

MS+M_23 Conference Schedule

All activities will be held in the DeLuca Forum unless otherwise noted.

MONDAY, OCTOBER 2

- 4:00–6:30 pm Registration & Poster Hanging
- 6:30–7:15 pm **John Rubinstein**, University of Toronto
V-ATPase: The birth, life, death, and re-birth of a proton pump
- 7:30–9:30 pm Reception and Poster Session

TUESDAY, OCTOBER 3

MORNING SESSION 1: Soft Landing 1

- 9:00–9:25 am **Liz Hecht**, Consultant (formerly of Genentech)
Soft landing charge reduced proteins at atmosphere
- 9:30–9:55 am **Stephan Rauschenbach**, University of Oxford
Cryo-EM atomic structure determination from macromolecular samples fabricated by native electrospray ion beam deposition (ESIBD)
- 10:00–10:25 am **Michael Westphall**, University of Wisconsin-Madison
Cryogenic soft landing improves structural preservation of protein complexes
- 10:30–11:00 am Break

MORNING SESSION 2: Native MS 1

- 11:00–11:25 am **Carla Schmidt**, Johannes Gutenberg University Mainz
A roadmap for SNARE complex assembly: Mass spectrometry uncovers intermediates and off-pathway complexes
- 11:30–11:55 am **Michael Marty**, University of Arizona
Probing energetics of lipid binding to membrane proteins with native MS and mutant cycles
- 12:00–2:00 pm Lunch

AFTERNOON SESSION 1: Cryo-EM 1

- 2:00–2:25 pm **Yifan Cheng**, University of California, San Francisco
Tagging endogenous proteins for structural studies
- 2:30–2:55 pm **Liz Wright**, University of Wisconsin-Madison
Recent developments in cryo-electron tomography
- 3:00–3:25 pm **Mimi Ho**, Columbia University
- 3:30–4:00pm Break

AFTERNOON SESSION 2: Structural MS

- 4:00–4:25 pm **Brandon Ruotolo**, University of Michigan
Native cyclic ion mobility-mass spectrometry: From accurate, high-resolution collision cross sections to the collision induced unfolding of polydisperse protein complexes
- 4:30–4:55 pm **Charlotte Uetrecht**, University of Siegen
Flying viruses - mass spectrometry meets X-rays
- 5:00–5:25 pm **Ruwan Kurulugama**, Agilent
Microdroplet enzyme digestion, collision induced unfolding and drift tube and SLIM based ion mobility-mass spectrometry for intact protein analysis
- 5:30–6:00 pm Break

AFTERNOON SESSION 3: Scanning Probe Microscopy

- 6:00–6:25 pm **Wyatt Behn**, McGill University
Single electron spectroscopy and ultrafast microscopy by AFM
- 6:30–6:55 pm **Simon Scheuring**, Cornell University
A pentameric TRPV3 channel with a dilated pore
- 7:00–7:25 pm **Meni Wanunu**, Northeastern University
Single-molecule proteomics: probing conformational changes, unfolding, and flossing proteins through pores

EVENING

- 7:30–10:00 pm **Dinner with Billiards, Bowling & Games**
Union South Sett Recreation, 1308 W Dayton St; across the street from the Discovery Building

WEDNESDAY, OCTOBER 4

MORNING SESSION 1: Soft Landing 2

- 9:00–9:25 am **Kelvin Anggara**, Max Planck Institute
Single molecule analysis of biomolecules by direct imaging
- 9:30–9:55 am **Hannah Ochner**, Cambridge University
Low-energy electron holography as a technique for imaging biomolecules: Theory and experiment
- 10:00–10:25 am **Zheng Ouyang**, Tsinghua University
Enabling capability of mass spectrometry technologies for structural analysis
- 10:30–10:55 am Break

MORNING SESSION 2: Emerging Technologies

- 11:00–11:25 am **Justin Benesch**, University of Oxford
Super-resolved mass photometry reveals the dissociation pathways of individual molecules
- 11:30–11:55 am **Albert Konijnenberg**, Thermo Fisher Scientific
Direct single molecule imaging on a modified Q Exactive UHMR with electron holography capability
- 12:00–12:25 pm **Randall Goldsmith**, University of Wisconsin Madison
Label-free observation of individual solution phase molecules and assessment of conformation using optical microcavities
- 12:30–3:30 pm Lunch

AFTERNOON SESSION 1: Native MS 2

- 3:30–3:45 pm **Vicki Wysocki**, The Ohio State University
Electrons and surfaces: Complementary methods for characterizing protein complexes
- 3:45–4:00 pm **Albert Heck**, Utrecht University
Single molecule mass analysis: a next frontier in studying protein assemblies
- 4:00–4:25 pm **Perdita Barran**, University of Manchester
The use of mass spectrometry, light and landing to measure conformationally dynamic proteins
- 4:30–4:55 pm Break

AFTERNOON SESSION 3: Student Travel Award Talks

- 5:00–5:10 pm **Caroline Brown**, Yale University
Capturing membrane snapshots: A quantitative proteome-wide guide for high-throughput spatially-resolved extraction of membrane proteins for structural/functional studies on native membranes

- 5:15–5:25 pm **Niklas Geue**, The University of Manchester
Lessons from native ion mobility mass spectrometry applied to supramolecular complexes
- 5:30–5:40 pm **Marko Grabarics**, University of Oxford
Real-space imaging of the atomic structure and conformation of individual cyclic oligosaccharides with noncontact atomic force microscopy
- 5:45–5:55 pm **Virginia James**, University of Texas at Austin
Native mass spectrometry reveals binding interactions of SARS-CoV-2 PLpro with inhibitors and cellular targets
- 6:00–6:10 pm **Leon (Yu-Fu) Lin**, The Ohio State University
Native mass spectrometry on a modified timsTOF Pro
- 6:15–6:25 pm **Dominik Saman**, University of Oxford
Unveiling the complex dynamics of HspB1 and HspB5 assemblies through native mass spectrometry and mass photometry

EVENING

- 6:30–9:30 pm **Dinner and Poster Session Continues**
Posters will be removed after the session

THURSDAY, OCTOBER 5

A luggage room will be available for those needing to store their bags.

MORNING SESSION 1: Cryo-EM 2

- 9:00–9:25 am **David Taylor**, University of Texas at Austin
Unraveling native structures using shotgun cryo-EM
- 9:30–9:55 am **Melanie Ohi**, University of Michigan
Structural analysis of caveola
- 10:00–10:25 am **Tim Grant**, Morgridge Institute for Research
New cryo-EM methodologies for difficult samples
- 10:30–10:55 am Break

MORNING SESSION 2: Contributed Talks

- 11:00–11:25 am **Mazdak Taghioskouj**, Trace Matters Scientific
Flexible ion guides for integrating mass spectrometry and microscopy platforms
- 11:30–11:55 am **Boris Krichel**, University of Wisconsin-Madison
A comprehensive perspective of AMPK activation: phosphorylation, small molecule binding and isoform specific allostery analyzed with native and top-down MS
- 12:00 Adjourn