

Latest Trends in Ion Trap Mass Spectrometry

A workshop hosted by the Ion Trap Interest Group at the
67th ASMS Meeting on Mass Spectrometry and Allied Topics
Monday June 3, 2019.

Organized by: Glen Jackson and Desmond Kaplan

Presided by: Glen Jackson and Desmond Kaplan

After a brief introduction by Desmond Kaplan, Boone Prentice (Assist. Prof., U. Florida) initiated the lightning-fast presentations with a 5-minute guide to tandem MS and ion/ion chemistry research in his lab. His talk was swiftly followed by graduate student Skippy Sanders (Jennifer Brodbelt's group, UT Austin), who discussed the status and prospects of UVPD. After the presentations, ten minutes of discussion ensued, with interesting insight from audience members who described their companies' business decisions when selecting technologies for commercialization. The take-home message was that decisions to commercialize are driven mostly by financial incentives, and that when major leading research groups request certain capabilities, the vendors are obligated to deliver a product or risk losing contracts to companies who can deliver.

Following the first discussion, graduate student Bojana Opacic (Peter Reilly's group, Washington State U.) gave a brief introduction to the recent developments of digital ion optical technology in their group. Li Ding (Shimadzu) then continued the topic of digital ion traps, which closed with a description of Shimadzu's new commercial product, the MALDImini miniature digital ion trap. Again, a lively discussion followed, with many questions revolving around the simplicity and ruggedness of digital waveform generation and the engineering required to produce stable and flexible digital waves.

The final topic for discussion was miniature/portable ion traps. Mike Ramsay (908 Devices & UNC Chapel Hill) discussed his group's progress on their miniature ion trap, which has tandem MS capability and is designed to be used predominantly by non-expert first responders. Finally, Steve Lammert (PerkinElmer/Torion) discussed the history and status of PerkinElmer's toroidal ion trap GC/MS system. The speakers answered candidly about why certain technologies had not had the success that was once hoped (e.g. miniature ion trap arrays), and the audience were again active in asking questions and taking part in the discussion.

The workshop closed with interest-group business and a request for recommendations for topics for workshops etc. A solicitation for nominees or interest group chair resulted in two new nominees in addition to a nominee from 2018 who is still interested in standing for chair.

Attendance: start ~110

Peak ~130

End~100

Respectfully submitted,

Glen P. Jackson and
Desmond Kaplan