



Your Name:

32nd Asilomar Conference on Mass Spectrometry

NOVEL APPLICATIONS OF MASS SPECTROMETRY AND MASS MOBILITY

Friday, October 14 - Tuesday, October 18, 2016
Asilomar Conference Center, Pacific Grove, CA

Organizers

Daniel Austin
Brigham Young University

Zheng Ouyang
Purdue University

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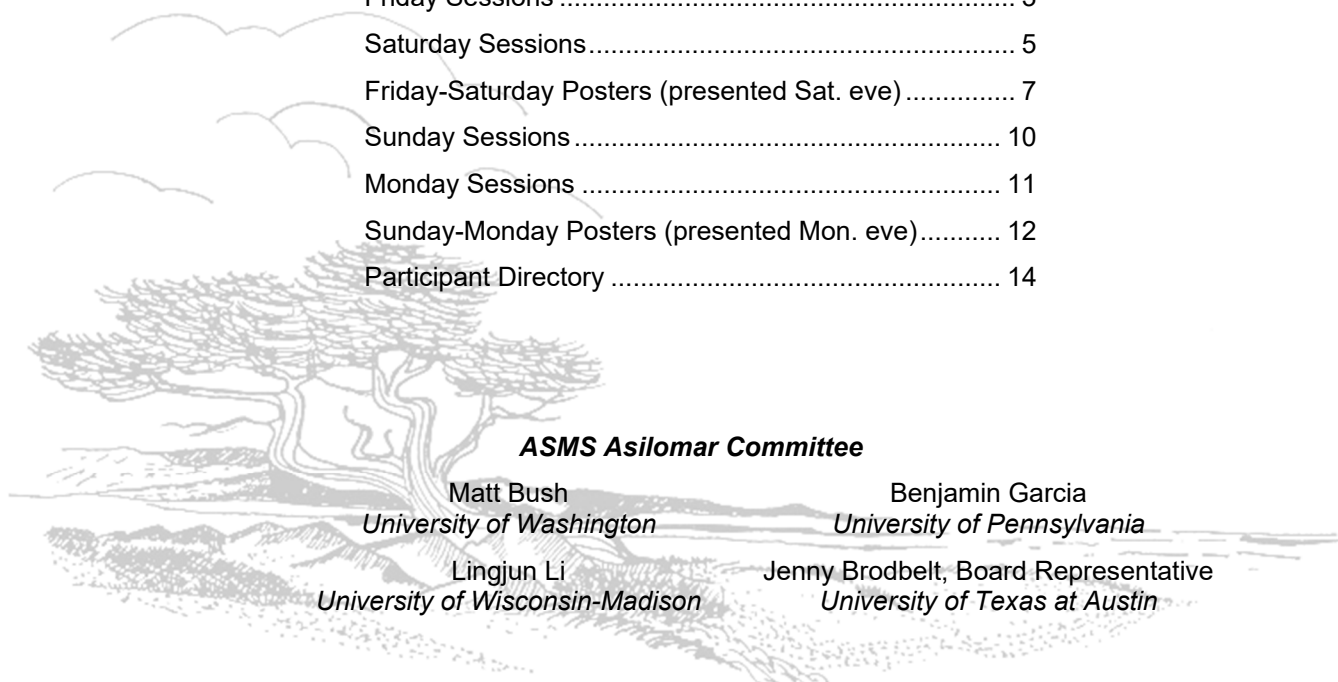
ASMS Asilomar Committee

Matt Bush
University of Washington

Lingjun Li
University of Wisconsin-Madison

Benjamin Garcia
University of Pennsylvania

Jenny Brodbelt, Board Representative
University of Texas at Austin



NOTES

GENERAL INFORMATION

INTERNET ACCESS

There is complimentary wi-fi access in the session room (Chapel), guest rooms and the Social Hall (main building).

To use the wi-fi in Chapel (session room), please follow these instructions:

- Connect to the Asilomar Conference Network
- Passphrase is the word "conference" (lowercase)
- Once connected, open your web browser.
- You should see Asilomar Conf. Grounds login page.
- Scroll to the bottom of the page and use the Username and Password below:

Username: conf8690

Password: conf8690

MEALS AT ASILOMAR

For attendees lodging at Asilomar you will receive a meal tickets for all meals beginning with dinner on Friday and ending with lunch on Tuesday. Vegetarian option is always available upon request at the meal line. *For Tuesday a box lunch has been requested for you, please use your remaining lunch ticket to pick up your box lunch on Tuesday morning from 7:30 am on the deck of the Social Hall.*

For attendees staying offsite you will have (3) lunch tickets and (3) dinner tickets. If for some reason, you did not pay the offsite fee, there will be no tickets for you at registration.

For everyone, to-go lunches are available all days during lunch service hour. Simply go to the regular lunch window and request a "To-Go Lunch".

Conference Banquet, there will be an upgraded meal served in a private room off of the main dining hall served with wine (Seascape). Banquet ticket is required. Please look for signs directing you to the special exterior entrance to Seascape. Dessert will be served at the mixer following the closing session.

EVENING RECEPTIONS

Friday, Saturday, and Monday evenings an informal reception is held in Chapel immediately following the evening session. These evening mixers are an opportunity to continue lively discussion and interact with fellow attendees. Saturday and Monday evenings look for authors attending their posters. There are two groups of posters (Fri-Sat and Sun-Mon).

Sunday Evening – Bonfire, S'Mores and Merry-making! A special evening outdoors (no posters, sorry) immediately following the Sunday evening session. Look for the flames near Crocker Dining Hall.

SUNDAY AFTERNOON

There is a free afternoon. Attendees are encouraged to join others for outings. Suggest your own activity or sign up to join others, look for sign-up sheets in Chapel.

PRESENTER GUIDELINES

Invited Speakers and Hot Topic Speakers, please arrive in the Chapel 15-20 minutes prior to the start of the session to set up your device or load your presentation onto the conference computer (PC). Remember to have your own adapters handy to connect to VGA if using your own device.

Poster Presenters. All posters are located in the session room, Chapel. Poster boards will be numbered. There are two groups of posters, please note the posting and removal times listed below.

Friday-Saturday Posters

Mount posters by 6 pm Fri. Remove after Sat. mixer.

Sunday-Monday Posters

Mount posters by 9 am Sun. Remove after Mon. mixer.

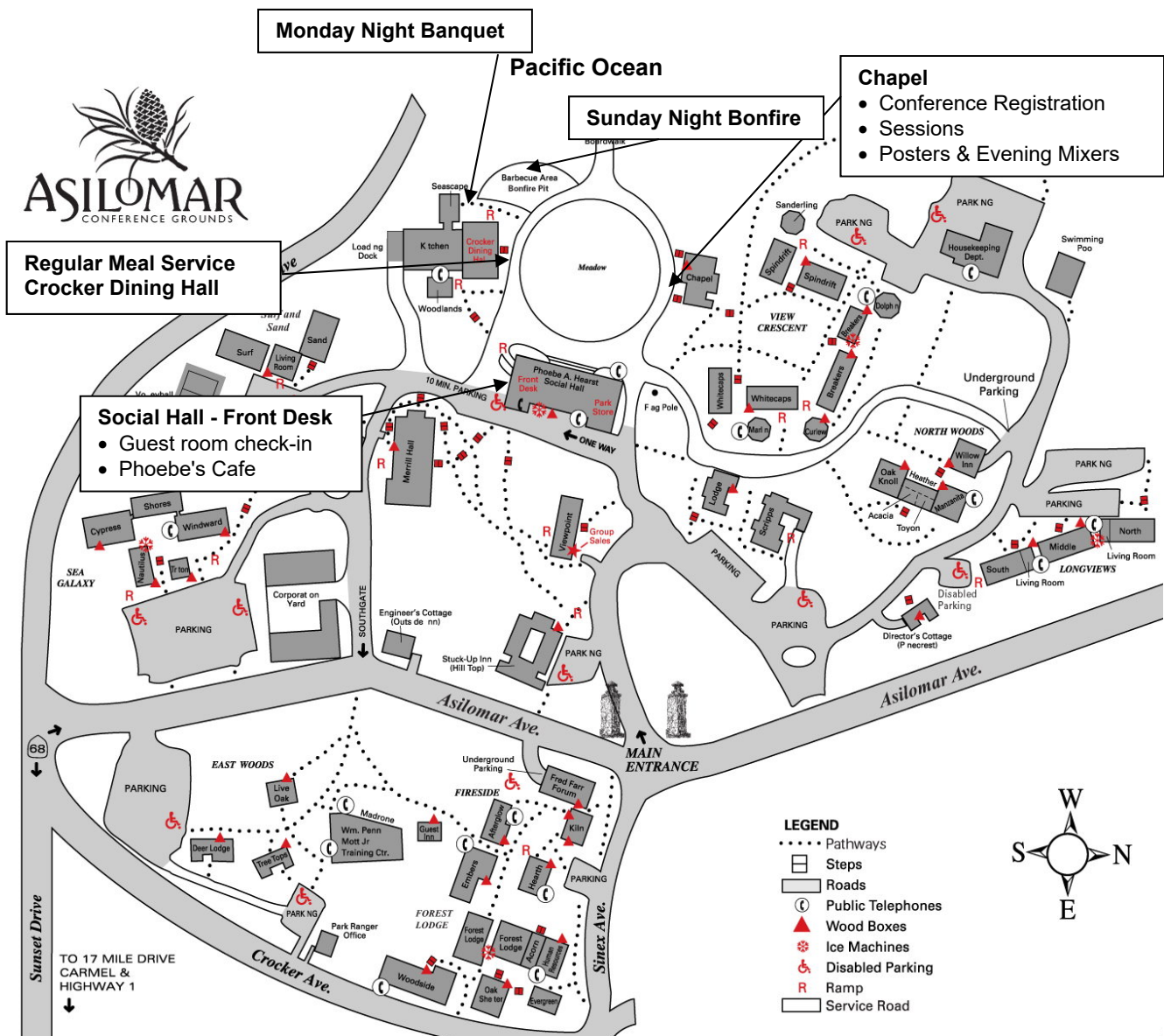
Poster Highlight Talks.

Follow instructions you received by email. Slides must be submitted in advance as specified.

PROGRAM OVERVIEW

Friday	4:00 - 6:00 pmBadge Pickup
	6:00 - 7:00 pmAsilomar Dinner
	7:15 - 8:40 pmSession
	8:40 - 10:30 pmMixer & Posters
Saturday	7:30 - 9:00 amAsilomar Breakfast
	9:00 - 10:45 amSession
	10:45 - 11:05 amCoffee Break
	11:05 am - 12 pmSession
	12:00 - 1:00 pmAsilomar Lunch
	1:15 - 3:00 pmSession
	3:00 - 4:00 pmBreak + Photo
	4:00 - 5:55 pmSession
	6:00 - 7:00 pmAsilomar Dinner
	7:15 - 9:00 pmSession
	9:05 - 10:30 pmMixer & Posters
Sunday	7:30 - 9:00 amAsilomar Breakfast
	9:00 - 11:00 amSession
	10:45 - 11:05 amCoffee Break
	11:05 am - 12 pmSession
	12:00 - 1:00 pmAsilomar Lunch
	1:00 - 6:00 pmFree Afternoon
	6:00 - 7:00 pmAsilomar Dinner
	7:15 - 9:00 pmSession
	9:00 - 11:00 pmBonfire & S'mores
Monday	7:30 - 9:00 amAsilomar Breakfast
	9:00 - 10:45 amSession
	10:45 - 11:05 amCoffee Break
	11:05 am - 12 pmSession
	12:00 - 1:00 pmAsilomar Lunch
	1:15 - 3:00 pmSession
	3:00 - 3:50 pmBreak
	3:50 - 5:05 pmSession
	6:00 - 7:15 pmBanquet (Seascape)
	7:15 - 8:20 pmSession
	8:20 - 10:30 pmDessert & Posters
Tuesday	7:30 - 9:00 amAsilomar Breakfast
	7:30 - 9:00 amBox lunch pick-up on Social Hall Deck (Asilomar guests only)

ASILOMAR GROUNDS MAP



MONTEREY BAY AREA ATTRACTIONS

Sunday afternoon is scheduled free time. You are encouraged to relax on your own or with your fellow attendees. Look for sign-ups in the session room for those interested in group activities. Do you have a car and wish to visit the aquarium or maybe head to Laguna Seca Speedway to watch part of the races happening this weekend? Do you want to rent bikes with others and tour around the area? How about kayaking around Monterey Bay admiring sea otters and the renowned kelp forest as you paddle? Do you want to rent some clubs and play golf? **Be an instigator and list your activity on a sign-up sheet for others to join you.**

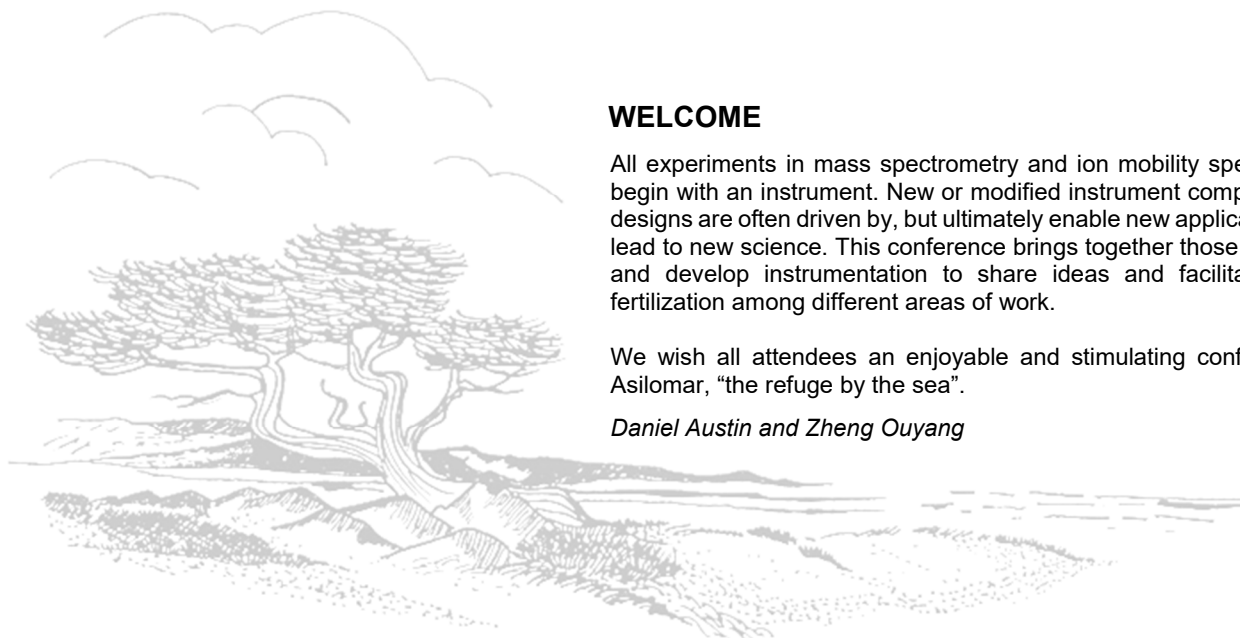
Some Ideas...

Accessible by foot, bus, bike or car:

- In Monterey --Monterey Bay Aquarium, Fisherman's Wharf, Cannery Row, kayaking on the bay.
- Pebble Beach attractions include the 17-Mile Drive which is accessible free-of-charge on foot or bike or enter by car for a fee.

Accessible by car:

- Carmel Valley is home to many wineries, farms, ranches and the historic Carmel Mission. Hiking in Big Sur or Point Lobos.



WELCOME

All experiments in mass spectrometry and ion mobility spectrometry begin with an instrument. New or modified instrument components or designs are often driven by, but ultimately enable new applications and lead to new science. This conference brings together those who build and develop instrumentation to share ideas and facilitate cross-fertilization among different areas of work.

We wish all attendees an enjoyable and stimulating conference at Asilomar, "the refuge by the sea".

Daniel Austin and Zheng Ouyang

FRIDAY, OCTOBER 14, 2016

4:00 - 6:00 pm: Registration in *Chapel*
Materials will also be available for pick-up during the sessions.

6:00 - 7:00 pm: Asilomar Dinner, *Crocker Dining Hall*
Meal ticket required.

FRIDAY-SATURDAY POSTERS

Friday-Saturday Posters on display this evening through Saturday night. See complete listing on pages 7 - 8.

7:15 - 8:45 pm: **OPENING SESSION**, *Chapel*
Session Chair: Daniel Austin, *Brigham Young University*
There is a five-minute gap after each talk for Q&A.

7:15 - 7:30 pm	Opening Remarks; Daniel Austin
7:30 - 8:00 pm	Rapid Mixing and Chemistry in Nanodrops ; Evan Williams, <i>University of California, Berkeley</i>
8:05 - 8:35 pm	Mass Spectrometers for Ocean Worlds ; Patricia Beauchamp, <i>NASA Jet Propulsion Laboratory</i>
8:40 pm	Welcome to this evening's reception by Juergen Keller, <i>Pfeiffer Vacuum</i>

8:45 - 10:30 pm: **RECEPTION AND POSTERS**, *Chapel*

Special thanks to this evening's reception sponsor
PFEIFFER VACUUM

Friday-Saturday Posters on display. See complete listing on pages 7- 8.



SMALLEST MASS SPECTROMETRY SOLUTION

Pfeiffer Vacuum provides high vacuum solutions consisting of HiPace turbopumps, the new diaphragm pumps of MVP 015 DC series and integrated vacuum sensors. The design focus for the new system solution is based on an easy system integration offering the following benefits:

- Compact size and weight
- High performance
- Low power consumption and less heat radiation
- Easy cabling and communication

Please have a look at the new solutions at our booth!

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www.pfeiffer-vacuum.com



SATURDAY, OCTOBER 15, 2016

7:30 - 9:00 am: Asilomar Breakfast (onsite lodgers only), *Crocker Dining Hall*
If you are staying offsite, you may purchase a breakfast meal ticket at the Asilomar Front Desk.

9:00 - 10:45 am: **PARTICLES**, *Chapel*
Session Chair: Matt Bush, *University of Washington*

There is a five-minute gap after each 30-minute talk for Q&A.

- 9:00 - 9:30 am **Learning about Our Atmosphere One Particle at a Time with On-line Mass Spectrometry**; Kim Prather, *University of California, San Diego*
- 9:35 - 10:05 am **Softlanding Ion Mobility coupled to MALDI for Direct Deposition of Matrix Size Selected Metal Nanoparticles**; Guido Verbeck, *University of North Texas*
- 10:10 - 10:40 am **Ambient Ionization and Differential Ion Mobility combined with Ion Trap Mass Spectrometry for Improved Aerosol Analysis**; Gary Glish, *University of North Carolina, Chapel Hill*

10:45 - 11:05 am: **COFFEE BREAK**

11:05 am - 12:00 pm: **HOT TOPIC TALK + SATURDAY POSTER HIGHLIGHTS**, *Chapel*
Session Chair: Daniel Austin, *Brigham Young University*

Hot Topic Talk selected from submitted abstracts:

11:05 – 11:20 am **Accurate Measurements in Ion Mobility Spectrometry**; Charles Harden, *Leidos @ US Army ECBC*
See poster board 08 on Fri/Sat.

Poster Highlight talks will be 2 minutes max each.

After 2 minutes presenters will “face the music” if they have not completed their presentation.

A Cryogenic Linear Ion Trap for Fluorescence Spectroscopy; Alessandra Ferzoco, *Rowland Institute at Harvard, Cambridge, MA* See poster board 10 on Fri/Sat.

Integrating High-Resolution FAIMS with Orbitrap MS for High-Definition Proteomic and Metabolomic Analyses; Julia Kaszycki, *Wichita State University, Wichita, KS* See poster board 11 on Fri/Sat.

PALMS: Parallel Targeted/Untargeted Metabolome Screening Platform; Alexey V. Melnik, *Collaborative Mass Spectrometry Innovation Center, Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California, La Jolla, CA* See poster board 12 on Fri/Sat.

21T FTICR-MS and 4X Frequency Multiplication: >100 kDa Proteins Isotopically Resolved at >1Hz Acquisition Rate; Jared Shaw, *Pacific Northwest National Laboratory, Richland, WA* See poster board 13 on Fri/Sat.

Developing a Fast and Simultaneous Analysis Method for Polycyclic Aromatic Hydrocarbons Using Rapidfire SPE-APCI-IMS-MS; Xueyun Zheng, *Pacific Northwest National Laboratory, Richland, WA* See poster board 14 on Fri/Sat.

Simplifying Mass Spectrometry for the Masses; Charles N. McEwen, *University of the Sciences, Philadelphia, PA* See poster board 15 on Fri/Sat.

Fundamental Study of Alternative Sampling by MWCNT Functionalized Corona Discharge Pin for PAH Analysis; Keaton Nahan, *University of Cincinnati, Cincinnati, OH* See poster board 16 on Fri/Sat.

A Single Programmable Android Controlled Energy Embodiment for MALDI, SIMS, LDI and ESI; Drew Sauter, *Nanoliter, LLC, Henderson, NV* See poster board 17 on Fri/Sat.

Nanowell-based Sample Preparation and Analysis Platform for Deep Proteome Analysis of Small Cell Populations; Ryan Kelly, *Pacific Northwest National Laboratory, Richland, WA* See poster board 18 on Fri/Sat.

The Role of Superconducting Tunnel Junction Cryodetection in Mass Spectrometry – A Perspective; Mark E. Bier, *Carnegie Mellon University, Pittsburgh, PA* See poster board 19 on Fri/Sat.

Fully-Automated Ambient Robotic Surface Analysis-Mass Spectrometry (RoSA-MS); Anyin Li, *Georgia Institute of Technology, Atlanta, GA* See poster board 20 on Fri/Sat.

Differential Protein Profiling using Virtual 2D gel-Mass Spectrometry; Neil Quebbemann, *University of California Los Angeles, Los Angeles, CA* See poster board 21 on Fri/Sat.

SATURDAY, OCTOBER 15, 2016, continued

12:00 - 1:00 pm: Asilomar Lunch, Crocker Dining Hall
Meal ticket required.

1:15 - 3:00 pm: **MOBILITY I**, Chapel
Session Chair: Steve Valentine, West Virginia University
There is a five-minute gap after each talk for Q&A.

- 1:15 - 1:45 pm **IMS-IMS for Understanding Biomolecular Folding in Solution**; Dave Clemmer, *Indiana University*
- 1:50 - 2:20 pm **Tandem Differential Mobility Spectrometry in Air at Ambient Pressure**; Gary Eiceman, *New Mexico State University*
- 2:25 - 2:55 pm **Redefining the Ion Source for MS and IMS-MS**; Sarah Trimpin, *Wayne State University*

3:00 - 4:00 pm: **Coffee Break + Group Photo**

4:00 - 5:55 pm: **DROPLETS**, Chapel
Session Chair: Steve Valentine, West Virginia University
There is a five-minute gap after each talk for Q&A.

- 4:00 - 4:30 pm **New Approaches for Imaging Biological Systems Using Nanospray Desorption Electrospray Ionization Mass Spectrometry**; Julia Laskin, *Pacific Northwest National Laboratory*
- 4:35 - 5:05 pm **Sub-ambient Pressure Electrospray Ionization for High Sensitivity Mass Spectrometry**; Keqi Tang, *Pacific Northwest National Laboratory*
- 5:10 - 5:30 pm **Droplet-surface Interactions in the Atmospheric Interface - Eliminate or Enhance?**; Steven Pringle, *Waters Corporation*

Hot Topic Talk selected from submitted abstracts:

- 5:35 - 5:50 pm **Laser-induced-liquid-bead-ion-desorption (LILBID)-MS: Coupling a LILBID Source to a Commercial Mass Spectrometer**; Nina Morgner, *Goethe University Frankfurt*

6:00 - 7:00 pm: Asilomar Dinner, Crocker Dining Hall
Meal ticket required.

SATURDAY, OCTOBER 15, 2016, *continued*

7:15 - 9:05 pm: **MARS, Chapel**
 Session Chair: Theresa Evans-Nguyen, *University of South Florida*
There is a five-minute gap after each talk for Q&A.

7:15 - 7:45 pm **Mass Spectrometry on Mars: Reports from the SAM Experiment on the Curiosity Rover**; Melissa Trainer, *NASA*

7:50 - 8:20 pm **Development of Dual Ion Source Linear Ion Traps for Space Flight Applications**; Veronica Pinnick, *NASA GSFC*

Hot Topic Talk selected from submitted abstracts:

8:25 - 8:40 pm **Structural Characterization of Molecules in Complex Samples Using TIMS Coupled to FT-ICR MS**; Paolo Benigni, *Florida International University*

Hot Topic Talk selected from submitted abstracts:

8:45 – 9:00 pm **Cross Sections via the “CRAFTI” FTICR Linewidth Technique in Excellent Absolute Agreement with Exact Hard Sphere Scattering Calculations**; David Dearden, *Brigham Young University*

9:05 pm Welcome to this evening's reception by **Don Harris**, *Waters Corporation*

9:05 - 10:30 pm: **INFORMAL MIXER AND FRIDAY-SATURDAY POSTERS, Chapel**

Special thanks to this evening's reception sponsor
WATERS CORPORATION

The Friday-Saturday Posters will be displayed from 6:00 pm, Friday – 10:30 pm, Saturday night.
 Posters will be presented (attended by author) during the Saturday evening reception.

- Fri/Sat 01 **Droplet Based Sampling of RNA Hydrolysates by Inductive Charging**; Robert Ross, *University of Cincinnati, Cincinnati, OH*
- Fri/Sat 02 **Surface-induced dissociation (SID) as a fragmentation technique for top-down protein analysis**; Alyssa Stiving, *The Ohio State University, Columbus, OH*
- Fri/Sat 03 **Surface Induced Dissociation in High Resolution Mass Spectrometry: Implementation on an Orbitrap Platform**; Zachary VanAernum, *The Ohio State University, Columbus, OH*
- Fri/Sat 04 **High Resolution Trapped Ion Mobility Mass Spectrometry Analysis of Isomeric Compounds**; Shuai Wu, *Bruker Daltonics, Bremen, Germany*
- Fri/Sat 05 **Platform for Biological Samples Differentiation Based on Direct-Spray-from-Tissue MS**; Vladimir Frankevich, *Federal State Budget Institution "Research Center for Obstetrics, Gynecology and Perinatology" Ministry of Healthcare of the Russian Federation, Moscow, RUSSIA*
- Fri/Sat 06 **Electron-Transfer Induced Limited Charge Reduction can be Grafted to Native LC-MS and IMS-MS for Characterization of Heterogeneous Biomolecules**; Chendi Niu, *University of Massachusetts Amherst, Amherst, MA*
- Fri/Sat 07 **Accurate Measurements in Ion Mobility Spectrometry**; Charles S. Harden, *Leidos @ US Army ECBC, Gunpowder, MD* Featured as a hot topic talk on Saturday, 11:05-11:20 am.
- Fri/Sat 08 **Extending the Utility of Commercial Mass Spectrometers with Infrared Photodissociation and Action Spectroscopy Capabilities**; Lucas Hamlow, *Wayne State University, Detroit, MI*
- Fri/Sat 09 **A Cryogenic Linear Ion Trap for Fluorescence Spectroscopy**; Alessandra Ferzoco, *Rowland Institute at Harvard, Cambridge, MA* Featured as a 2-min poster highlight on Saturday morning.
- Fri/Sat 10 **Integrating High-Resolution FAIMS with Orbitrap MS for High-Definition Proteomic and Metabolomic Analyses**; Julia Kaszycki, *Wichita State University, Wichita, KS* Featured as a 2-min poster highlight on Saturday morning.
- Fri/Sat 11 **PALMS: Parallel Targeted/Untargeted Metabolome Screening Platform**; Alexey V. Melnik, *Collaborative Mass Spectrometry Innovation Center, Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California, La Jolla, CA* Featured as a 2-min poster highlight on Saturday morning.

SATURDAY, OCTOBER 15, 2016, *continued*

FRIDAY-SATURDAY POSTERS, *continued*

The Friday-Saturday Posters will be displayed from 6:00 pm, Friday – 10:30 pm, Saturday night.
Posters will be presented (attended by author) during the Saturday evening reception.

- Fri/Sat 12 **21T FTICR-MS and 4X Frequency Multiplication: >100 kDa Proteins Isotopically Resolved at >1Hz Acquisition Rate;** Jared Shaw, *Pacific Northwest National Laboratory, Richland, WA* Featured as a 2-min poster highlight on Saturday morning.
- Fri/Sat 13 **Developing a Fast and Simultaneous Analysis Method for Polycyclic Aromatic Hydrocarbons Using Rapidfire SPE-APCI-IMS-MS;** Xueyun Zheng, *Pacific Northwest National Laboratory, Richland, WA* Featured as a 2-min poster highlight on Saturday morning.
- Fri/Sat 14 **Simplifying Mass Spectrometry for the Masses;** Charles N. McEwen, *University of the Sciences, Philadelphia, PA* Featured as a 2-min poster highlight on Saturday morning.
- Fri/Sat 15 **Fundamental Study of Alternative Sampling by MWCNT Functionalized Corona Discharge Pin for PAH Analysis;** Keaton Nahan, *University of Cincinnati, Cincinnati, OH* Featured as a 2-min poster highlight on Saturday morning.
- Fri/Sat 16 **A Single Programmable Android Controlled Energy Embodiment for MALDI, SIMS, LDI and ESI;** Drew Sauter, *Nanoliter, LLC, Henderson, NV* Featured as a 2-min poster highlight on Saturday morning.
- Fri/Sat 17 **Nanowell-based Sample Preparation and Analysis Platform for Deep Proteome Analysis of Small Cell Populations;** Ryan Kelly, *Pacific Northwest National Laboratory, Richland, WA* Featured as a 2-min poster highlight on Saturday morning.
- Fri/Sat 18 **The Role of Superconducting Tunnel Junction Cryodetection in Mass Spectrometry – A Perspective;** Mark E. Bier, *Carnegie Mellon University, Pittsburgh, PA* Featured as a 2-min poster highlight on Saturday morning.
- Fri/Sat 19 **Fully-Automated Ambient Robotic Surface Analysis-Mass Spectrometry (RoSA-MS);** Anyin Li, *Georgia Institute of Technology, Atlanta, GA* Featured as a 2-min poster highlight on Saturday morning.
- Fri/Sat 20 **Differential Protein Profiling using Virtual 2D gel-Mass Spectrometry;** Neil Quebbemann, *University of California Los Angeles, Los Angeles, CA* Featured as a 2-min poster highlight on Saturday morning.

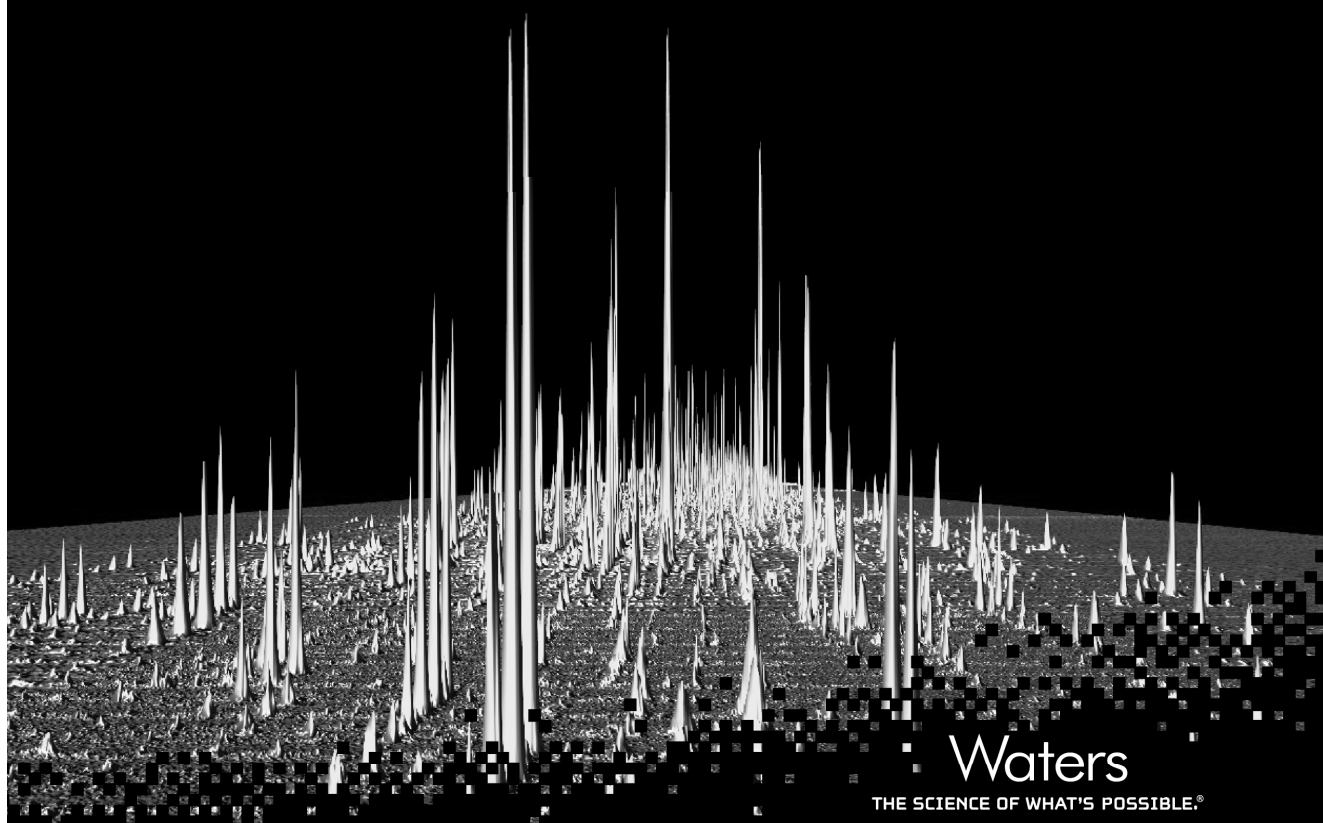
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SUNDAY, OCTOBER 16, 2016

7:30 - 9:00 am: Asilomar Breakfast (onsite lodgers only), *Crocker Dining Hall*
If you are staying offsite, you may purchase a breakfast meal ticket at the Asilomar Front Desk.

SUNDAY-MONDAY POSTERS

Sunday-Monday Posters on display this morning through Monday night. See complete listing on pages 12 - 13.

9:00 am - 10:45 am: **PHOTONS**, Chapel

Session Chair: Alessandra Ferzoco, *Rowland Institute at Harvard University*

There is a five-minute gap after the each talk for Q&A.

- 9:00 - 9:30 am **Implementation and Applications of Photodissociation Mass Spectrometry**; Jenny Brodbelt, *University of Texas at Austin*
- 9:35 - 10:05 am **Fluorescence as an Added Probe to Examine Ions in a Mass Spectrometer: Ion Cloud Visualization, Fundamental Photophysics and Förster Resonance Energy Transfer Measurements**; Rebecca Jockusch, *University of Toronto*
- 10:10 - 10:40 am **IMS-Laser-IMS: Coupling Ion Mobility Mass Spectrometry with Optical Spectroscopy**; Philippe Dugourd, *Université de Lyon*

10:45 - 11:05 am: **COFFEE BREAK**

11:05 am - 12:00 pm: **MOBILITY II**, Chapel

Session Chair: Alessandra Ferzoco, *Rowland Institute at Harvard University*

There is a five-minute gap after each 30-minute talk for Q&A.

- 11:05 - 11:35 am **Insights to Protein Structure from Variable Temperature Ion Mobility Mass Spectrometry**; Perdita Barran, *University of Manchester*

Hot Topic Talk selected from submitted abstracts:

- 11:40 - 11:55 am **Recent Developments in Structures for Lossless Ion Manipulations (SLIM) for Enhanced Ion Mobility Separation**; Yehia Ibrahim, *Pacific Northwest National Laboratory*

12:05 - 1:00 pm: Asilomar Lunch, *Crocker Dining Hall*
Meal ticket required.

1:00 - 6:00 pm: Free Afternoon

6:00 - 7:00 pm: Asilomar Dinner, *Crocker Dining Hall*
Meal ticket required.

7:15 - 9:00 pm: **MOBILITY III**, Chapel

Session Chair: Guido Verbeck, *University of North Texas*

There is a five-minute gap after each talk for Q&A.

- 7:15 - 7:45 pm **Surface-induced Dissociation Coupled with Ion Mobility or High Resolution MS**; Vicki Wysocki, *The University of Ohio*
- 7:50 - 8:20 pm **Ion mobility and Linear Ion Trap Mass Spectrometry Techniques for Protein Structure Characterization**; Steve Valentine, *West Virginia University*
- 8:25 - 8:55 pm **Analysis of Native-like Ions using Structures for Lossless Ion Manipulations**; Matt Bush, *University of Washington*

9:00 - 11:00 pm: **BONFIRE + S'MORES & DRINKS**

Beach Shelter located off the far end of Crocker Dining Hall (outside, please dress warmly!)

MONDAY, OCTOBER 17, 2016

7:30 - 9:00 am: Asilomar Breakfast (onsite lodgers only), *Crocker Dining Hall*
If you are staying offsite, you may purchase a breakfast meal ticket at the Asilomar Front Desk.

9:00 am - 10:45 am: **IT'S A TRAP!**, *Chapel*
Session Chair: Zheng Ouyang, *Purdue University*
There is a five-minute gap after each talk for Q&A.

- 9:00 - 9:30 am **Digital Waveform Technology and the Next Generation of Mass Analyzers**; Peter Reilly, *Washington State University*
- 9:35 - 10:05 am **Improving Mass Resolution, CID efficiency, and Low Mass Cutoff of Linear Ion Trap by Higher Order Field**; Chuan Fan Ding, *Fudan University (China)*
- 10:10 - 10:40 am **Development of Charge Transfer Dissociation for Gas-Phase Biological Ions**; Glen Jackson, *West Virginia University*

10:45 – 11:05 am: **COFFEE BREAK**

11:05 am - 12:00 pm: **HOT TOPIC TALK + MONDAY POSTER HIGHLIGHTS**, *Chapel*
Session Chair: Zheng Ouyang, *Purdue University*

Hot Topic Talk selected from submitted abstracts:

- 11:05 – 11:20 am **Coded Aperture Miniature Mass Spectrometer for Environmental Sensing using a Cycloidal Mass Analyzer, CNT Field Emission, and an Array Detector**; Jason Amsden, *Duke University* See poster board 08 on Sun/Mon.

Poster Highlight talks will be 2 minutes max each.

After 2 minutes presenters will “face the music” if they have not completed their presentation.

Practical Electron Capture Dissociation suitable for use in Orbitrap Exactive and Ion Mobility Q-ToF; Joe Beckman, *Linus Pauling Institute, Corvallis, OR* See poster board 09 on Sun/Mon.

Ion Mobility Separation of Native-like Protein Complex Ions using Structures for Lossless Ion Manipulations; Rachel Eaton, *University of Washington, Seattle, WA* See poster board 10 on Sun/Mon.

Extractive Polymer Coating for Rhenium Filaments used in Thermal Ionization Mass Spectrometry; Joseph Mannion, *Clemson University, Clemson, SC* See poster board 11 on Sun/Mon.

A Novel Magnetic Sector Mass Spectrograph Design for High Order Coded Aperture Mass Spectrometry and High Resolution Miniature Mass Spectrometry; Zachary Russell, *Duke University, Durham, NC* See poster board 12 on Sun/Mon.

21 Tesla FT-ICR Mass Spectrometer for Complex Mixture Analysis; Donald Smith, *National High Magnetic Field Laboratory, Tallahassee, FL* See poster board 13 on Sun/Mon.

Ambient Submicron Sampling of Biological Samples by Combining AFM with MS; Jonathan Brauer, *Anasys Instruments, Santa Barbara, CA* See poster board 14 on Sun/Mon.

New Approaches for Ion Injection and Ion Sampling in Atmospheric Pressure Ion Mobility Mass Spectrometry; William McMahon, *Georgetown Univ., Washington, DC* See poster board 15 on Sun/Mon.

Development of a Heavy Ion Mass Spectrometer Incorporating a Linear Ion Trap with STJ Cryodetection – Part II; Logan Plath, *Carnegie Mellon University, Pittsburgh, PA* See poster board 16 on Sun/Mon.

Evaluation of Fieldable Mass Spectrometers for the Detection and Identification of Biothreats using Proteomics Based Approach; Rabih Jabbour, *ECBC, APG, MD* See poster board 17 on Sun/Mon.

TheLipidyzer™ Platform: A Revolutionary Tool for Understanding the Role of Lipids in Disease; Junhua Wang, *SCIEX, Redwood City, CA* See poster board 18 on Sun/Mon.

Surface Induced Dissociation and Ion Mobility Provide Insight into a Conformationally Dynamic Protein Complex; Sophie Harvey, *The Ohio State University, Columbus, OH* See poster board 19 on Sun/Mon.

Trapped Ion Mobility Spectrometry - Mass Spectrometry for Structural Assignment of Small Molecular Conformers and Positional Isomers; Barbara Zietek, *VU Amsterdam, Amsterdam, The Netherlands* See poster board 20 on Sun/Mon.

MONDAY, OCTOBER 17, 2016, *continued*

12:00 - 1:00 pm: Asilomar Lunch (all attendees), *Crocker Dining Hall*
Meal ticket required.

1:15 - 3:00 pm: **BEAMS**, Chapel
Session Chair: Peter Reilly, *Washington State University*
There is a five-minute gap after each talk for Q&A.

- 1:15 - 1:45 pm **Charge Detection Mass Spectrometry - Weighing Heavier Things**; Martin Jarrold, *Indiana University*
- 1:50 - 2:20 pm **Mass Spectrometry and Tandem Mass Spectrometry with an Electrostatic Linear Ion Trap**; Scott McLuckey, *Purdue University*
- 2:25 - 2:55 pm **Distance of Flight Mass Spectrometry: New Instrumental Approaches for Novel Analytical Capabilities**; Steve Ray, *University at Buffalo, SUNY*

3:00 - 3:50 pm: **COFFEE BREAK**

3:50 - 5:05 pm: **ENERGY**, Chapel
Session Chair: Matt Bush, *University of Washington*
There is a five-minute gap after each talk for Q&A.

- 3:50 - 4:20 pm **Enhancing the Versatility of the Bruker amaZon ETD Quadrupole Ion Trap Mass Spectrometer with Photodissociation and Action Spectroscopy Capabilities**; Mary Rodgers, *Wayne State University*
- 4:25 - 4:55 pm **Guided Ion Beams, Ion Traps, and Ion Mobility**; Peter Armentrout, *University of Utah*

6:00 - 7:15 pm: **BANQUET DINNER**
Look for signs guiding you to Seascape exterior entrance located toward the ocean from main dining hall stairs. Bring your ASMS banquet ticket! If you need a ticket, please see Jennifer in rear of Chapel.

7:15 - 8:20 pm: **AFTER-DINNER TALK**, Chapel
Session Chair: Zheng Ouyang, *Purdue University*

- 7:15 - 8:00 pm **Retrospective & Prospective: Instrumentation Development at Purdue University 1971 – 2016**; Graham Cooks, *Purdue University*
- 8:05 - 8:15 pm Closing Remarks from Daniel Austin and Zheng Ouyang

8:20 - 10:30 pm: **DESSERT AND SUNDAY-MONDAY POSTERS**, Chapel
The Sunday-Monday Posters will be displayed from 9:00 am, Sunday – 10:30 pm, Monday night. Posters will be presented (attended by author) during the Monday evening reception.

- Sun/Mon 01 **A Miniature Carbon Nanotube Electron Ionization Source for Mass Spectrometry Applications**; Philip Herr, *Department of Electrical and Computer Engineering, Duke University, Durham, NC*
- Sun/Mon 02 **Improving the Electric Sector of a Cycloidal Mass Analyzer**; William Kim, *Department of Electrical and Computer Engineering, Duke University, Durham, NC*
- Sun/Mon 03 **Novel Permanent Magnet Assembly with Improved Field Uniformity for Cycloidal Mass Analyzers**; David Landry, *Duke University, Durham, NC*
- Sun/Mon 04 **Charge Transfer Dissociation (CTD) of Phospholipids: Influence of Head Group and Adducting Ions on Fragmentation**; Pengfei Li, *West Virginia University, Morgantown, West Virginia*
- Sun/Mon 05 **Merging Ion Mobility with Cryogenic Ion Spectroscopy**; Valeriu Scutelnic, *EPFL, Lausanne*
- Sun/Mon 06 **Development of Custom Ambient Ionization Sources for Real-time Aerosol Analysis**; Kenneth Swanson, *University of North Carolina, Chapel Hill, NC*

MONDAY, OCTOBER 17, 2016, *continued*

SUNDAY-MONDAY POSTERS, *continued*

The Sunday-Monday Posters will be displayed from 9:00 am, Sunday – 10:30 pm, Monday night. Posters will be presented (attended by author) during the Monday evening reception.

- Sun/Mon 07 **The Effect of Field Distribution and Initial Ion Parameters on Detection at Multiples of the Ion Cyclotron Frequency in FTICR-MS;** Qinghao Wu, *Pacific Northwest National Laboratory, Richland, WA*
- Sun/Mon 08 **Investigating Inorganic Water Clusters Separation in Differential Mobility Spectrometry;** Ifeoluwa Ayodeji, *Chemistry Department, USF, Tampa, FL*
- Sun/Mon 09 **Coded Aperture Miniature Mass Spectrometer for Environmental Sensing Using a Cycloidal Mass Analyzer, CNT Field Emission, and an Array Detector;** Jason Amsden, *Department of Electrical and Computer Engineering, Duke University, Durham, NC* Featured as a hot topic talk Monday, 11:05-11:20 am.
- Sun/Mon 10 **Practical Electron Capture Dissociation suitable for use in Orbitrap Exactives and Ion Mobility Q-ToF;** Joe Beckman, *Linus Pauling Institute, Corvallis, OR* Featured as a 2-min poster highlight on Saturday morning.
- Sun/Mon 11 **Ion Mobility Separation of Native-like Protein Complex Ions using Structures for Lossless Ion Manipulations;** Rachel Eaton, *University of Washington, Seattle, WA* Featured as a 2-min poster highlight on Saturday morning.
- Sun/Mon 12 **Extractive Polymer Coating for Rhenium Filaments used in Thermal Ionization Mass Spectrometry;** Joseph Mannion, *Clemson University, Clemson, SC* Featured as a 2-min poster highlight on Saturday morning.
- Sun/Mon 13 **A Novel Magnetic Sector Mass Spectrograph Design for High Order Coded Aperture Mass Spectrometry and High Resolution Miniature Mass Spectrometry;** Zachary Russell, *Duke University, Durham, NC* Featured as a 2-min poster highlight on Saturday morning.
- Sun/Mon 14 **21 Tesla FT-ICR Mass Spectrometer for Complex Mixture Analysis;** Donald Smith, *National High Magnetic Field Laboratory, Tallahassee, FL* Featured as a 2-min poster highlight on Saturday morning.
- Sun/Mon 15 **Ambient Submicron Sampling of Biological Samples by Combining AFM with MS;** Jonathan Brauer, *Anasys Instruments, Santa Barbara, CA* Featured as a 2-min poster highlight on Saturday morning.
- Sun/Mon 16 **New Approaches for Ion Injection and Ion Sampling in Atmospheric Pressure Ion Mobility Mass Spectrometry;** William McMahon, *Georgetown Univ., Washington, DC* Featured as a 2-min poster highlight on Saturday morning.
- Sun/Mon 17 **Development of a Heavy Ion Mass Spectrometer Incorporating a Linear Ion Trap with STJ Cryodetection – Part II;** Logan Plath, *Carnegie Mellon University, Pittsburgh, PA* Featured as a 2-min poster highlight on Saturday morning.
- Sun/Mon 18 **Evaluation of Fieldable Mass Spectrometers for the Detection and Identification of Biothreats using Proteomics Based Approach;** Rabih Jabbour, *ECBC, APG, MD* Featured as a 2-min poster highlight on Saturday morning.
- Sun/Mon 19 **TheLipidyzer™ Platform: A Revolutionary Tool for Understanding the Role of Lipids in Disease;** Junhua Wang, *SCIEX, Redwood City, CA* Featured as a 2-min poster highlight on Saturday morning.
- Sun/Mon 20 **Surface Induced Dissociation and Ion Mobility Provide Insight into a Conformationally Dynamic Protein Complex;** Sophie Harvey, *The Ohio State University, Columbus, OH* Featured as a 2-min poster highlight on Saturday morning.
- Sun/Mon 21 **Trapped Ion Mobility Spectrometry - Mass Spectrometry for Structural Assignment of Small Molecular Conformers and Positional Isomers;** Barbara Zietek, *VU Amsterdam, Amsterdam, The Netherlands* Featured as a 2-min poster highlight on Saturday morning.

TUESDAY, OCTOBER 18, 2016

7:30 - 9:00 am: Asilomar Breakfast, *Crocker Dining Hall*

7:30 - 9:00 am: Box Lunch Pick-up for Asilomar Guests, *Social Hall Deck*

Departures at Leisure