2025 ASMS Native MS Interest Group

Native MS: Strategies for Advancing Protein Characterization in Industry and Academia

Date: Tuesday June 3rd, 2025
Location: Baltimore, MD
Organizers: Kristine F. Parson (FUJIFILM Biotechnologies, Inc.) & Carter Lantz (Texas A&M)

Summary:

This workshop showcased the progress and obstacles around native MS. It emphasized the widespread adoption of native MS technology within industry and academia, with speakers addressing how they're overcoming hurdles to analyze complex and challenging samples. Designed to be informal and inviting, the workshop included material that was aimed at beginners but also included topics that may be valuable to those who are proficient in native MS.

There were four speakers, and each was carefully selected to encompass both academia and industry. Prior to the ASMS event, the presiders (Parson and Lantz) met with each speaker to familiarize them with the event. Each speaker gave ~7 min presentations back-to-back, and the audience was asked to hold questions to the end. The workshop was setup this way to encourage discussion and conversion for the second half of the event. A Mentimeter (menti.com) survey QR code was placed on the screen during the discussion portion of the event to facilitate discussion.

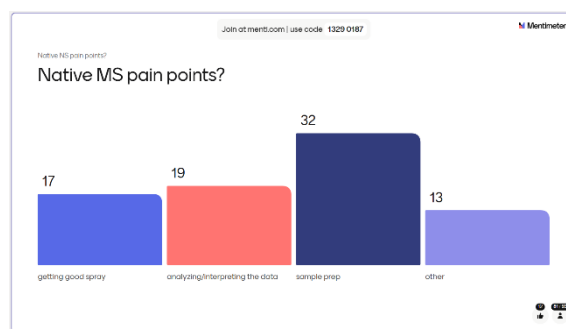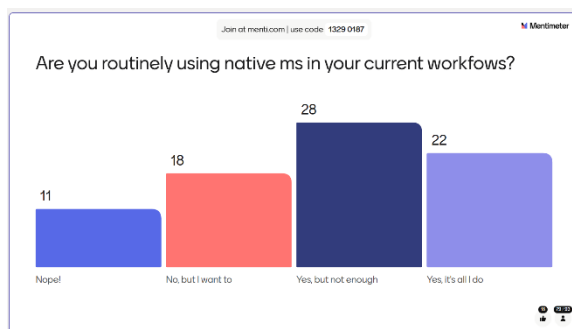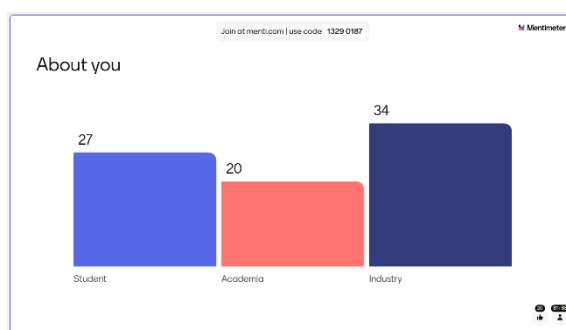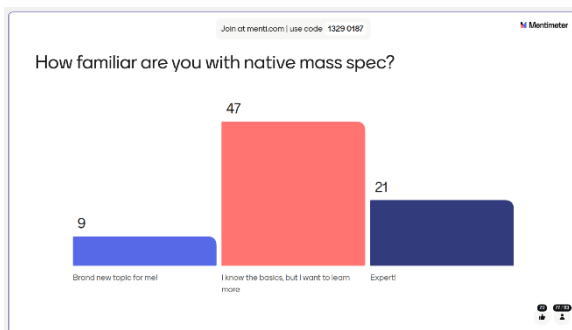Survey results screenshots are included at the end of this summary.

There was a large and very successful discussion session immediately following the panel presentations. Many of the questions revolved around how the methods described could be implemented in industry settings. The audience was very interactive. The presiders (Lantz and Parson) did not feel that we had to drive the audience interaction/discussions.

Workshop Attendance: 85-125 people (93 responded through menti.com)

Speakers:

1. Jim Prell (Professor at the University of Oregon) presented on software tools and best practices for nMS, ion mobility, and nano-DESI tissue imaging of proteins
2. Esther Martin (Associate Principal Scientist, AstraZeneca) discussed native ion mobility-mass spectrometry workflows for biotherapeutics and challenges faced in industry
3. Matt Fischer (Graduate Student in Ying Ge Lab, University of Wisconsin) spoke about native top down and separations of complex mixtures
4. Daniil Ivanov (Graduate Student in Igor Kaltashov Lab, University of Massachusetts Amherst) described charge detection mass spectrometry on a Bruker FT-ICR tackling mAb heterogeneity

Screenshots from the Mentimeter survey results below: