ASMS Conference Workshop:
How Can Ion Mobility Spectrometry Separations Help your Research?
Ion Mobility MS Interest Group
Presiding: Matt Bush, Erin Baker & Stephen Valentine

The ion mobility-related material at this year's ASMS Conference started with the ion mobility-mass spectrometry short course titled "Ion Mobility Mass Spectrometry: An Introduction to Instrumentation, Applications, and Data Analysis". This course previously was a 2-day course, but this year was shortened to a 1-day course that was held on Sunday. The course was taught by Prof. Brian Clowers (Washington State University), Prof. John McLean (Vanderbilt University) and Dr. Erin Baker (PNNL) and had ~48 participants, which was almost double that from last year. We believe concatenating to the 1-day format and the growing popularity of ion mobility mass spectrometry attracted more people to the short course. The short course was divided into 6 sections: (1) Introduction of IMS, (2) IMS Theory, (3) Drift Tube IMS, (4) Traveling Wave IMS, (5) FAIMS, and (6) Future Directions & Discussion. Due to the large attendance and diverse interactions, the organizers intend to offer this short course again next year.

The interest group was very pleased with the inclusion of three ion mobility focused oral sessions for the 2015 conference: "Ion Mobility, FAIMS & DMS: New Developments & Applications" (chaired by Mel Park, attended by ~650), "Ion Mobility Structures" (chaired by Kevin Giles, attended by ~450), and "Ion Mobility: Small Molecules, Pharmaceuticals, and DMPK" (chaired by Erkinjon Nazarov, attended by ~350).

Beyond the three dedicated sessions, there were at least 25 additional IMS related presentations during the conference featuring ion mobility techniques, data, or instrumentation. Of particular note is that these presentations were included in a diverse range of fundamental and applied sessions, including "Advances in Software and Hardware to Improve DMPK Workflows"; "Carbohydrates"; "Energy, Petroleum, & Biofuels: Advances in MS Design & Informatics"; "Environmental MS: Instrumental Challenges and Solutions"; "Imaging: Instrumentation & Method Development"; "Instrumentation: Time-of-flight and QTOF"; "Lipidomics: New MS Technologies and Applications"; "Membrane Proteins", "Nucleic Acids"; "Peptide Fragmentation and Peptidomics"; "Quantitative Analysis in Drug Discovery for Small Molecules"; and "Synthetic Polymers".

The IMS workshop this year took place from 5:45 to 7:00 on Tuesday, June 2nd and focused on explaining several of the currently available IMS technologies and applications being performed such as standalone IMS measurements and MS coupled metabolomic analyses, proteomic studies, and ion/ion reactions (the workshop outline is shown below). The workshop began with a 15-min keynote presentation from Facundo Fernandez on different types of IMS separations and applications. This presentation was followed by a guided panel discussion, which consisted of 6 international speakers explaining their different IMS-related applications from HDX to petroleomics to proteomic and nucleic acid studies. Attendees took advantage of the opportunity to ask questions and offer opinions. More than 450 people attended the workshop.

Keynote Presentation: How Can Ion Mobility Spectrometry Separations Help Your Research: Drift Tube, Differential and Traveling Wave Techniques (15 minutes)

- Facundo Fernandez (Georgia Tech)

Panel Discussion (3 min presentations each followed by panel discussion)

- Christian Bleiholder (Florida State University)
- Facundo Fernandez (Georgia Tech)

- Valérie Gabelica (University of Bordeaux)
- Priscila Lalli (Florida State University)
- Randy Purves (University of Saskatchewan)
- Kasper Dyrberg Rand (University of Copenhagen)

We hope this gives insight into the IMS presence at ASMS. Respectfully yours,

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