

# Top-Down Proteomics at ASMS 2020



**Monday June 1, 2020** (note: all times CDT)

Presentation

Oral

Ion mobility spectra of fragment ions produced from native top-down sequence analysis reflect type and sequence of the fragment ions

8:30AM-8:50AM Jun 1

Presentation

Oral

Highly Multiplexed Individual Ion Mass Spectrometry in an Orbitrap for Both Native and Top-Down MS

9:10AM-9:30AM Jun 1

Presentation

Poster

MP 149 Top-down LC/MS Analysis of Cardiac Troponin I Proteoforms from Clinical Blood Samples of Acute Myocardial Infarction

10:30AM-2:30PM Jun 1

Presentation

Poster

MP 387 Disentangling distorted distributions - improving z' ion assignment confidence and structural characterization of proteins by top-down MALDI-in-source decay MS

10:30AM-2:30PM Jun 1

Presentation

Poster

MP 518 An Integrated Top-Down and Bottom-Up Strategy for Analysis of Bromodomain-containing Protein 4 (BRD4) Mediated Histone Post-Translation Modifications

10:30AM-2:30PM Jun 1

Presentation

Poster

MP 525 Automating the characterization of ambiguity in proteoform identifications with discovery top-down proteomics

10:30AM-2:30PM Jun 1

Presentation

Poster

MP 548 High Sensitivity Top-Down Proteomics of Single Muscle Fibers

10:30AM-2:30PM Jun 1

Presentation

Oral

Quantification of thermal stability of intact proteoforms using quantitative top-down proteomics

3:30PM-3:50PM Jun 1

Presentation

Oral

Quantitative Top-Down Proteomics reveals the Distinct Substrate Specificity of p300 and CBP

3:50PM-4:10PM Jun 1

**Tuesday June 2, 2020**

Presentation

Oral

Trace level top down proteomics analysis: application to the study of Gainsborough drawings

8:50AM-9:10AM Jun 2

Presentation

Oral

A combination of top-down and cross-linking mass spectrometry illuminates the pairing of PSII-LHCII supercomplexes across thylakoid membranes

8:50AM-9:10AM Jun 2

Live Webinar

Workshop Tues-01 Proteoform Identification and Quantification using TopPIC Suite

10:00AM-11:30AM Jun 2

Presentation

Oral

Cell and Proteoform-Specific Top-Down Proteomics Reveals Biomarkers of Acute Liver Rejection

3:10PM-3:30PM Jun 2

Presentation

Oral

How unique is our plasma proteome? Answers from top-down native mass spectrometry

3:50PM-4:10PM Jun 2

## Wednesday June 3, 2020

Presentation

Oral

Characterizing Large Heart Proteoforms (Up to 223 kDa) by Novel Top-down Proteomic Strategy

8:50AM-9:10AM Jun 3

Presentation

Oral

FLASHDeconv: ultrafast high-quality deconvolution for top-down MS1/MS2 spectra

9:10AM-9:30AM Jun 3

Presentation

Oral

Application of cylindrical FAIMS for top-down identification of proteins directly from bacterial colonies by LESA MS

9:30AM-9:50AM Jun 3

Presentation

Oral

Predicting electrophoretic mobility of proteoforms for large-scale top-down proteomics

9:50AM-10:10AM Jun 3

Presentation

Oral

Denatured/Native Capillary Electrophoresis and Top-Down Proteomics for In-depth Proteoform Characterization

10:10AM-10:30AM Jun 3

Presentation

Poster

WP 025 Quantitative Top-Down Proteomics of Human Tears Reveals Proteoform Changes Related to Age

10:30AM-2:30PM Jun 3

Presentation

Poster

WP 156 Top-down Proteomics Reveals Alterations in Liver Protein Profiles of C57Bl/6 Mice Exposed to Traffic-generated Emissions and a High Fat Diet

10:30AM-2:30PM Jun 3

Presentation

Poster

WP 282 EnvCNN: A Convolutional Neural Network Model for Evaluating Isotopomer Envelopes in Top-Down Mass-spectral Deconvolution

10:30AM-2:30PM Jun 3

Presentation

Poster

WP 374 Towards native top-down sequence analysis of protein isomers using tandem-trapped ion mobility spectrometry / mass spectrometry (Tandem-TIMS/MS)

10:30AM-2:30PM Jun 3

Presentation

Poster

WP 378 At-line profiling degradation products of peptide drug teriparatide by advanced robotics coupled with ion mobility mass spectrometry: A top-down approach

10:30AM-2:30PM Jun 3

Presentation

Poster

WP 501 Quantitative Top Down Proteomics Reveals Acetyltransferase Inhibition has differential effects on Histone Acetylation Dependent on Cellular Physiological State

10:30AM-2:30PM Jun 3

Presentation

Poster

WP 510 Label-free quantification for top-down two-dimensional mass spectrometry

10:30AM-2:30PM Jun 3

Presentation

Poster

WP 538 Laser Ablation Microsampling for Top-Down Mass Spectrometry

10:30AM-2:30PM Jun 3

Presentation

Poster

WP 539 Towards an optimized sample preparation protocol for denaturing top-down proteomics of complex proteomes

10:30AM-2:30PM Jun 3

Presentation

Poster

WP 545 MASH Explorer, A Universal and Comprehensive Software for Top-down Proteomics Empowered by Machine Learning Methods

10:30AM-2:30PM Jun 3

Presentation

Poster

WP 547 Top-Down Proteomics of Myofilaments in Neonatal Swine Hearts throughout Development

10:30AM-2:30PM Jun 3

Presentation

Poster

WP 582 Quantitative top down proteoform analysis of EZH2 inhibition in renal medullary carcinoma cells reveals compensatory mechanism for combinatorial therapy

10:30AM-2:30PM Jun 3

Live Webinar

Workshop Wed-14 Top Down Proteomics and Top Down Mass Spectrometry: Adoption and Expanding Applications

12:00PM-1:30PM Jun 3

Presentation

Oral

Quantitative Top-down MS Analysis of Serum Autoantibody Repertoire in Systemic Lupus Erythematosus (SLE)

3:30PM-3:50PM Jun 3

Live Webinar

Biemann Medal Lecture - Ying Ge Top-Down Proteomics and Applications to Cardiac Diseases

2:00pm - 3:00pm Jun 03

**Thursday June 4, 2020**

Presentation

Poster

Top-down high-resolution mass spectrometry of larger membrane proteins: precise subunit mass analysis under conditions that eliminate non-covalent interactions

9:30AM-9:50AM Jun 4

Presentation

Poster

ThP 005 FAIMS Dramatically Increases Proteome Coverage for Top-Down Discovery and Biomarker Experiments

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 163 Switch of dissociation channels in native top-down MS of protein complexes and its implications for topology analysis

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 292 A proteogenomics pipeline for identifying sample-specific proteoforms by combining RNA-Seq and top-down mass spectrometry

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 436 Top-down proteomics in plant biology: large-scale delineation of proteoforms in Arabidopsis leaf tissue

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 544 Improving CZE-MS/MS for both denaturing and native top-down proteomics

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 545 Large-scale top-down proteomics of human colorectal cancer cell lines using multidimensional separation coupled to capillary zone electrophoresis-tandem mass spectrometry

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 546 Assessing Regional Heterogeneity of Sarcomeric Proteoforms in Human Hearts by Top-Down Proteomics

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 547 Capillary isoelectric focusing-tandem mass spectrometry for large-scale qualitative and quantitative top-down proteomics

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 548 Top-down analysis of intact antibodies under denatured and native conditions on the omnitrap platform coupled to an Orbitrap Mass Spectrometer

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 549 Real-time Instrument Control Improves Precursor Selection and Increases Proteoform Identifications in Top-down Mass Spectrometry

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 550 A Novel Top-Down Proteomics Method Empowered by Photocleavable Surfactant and Hydrophilic Interaction Chromatography for Comprehensive Analysis of Phospholamban Proteoforms

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 551 Efficient phosphoprotein enrichment using novel Ti-IMAC magnetic microspheres for top-down proteomics

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 552 Optimized RAS top-down proteomic assay reveals expanded proteoform landscape in malignant cells

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 553 Protein-grade FTMS Isotopic Simulator to guide the experiment design and data analysis in top-down proteomics

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 554 Proteoform profile of human protamines associated with fertility: a top-down approach

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 555 Passive Elution of Proteins from Polyacrylamide Gels as Intact Species for Top-Down Proteomics

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 557 Optimization of Quantitative Top-Down Proteomics in Complex Samples using Protein-Level Tandem Mass Tag (TMT) Labeling

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 559 Top-Down Nanoproteomics Enables Comprehensive Analysis of Low-Abundance Cardiac Troponin I Proteoforms from Human Serum

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 560 Quantitative top-down proteomics identifies novel histone H2A-variant specific C-terminal proteolysis events

10:30AM-2:30PM Jun 4

Presentation

Poster

ThP 561 Selective N-terminal mass defect labelling of proteins for improved de novo top-down sequencing

10:30AM-2:30PM Jun 4

Presentation

Oral

Native Top-Down Mass Spectrometry of Amyloid Proteins and Their Interaction with the Aggregation Inhibiting Compound CLR01

2:50PM-3:10PM Jun 4