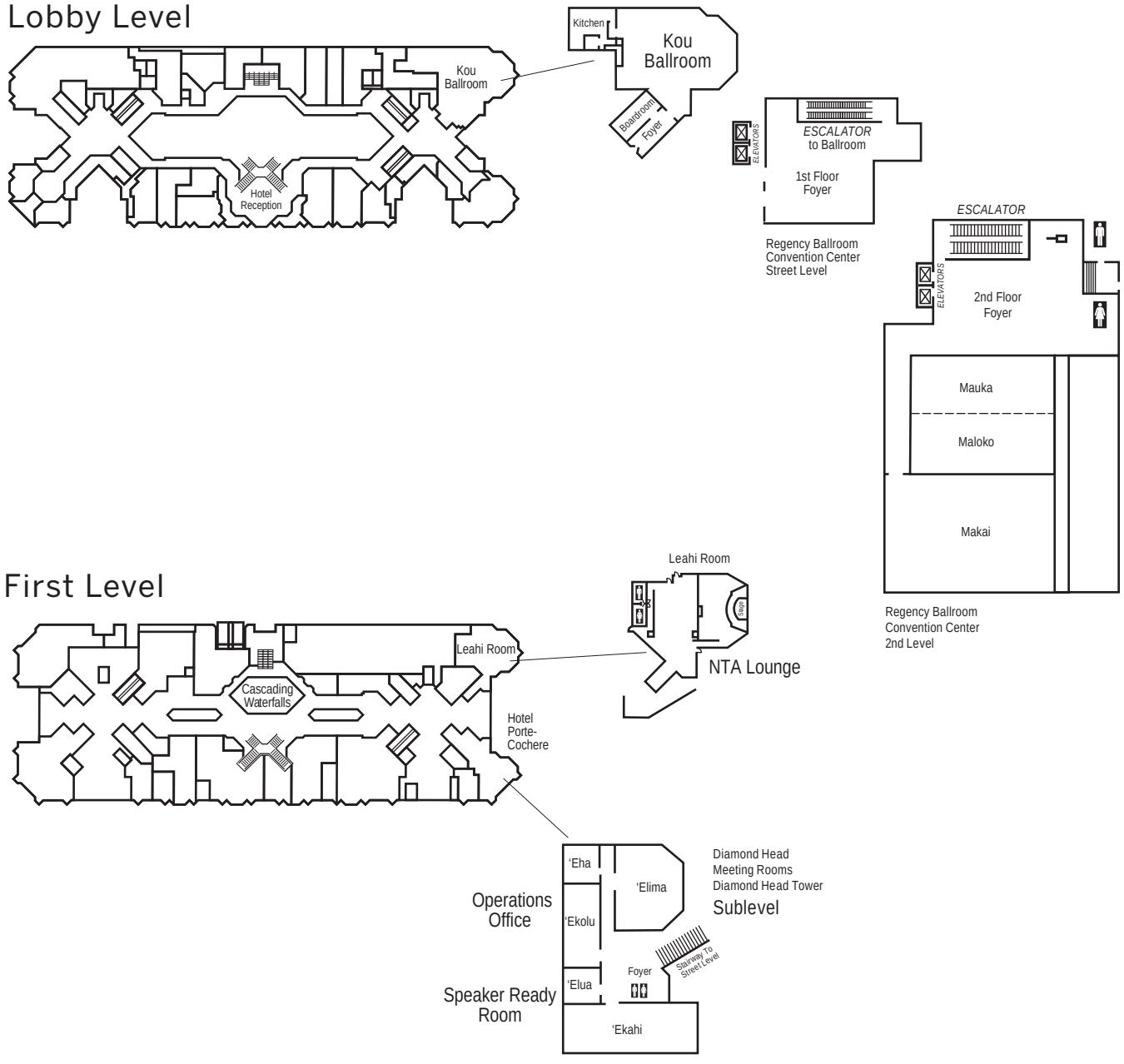
Second Floor



Altitude @ 37
37th Floor

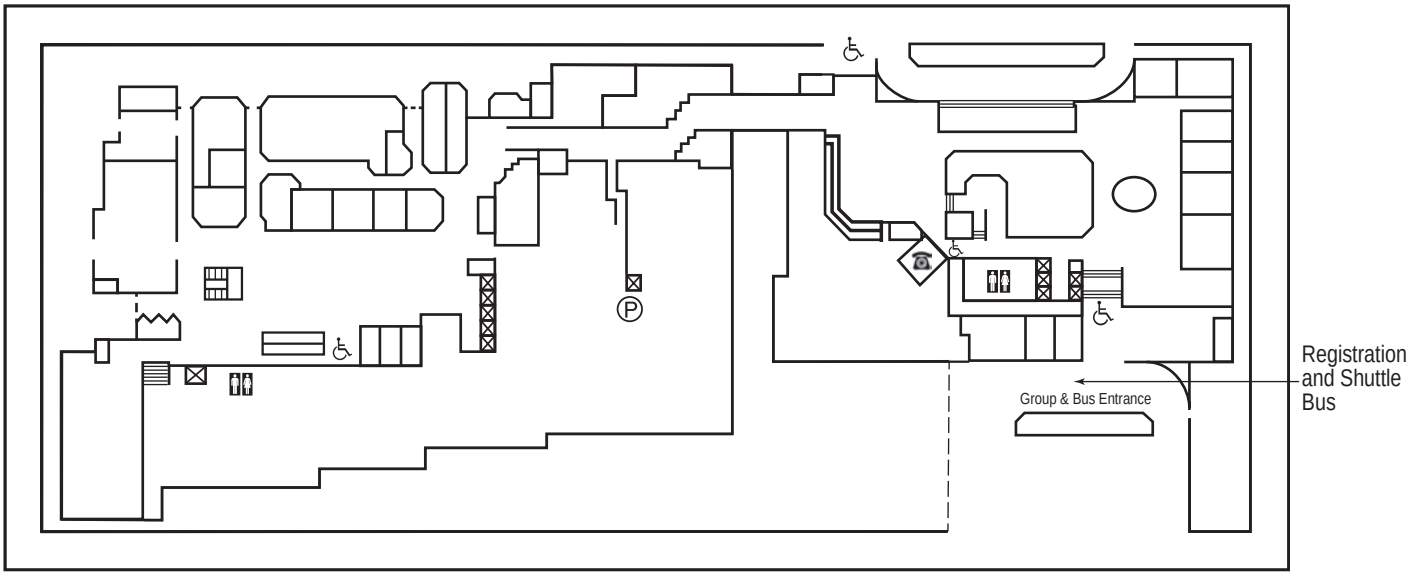


HYATT REGENCY WAIKIKI

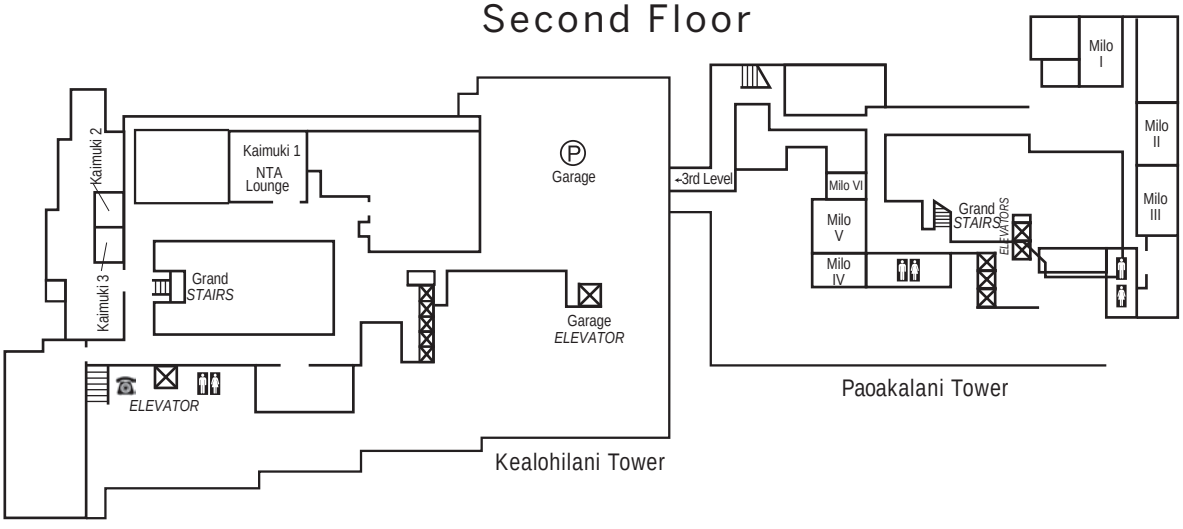


MARRIOTT RESORT WAIKIKI BEACH

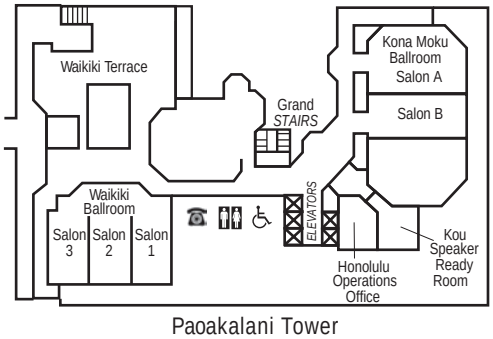
First Floor



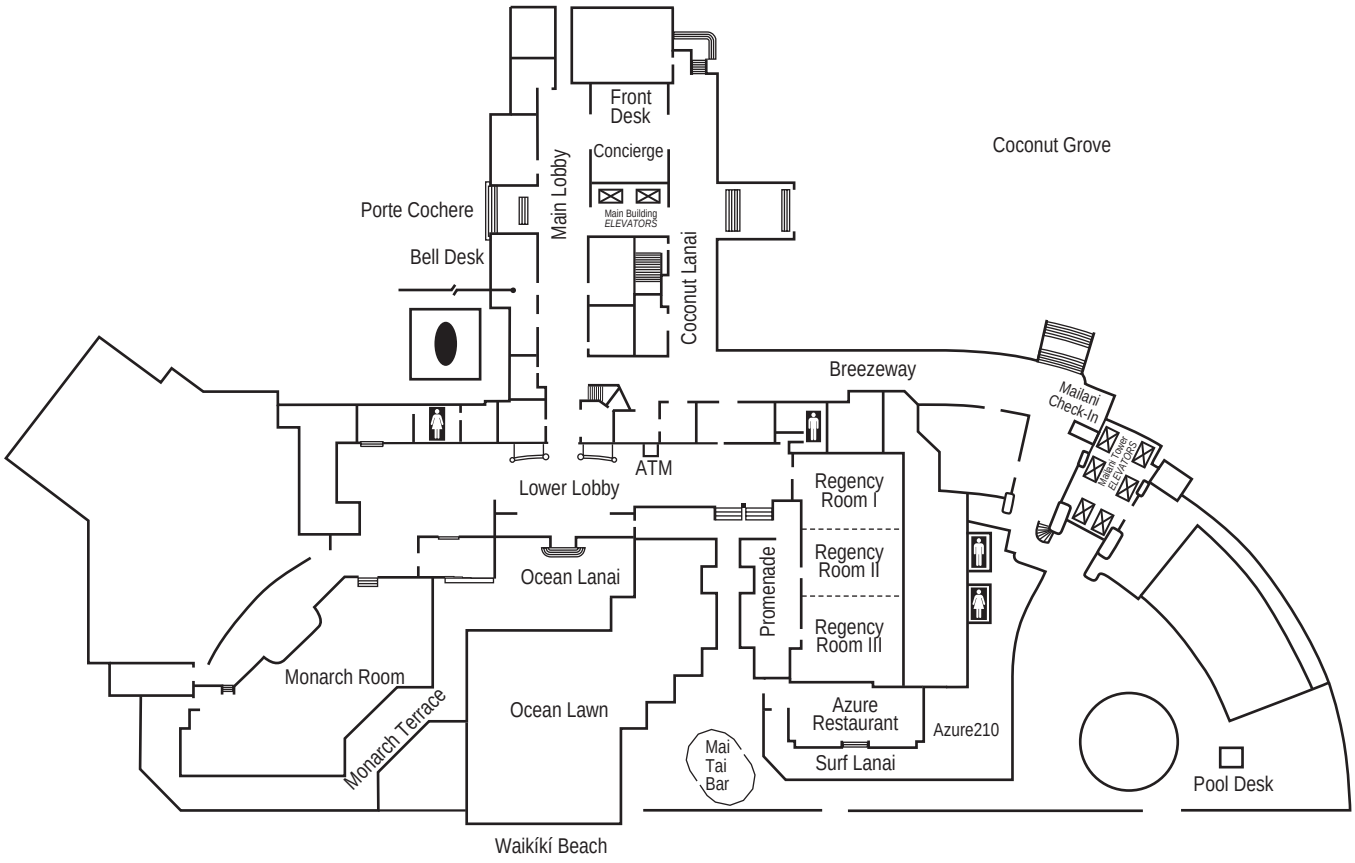
Second Floor



Third Floor

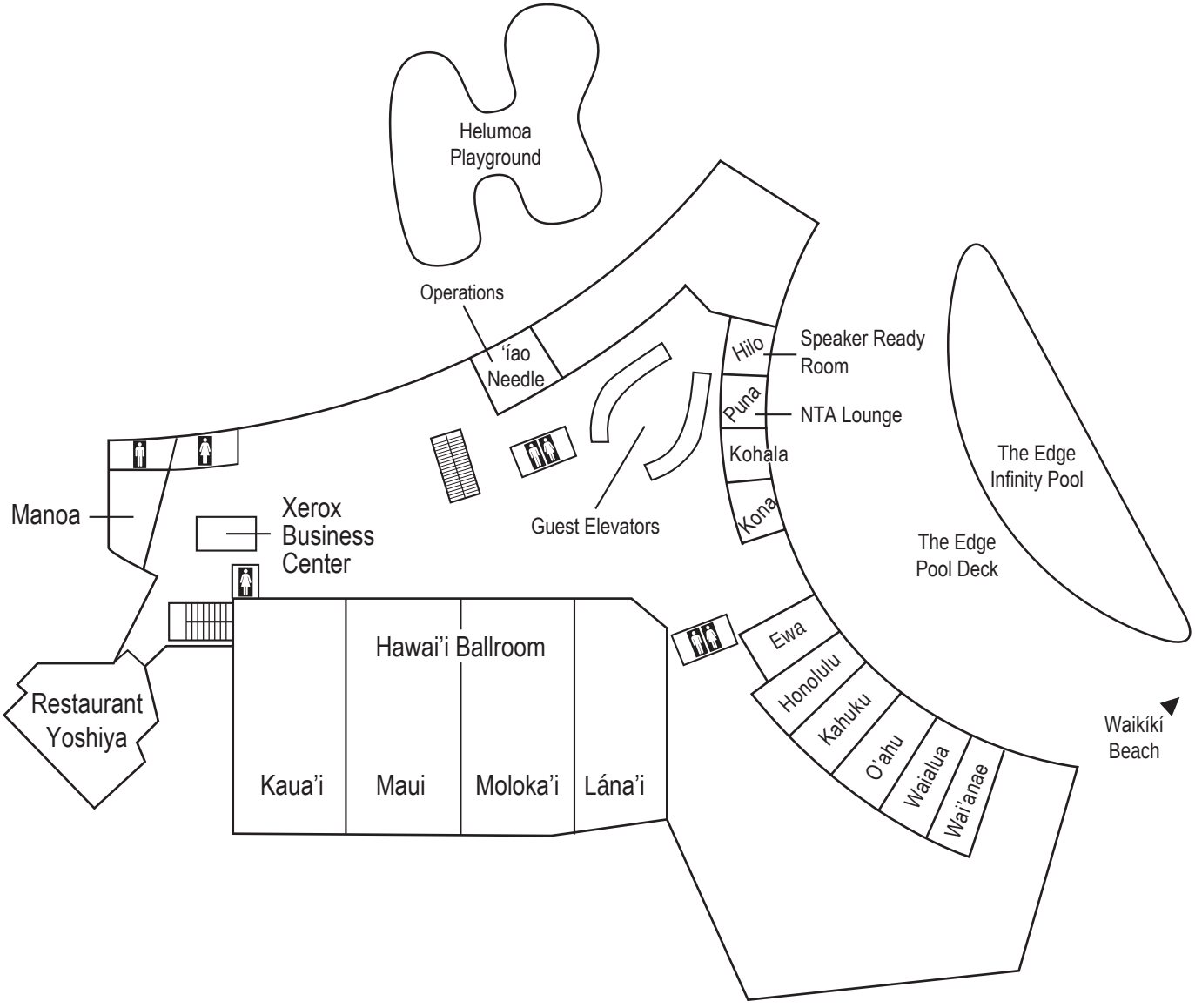


ROYAL HAWAIIAN



SHERATON WAIKIKI

Second Floor



PACIFICHEM OFFICIAL HOTELS

Ala Moana Hotel
410 Atkinson Drive
808-955-4811

Courtyard by Marriott Waikiki Beach
400 Royal Hawaiian Avenue
808-954-4000

DoubleTree by Hilton Alana Waikiki
1956 Ala Moana Blvd
808-941-7275

Embassy Suites Waikiki Beach Walk
201 Beachwalk Street
808-921-2345

Hawaii Prince Hotel Waikiki
100 Holomoana Street
808-956-1111

Hilton Hawaiian Village
2005 Kalia Road
808-949-4321

Hilton Waikiki Beach
2500 Kuhio Avenue
808-922-0811

Holiday Inn Resort Waikiki Beachcomber
2300 Kalakaua Avenue
808-922-4646

Hyatt Place Waikiki
175 Paoakalani Avenue
808-922-3861

Hyatt Regency Waikiki
2424 Kalakaua Avenue
808-923-1234

Marriott Waikiki Beach
2552 Kalakaua Avenue
808-922-6611

Outrigger Reef Waikiki Beach Resort
2169 Kalia Road
808-923-3111

Outrigger Waikiki Beach Resort
2335 Kalakaua Avenue
808-923-0711

Pacific Beach Hotel
2490 Kalakaua Avenue
808-922-1233

Ramada Plaza Waikiki
1830 Ala Moana Blvd
808-312-1148

Royal Hawaiian
2259 Kalakaua Avenue
808-923-7311

Sheraton Princess Kaiulani
120 Kaiulani Avenue
808-922-5811

Sheraton Waikiki
2255 Kalakaua Avenue
808-922-4422

The Modern Hotel
1775 Ala Moana Blvd.
808-450-3379

Trump International Waikiki Beach Walk
223 Saratoga Road
808-683-7777

Moana Surfrider
2365 Kalakaua Avenue
808-922-3111

PACIFICHEM OPERATION OFFICES

Hawaii Convention Center
Operations Office, Room 328,
808-792-6620

Hawaii Convention Center
Finance Office, Room 309,
808-792-6621

Hilton Hawaiian Village
Operations Office, South Pacific Boardroom, 808-947-7939

Hilton Waikiki Beach
Operations Office, Room 301,
808-922-0811*

Hyatt Regency Waikiki
Operations Office, Ekolu Room,
808-947-7937

Marriott Waikiki Beach
Operations Office, Honolulu Room,
808-921-5036

Sheraton Waikiki
Operations Office, ʻIao Needle,
808-931-8091

*Ask for Pacifichem Operations Office Room 301

Pacifichem 2015 Hotel Map



1 Ala Moana Hotel (C2)
2 Courtyard by Marriott Waikiki Beach (B7)
3 DoubleTree by Hilton Alana Waikiki (B4)
4 Embassy Suites Waikiki Beach Walk (D6)
5 Hawaii Prince Hotel Waikiki (D3)
6 Hilton Hawaiian Village Waikiki Beach (D4)
7 Hilton Waikiki Beach (B10)
8 Holiday Inn Resort Waikiki Beachcomber (C8)
9 Hyatt Place Waikiki (B11)
10 Hyatt Regency Waikiki Beach (C9)
11 Outrigger Reef (E6)
12 Outrigger Waikiki Beach Resort (D8)
13 Pacific Beach Hotel (C10)
14 Ramada Plaza Waikiki (C3)
15 Royal Hawaiian (E8)
16 Sheraton Princess Kaiulani (C9)
17 Sheraton Waikiki (E7)
18 The Modern Hotel (D3)
19 Trump International Waikiki Beach Walk (D6)
20 Waikiki Beach Marriott (C10)
21 Westin Moana Surfrider (D8)
✪ Shuttle Pickup Locations

PARTICIPATING HOTEL LIST

For best availability, make your reservation via the Internet at www.pacifichem.org or by phone at (866) 847-8570.

**All Pacifichem 2015 room rates include complimentary in-room Internet and fitness center access. Room rates below do not include 13.96% room tax (subject to change). **Additional fees may apply: If a rollaway bed is required, if there are pets in guest rooms, and if smoking occurs in guest rooms (all rooms are nonsmoking rooms). All hotels will have access to a shuttle route.*

HOTELS		Single	Double	Triple	Quad	**Max Guests/Room	Child Under Age Free	Childcare List	Parking	Room Service	** Pets	Pool	ADA	Green Hotel
1.a	Ala Moana Hotel – Waikiki Tower	$169	$169	$219	$269	4	17	No	$20/$25	No	No	Yes	Yes	Yes
1.b	Ala Moana Hotel – Kona Tower	$149	$149	N/A	N/A	2	17	No	$20/$25	No	No	Yes	Yes	Yes
2.a	Courtyard by Marriott Waikiki – Standard Room	$179	$179	N/A	N/A	2	17	No	$35	No	No	Yes	Yes	No
2.b	Courtyard by Marriott Waikiki – Deluxe Room	$189	$189	$214	$239	4	17	No	$35	No	No	Yes	Yes	No
2.c	Courtyard by Marriott Waikiki – One Bedroom Suite	$199	$199	$224	$249	4	17	No	$35	No	No	Yes	Yes	No
3	DoubleTree by Hilton Alana Waikiki	$195	$195	$235	$275	4	17	No	$30	Yes	Service	Yes	Yes	Yes
4	Embassy Suites Waikiki	$289	$289	$349	$409	4	18	No	$35	Yes	Service	Yes	Yes	Yes
5	Hawaii Prince Hotel Waikiki	$195	$195	$255	N/A	3	18	Yes	$22/$28	Yes	Service	Yes	Yes	Yes
6.a	Hilton Hawaiian Village – Resort View	$220	$220	$270	$320	4	17	Yes	$27/$33	No	Service	Yes	Yes	Yes
6.b	Hilton Hawaiian Village – Ocean View	$255	$255	$305	$355	4	17	Yes	$27/$33	No	Service	Yes	Yes	Yes
6.c	Hilton Hawaiian Village – Deluxe Ocean Rainbow	$285	$285	$335	$385	4	17	Yes	$27/$33	No	Service	Yes	Yes	Yes
6.d	Hilton Hawaiian Village – Ocean View Ali'i	$310	$310	$360	$410	4	17	Yes	$27/$33	No	Service	Yes	Yes	Yes
7.a	Hilton Waikiki Beach – City or Mountain View	$189	$189	$229	$269	4	17	Yes	$25	Yes	Service	Yes	Yes	Yes
7.b	Hilton Waikiki Beach – Ocean View	$239	$239	$279	$319	4	17	Yes	$25	Yes	Service	Yes	Yes	Yes
8	Holiday Inn Waikiki Beachcomber	$189	$189	$239	$289	4	19	No	$35	No	Service	Yes	Yes	Yes
9	Hyatt Place Waikiki	$239	$239	$254	$269	4	17	No	$25/$30	Yes	Yes	Yes	Yes	Yes
10.a	Hyatt Regency Waikiki Beach – City/Mountain View	$230	$230	$305	$380	4	18	Yes	$30/$35	Yes	Yes	Yes	Yes	Yes
10.b	Hyatt Regency Waikiki Beach – Ocean View	$250	$250	$325	$400	4	18	Yes	$30/$35	Yes	Yes	Yes	Yes	Yes
11.a	Outrigger Reef Waikiki Beach – Standard View	$229	$229	$304	N/A	3	17	Yes	$35	Yes	Service	Yes	Yes	Yes
11.b	Outrigger Reef Waikiki Beach – Partial Ocean View	$259	$259	$334	N/A	3	17	Yes	$35	Yes	Service	Yes	Yes	Yes
12	Outrigger Waikiki Beach	$235	$235	$305	$380	4	17	Yes	$35	Yes	Service	Yes	Yes	Yes
13	Pacific Beach Hotel	$199	$199	$249	$299	4	17	No	$25/$33	Yes	Service	Yes	Yes	Yes
14	Ramada Plaza Waikiki	$149	$149	$179	$209	4	21	No	$25	No	No	Yes	Yes	Yes
15	Royal Hawaiian	$275	$275	$375	$475	4	17	Yes	$25/$33	Yes	No	Yes	Yes	No
16.a	Sheraton Princess Kaiulani – City View	$165	$165	$215	$265	4	17	Yes	$25	Yes	No	Yes	Yes	No
16.b	Sheraton Princess Kaiulani – Ocean View	$180	$180	$230	$280	4	17	Yes	$25	Yes	No	Yes	Yes	No
17.a	Sheraton Waikiki – City View	$229	$229	$304	$379	4	17	Yes	$25/$33	Yes	No	Yes	Yes	No
17.b	Sheraton Waikiki – Mountain View	$245	$245	$320	$395	4	17	Yes	$25/$33	Yes	No	Yes	Yes	No
17.c	Sheraton Waikiki – Partial Ocean View	$259	$259	$334	$409	4	17	Yes	$25/$33	Yes	No	Yes	Yes	No
17.d	Sheraton Waikiki – Ocean View	$279	$279	$354	$429	4	17	Yes	$25/$33	Yes	No	Yes	Yes	No
18.a	The Modern Honolulu – City View	$269	$269	$334	$399	4	18	Yes	$28	Yes	Yes	Yes	Yes	No
18.b	The Modern Honolulu – Partial Ocean View	$289	$289	$354	$419	4	18	Yes	$28	Yes	Yes	Yes	Yes	No
19	Trump International Hotel Waikiki	$369	$369	$469	$569	4	19	Yes	$33	Yes	Service	Yes	Yes	Yes
20.a	Waikiki Beach Marriot – City View	$219	$219	$259	$299	4	17	No	$32/$37	Yes	Service	Yes	Yes	Yes
20.b	Waikiki Beach Marriott – Partial Ocean View	$239	$239	$279	$319	4	17	No	$32/$37	Yes	Service	Yes	Yes	Yes
21	Westin Moana Surfrider	$245	$245	N/A	N/A	2	17	Yes	$25/$40	Yes	Service	Yes	Yes	No

Orchid Event Solutions is the ONLY designated housing provider for Pacifichem 2015. Beware of companies misrepresenting themselves as affiliated with Pacifichem.

ORCHID EVENT SOLUTIONS

2015 International Chemical Congress of Pacific Basin Societies

Shuttle Boarding Locations & Schedules

ADA Assistance: Contact Naomi Aquino for reservations at least 7 days in advance at naomi.aquino@robertshawaii.com, cc: groupsales@robertshawaii.com or call 888-472-4729 or 808-539-9481. Call the dispatch hot line for same day request at 808-831-1555 (may incur a 30 minute wait time).

ROUTE	HOTELS	BOARDING LOCATIONS
1	Hawaii Prince	Tapa Front Bus Stop
	Hilton Hawaiian Village	Tapa Front Bus Stop
	Doubletree Alana	Front of Convention Center
	The Modern	Tapa Front Bus Stop
	Ramada Plaza	Front of Convention Center
	Convention Center	Front of Convention Center
2	Holiday Inn Beachcomber	Sheraton Bus Depot
	Sheraton Waikiki	Sheraton Bus Depot
	Embassy Suites	Sheraton Bus Depot
	Royal Hawaiian	Sheraton Bus Depot
	Trump Waikiki Beach Walk	Sheraton Bus Depot
	Westin Moana Surfrider	Sheraton Bus Depot
	Outrigger	Sheraton Bus Depot
	Outrigger Reef	Sheraton Bus Depot
	Courtyard Marriott	Sheraton Bus Depot
	Convention Center	Front of Convention Center
3	Hyatt Regency Waikiki	Hyatt Koa Ave Entrance
	Pacific Beach Hotel	Hyatt Koa Ave Entrance
	Sheraton Princess Kaiulani	Hyatt Koa Ave Entrance
	Convention Center	Front of Convention Center
4	Hyatt Place	Marriott Bus Depot
	Waikiki Beach Marriott	Marriott Bus Depot
	Hilton Waikiki Beach	Marriott Bus Depot
	Convention Center	Front of Convention Center
5	Inter-Hotel	*All Hotel Loading Areas Referenced Above*

ROUTE	TIME	FREQUENCY
DECEMBER 15 SCHEDULE		
1 2 3 4	7:00 AM – 9:00 AM	Every 15 Minutes
	9:00 AM – 4:00 PM	Every 30 Minutes
	4:00 PM – 5:30 PM	Every 15 Minutes
5	7:00 AM – 10:30 PM	Every 15 Minutes

SPECIAL OPENING CEREMONY & RECEPTION SHUTTLE TO & FROM SHERATON WAIKIKI • DECEMBER 15 ONLY • 5:30 PM–10:30 PM

1	Hilton Hawaiian Village	Tapa Front Bus Stop
	Doubletree Alana	Front of hotel
	Ramada Plaza	Front of hotel
	Sheraton Waikiki	Sheraton Bus Depot
3	Hyatt Regency Waikiki	Hyatt Koa Ave Entrance
	Pacific Beach Hotel	Hyatt Koa Ave Entrance
	Sheraton Princess Kaiulani	Hyatt Koa Ave Entrance
4	Waikiki Beach Marriott	Marriott Bus Depot
	Hyatt Place	Marriott Bus Depot
	Hilton Waikiki Beach	Marriott Bus Depot
	Sheraton Waikiki	Sheraton Bus Depot
6	Ala Moana	Ala Moana Mahukona St. Entrance
	Sheraton Waikiki	Sheraton Bus Depot

DECEMBER 16 – 19 SCHEDULE		
1 2 3 4	7:00 AM – 9:00 AM	Every 15 Minutes
	9:00 AM – 4:00 PM	Every 30 Minutes
	4:00 PM – 10:00 PM	Every 15 Minutes
5	7:00 AM – 10:00 PM	Every 15 Minutes

DECEMBER 20 SCHEDULE		
1 2 3 4	7:00 AM – 12:00 PM	Every 15 Minutes
	12:00 PM – 1:00 PM	Every 30 Minutes
	1:00 PM – 4:00 PM	Every 15 Minutes
5	7:00 AM – 12:00 PM	Every 15 Minutes

SPECIAL CLOSING RECEPTION SHUTTLE TO & FROM HILTON HAWAIIAN VILLAGE • DECEMBER 20 ONLY • 1:00 PM – 4:00 PM



American Chemical Society (ACS)



Canadian Society for Chemistry (CSC)



Chemical Society of Japan (CSJ)



New Zealand Institute of Chemistry (NZIC)



Royal Australian Chemical Institute (RACI)



Korean Chemical Society (KCS)



Chinese Chemical Society (CCS)