

# MSB 2021 Program At-A-Glance

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**\*\*The Final Scientific Program and Book of Abstracts are located in the Resources tab in the top navigation bar of the conference platform\*\***

All times EDT [CEST = EDT + 6 h, PDT = EDT - 3 h]

## Monday, July 12, 2021

8:30-8:55am	<b>Opening Ceremony</b>	
8:55-9:30am	Introduction: Alexander Ivanov, Barnett Institute of Chemical and Biological Analysis, Northeastern University, USA <b>Founder's Lecture: Microscale Bioseparations and Analysis: A Look into the Past and the Future.</b> Barry L. Karger, Northeastern University, Boston, MA, USA	
9:30-10:10am	Introduction: Alexander Ivanov, Barnett Institute of Chemical and Biological Analysis, Northeastern University, USA <b>PLENARY 2: Robust and In-depth Work Flows for Single Cell and Clinical Proteomics.</b> Matthias Mann, Max Planck Institute of Biochemistry, Planegg, GERMANY	
10:10-10:25am	<b>eScience Café Break with Sponsored Videoclip</b>	
10:25-11:55am	<b>Monday Parallel Session 1: Analysis of Pharmaceutical Proteins and New Modalities of Biopharmaceuticals (Session sponsored by SCIEX)</b> Session Introduction: Li Zang, AbbVie Bioresearch Center, Inc. and Maggie A. Ostrowski, SCIEX	<b>Monday Parallel Session 2: Microscale Techniques in Forensic Analysis</b> Session Introduction: Adam Hall, Boston University School of Medicine
10:30-10:55am	<b>(KN) High Sensitivity Charge Variant Assessment of Biopharmaceuticals using ZipChip® Microchip Electrophoresis Coupled to Orbitrap Mass Spectrometry.</b> <i>Jonathan Bones, National Institute for Bioprocessing Research and Training, IRELAND</i>	<b>(KN) Improvements in Sampling and Detection of VOCs Associated with Drugs and Explosives using Capillary Microextraction.</b> <i>Jose Almirall, Florida International University, USA</i>
10:55-11:10am	<b>MicroFlow Size-exclusion Chromatography Enables Enhanced Native Mass Spectrometry of Proteins and Complexes.</b> <i>Andrea Gargano, University of Amsterdam, THE NETHERLANDS</i>	<b>(YS) A Biocompatible Solid Phase Microextraction and Direct Analysis in Real Time Mass Spectrometry Method to Detect Drugs of Abuse in Human Breast Milk.</b> <i>Emily Woods, Baylor University School of Medicine, USA</i>
11:10-11:25am	<b>Expanding Functional Antibody Characterization to Proteoforms: Affinity CE-MS to Study Antibody – FcRs Interactions.</b> <i>Elena Dominguez-Vega, Leiden University Medical Center, THE NETHERLANDS</i>	<b>(YS) Performance Evaluation of a Commercial Handheld Raman-spectrometer for Cocaine Detection in Street Samples.</b> <i>Joshka Verduin, Forensic Laboratory Dutch National Police Unit Amsterdam, University of Amsterdam, Amsterdam, THE NETHERLANDS</i>
11:25-11:40am	<b>(YS) Rapid Analysis of a Cysteine-linked Antibody-drug Conjugate by Liquid Chromatography Coupled to Fourier Transform Ion Cyclotron Resonance Mass Spectrometry.</b> <i>Eli Larson, University of Wisconsin-Madison, USA</i>	<b>(YS) Porous Thin Film: An Efficient Sampling Device and a Single use Electrospray Substrate for Rapid Extraction from Biofluid Spots and Direct Analysis with Mass Spectrometry.</b> <i>Ali Azizi, Memorial University of Newfoundland, CANADA</i>
11:40-11:55am	<b>(YS) Characterization of Bispecific T Cell Engager (BiTE) Antibody Fragmentation Sites using Capillary Electrophoresis Coupled to Mass Spectrometry (CE-MS).</b> Arnik Shah, Amgen Inc., USA	<b>Nanomanipulation-coupled to Nanospray Mass Spectrometry for the Analysis of Ultra-trace Forensic and Single Cell Chemical Determination.</b> <i>Guido Verbeck, University of North Texas, USA</i>

11:55am-12:10pm	<b>eScience Café Break with Sponsored Videoclip</b>	
12:10-12:55pm	<b>Monday Free Tutorial sponsored by AES Life Sciences</b> <b>Capillary Iso-Electric Focusing (CIEF) – Prime Methodology for Protein Characterization</b> <i>Presented by Gerard Rozing, Consultant with Advanced Electrophoresis Solutions</i>	<b>Monday Free eScience Café Seminar sponsored by PHENOMENEX</b> <b>Combining the Power of a Core-Shell Particles and Advanced Stationary Phase Selectivity to Improve Micro and Nano Flow Separations</b> <i>Presented by Jason A. Anspach, Phenomenex</i>
12:55-2:10pm	<b>Networking and Building Connections</b> <b>Vendor Booths in the Exhibit Hall</b> <b>Poster Session and Poster Pitches in the Poster Hall</b>	
2:10-2:50pm	Introduction: Kimberly Hamad-Schifferli, University of Massachusetts Boston, USA <b>PLENARY 3: Electrophoretic Cytometry: Single-cell and Sub-cellular Targeted Proteomics using Microfluidic Design.</b> <i>Amy Herr, University of California, Berkeley, CA, USA</i>	
2:50-4:35pm	<b>Monday Parallel Session-3: New Developments in Omics Technologies</b> Session Introduction: Rawi Ramautar, Leiden University	<b>Monday Parallel Session-4: Biomarker Discovery and Validation (Session sponsored by Agilent)</b> Session Introduction: James L. Edwards, Saint Louis University
2:55-3:20pm	<b>(KN) On-line Preconcentration by Solid-phase Extraction Capillary Electrophoresis-mass Spectrometry: A Simple Three-dimensional Tool for High-throughput and Sensitive Analysis of Biomarkers in Omics Research.</b> <i>Fernando Benavente, University of Barcelona, SPAIN</i>	<b>(KN) Development of Automated Multiplexed Assays for Cancer-related Proteins in Tumor Tissue Samples using Immuno-mass Spectrometry.</b> <i>Christoph Borchers, McGill University, CANADA</i>
3:20-3:35pm	<b>(YS) Profiling Acidic Metabolites by Capillary Electrophoresis-Mass Spectrometry in Low Numbers of Mammalian Cells using a Novel Chemical Derivatization Approach.</b> <i>Marlien van Mever, Leiden University, THE NETHERLANDS</i>	<b>Oxylipins as Early Markers of Cardiometabolic Health in Young Adults.</b> <i>Isabelle Kohler, Vrije Universiteit, THE NETHERLANDS</i>
3:35-3:50pm	<b>(YS) Ultrasensitive Capillary Electrophoresis Ion Mobility Mass Spectrometry for Targeted Peptidomics of Mouse Brain Tissue Regions.</b> <i>Kellen DeLaney, University of Maryland, USA</i>	<b>A Point-of-Care Suitable Assay for MicroRNA Detection and Quantitation using Liquid Biopsy Samples.</b> <i>Anastassia Kanavarioti, Yenos Analytical LLC, USA</i>
3:50-4:05pm	<b>(YS) Quantitative Nanoflow LC-MS/MS Enables High-dimension Chemoproteomic 'Library versus Library' Screening for Inhibitor Discovery against Endogenous DUB as an Emergent Target Class.</b> <i>Wai Cheung Chan, Harvard University, USA</i>	<b>(YS) Finding the Sweet Spot of Prostate-specific Antigen.</b> <i>Guinevere S.M. Lageveen-Kammeijer, Leiden University Medical Center, THE NETHERLANDS</i>
4:05-4:20pm	<b>(YS) Data-independent Acquisition for Ultrasensitive Proteomics using Capillary Electrophoresis-electrospray Ionization High-resolution Mass Spectrometry.</b> <i>Bowen Shen, University of Maryland, USA</i>	<b>Deep Steroidome Annotation Enables Fine Mechanistic Insights in Toxicology Risk Assessment.</b> <i>Víctor González-Ruiz, University of Geneva, SWITZERLAND</i>
4:20-4:35pm	<b>(YS) Large Scale Top-down Proteomics on Arabidopsis Leaf Proteins and Chloroplast.</b> <i>Qianjie Wang, Michigan State University, USA</i>	<b>MALDI MS Imaging of Carbon-carbon Double Bond Positional Isomers of Lipids Enabled by Off-line Reaction with Ozone.</b> <i>Antonín Bednařík, Masaryk University, CZECH REPUBLIC</i>
4:35-4:50pm	<b>eScience Café Break with Sponsored Videoclip</b>	
4:50-6:05pm	<b>Monday Parallel Session-5: Analysis of the Microbiome</b> Session Introduction: Liangliang Sun, Michigan State University	<b>Monday Parallel Session-6: Advancements in Ion Mobility Spectrometry and Gas Phase Separation-based Analytical Techniques (Session sponsored by MOBILion Systems, Inc.)</b> Session Introduction: Susan E. Abbatiello, Northeastern University
4:55-5:20pm	<b>(KN) Opportunities for Analytical Chemists in Human Microbiome Research.</b> <i>A. Sloan Devlin, Harvard Medical School, USA</i>	<b>(KN) Increasing the Throughput, Specificity and Confidence in Omic Analyses using Multidimensional Measurements.</b> <i>Erin Baker, North Carolina State University, USA</i>
5:20-5:35pm	<b>Electrophoretic Fractionation of Intact Microbes: A Preparative Method to Enhance Detection of Species within Complex Communities in Metagenomic Sequencing.</b> <i>Bonnie Jaskowski Hugel, University of Notre Dame, USA</i>	<b>(YS) Establishing Native Trapped Ion Mobility Spectrometry of Biomolecules: How to Prevent System Potentials from Altering Protein Conformations.</b> <i>Hany Majeed, Vrije Universiteit Amsterdam, THE NETHERLANDS</i>

5:35-5:50pm	<b>Glycan Labeling-based Chemical Proteomics Strategy Enables Host and Pathogen Temporal Interaction Profiling (HAPTIP) in Nanoscale.</b> <i>Ying Zhang, Fudan University, CHINA</i>	<b>(YS) Development of a Portable Measuring Device for the Detection of Pollutants in Water on the Basis of Nano-liquid Chromatography and Ion Mobility Spectrometry.</b> <i>Tobias Werres, Institut für Energie- und Umwelttechnik e. V. and Leibniz University Hannover, GERMANY</i>
5:50-6:05pm		<b>(YS) PRM-LIVE with Trapped Ion Mobility Spectrometry and Its Application in Selectivity Profiling of Kinase Inhibitors.</b> <i>He Zhu, Dana-Farber Cancer Institute Brigham and Women's Hospital and Harvard Medical School, USA</i>
<b>Tuesday, July 13, 2021</b>		
8:25-8:45am	<b>Tuesday Award Session for SCIEX Microscale Separations Innovations Medal and Award for Current and Breakthrough Research in the Field of Electrodriven Separations</b> Session Introduction: Jarrod Marto, Dana-Farber Cancer Institute, Brigham and Women's Hospital, Harvard Medical School, USA and Jörg Kutter, President of the Society for Microscale Separations and Bioanalysis, University of Copenhagen, DENMARK	
8:45-9:20am	<b>PLENARY 4 - Biosignatures, Electrophoresis, and the Search for Life Beyond Earth.</b> <i>Peter Willis, NASA Jet Propulsion Lab, CA Inst. of Technology, Pasadena, CA, USA</i>	
9:20-9:25am	<b>eScience Café Break with Sponsored Videoclip</b>	
9:25-10:55am	<b>Tuesday Parallel Session 7: Microfluidic Chip-based Electrophoresis. Fundamentals and Novel Applications</b> Session Introduction: Chengxi Cao, Shanghai Jiao Tong University	<b>Tuesday Parallel Session 8: Microsampling and Microscale Sample Preparation Techniques</b> Session Introduction: Tomasz Bączek, Professor, Medical University of Gdańsk
9:30-9:55am	<b>(KN) Surface Plasmon Resonance Imaging the Fingerprints via Chemical Composition.</b> <i>Yi Chen, Institute of Chemistry CAS, CHINA</i>	<b>(KN) Diffusion-based Separation and Extraction using Bidirectional Electroosmotic Flow.</b> <i>Moran Bercovici, Technion, ISRAEL</i>
9:55-10:10am	<b>Multiplex Detection of SARS-CoV-2 Variants of Concerns using ARMS-PCR on LabChip® GX Touch™ Nucleic Acid Analyzer.</b> <i>Zhi-xiang Lu, PerkinElmer Inc., USA</i>	<b>(YS) New Magnetic Bead-based Strategies for Extracellular Vesicle Isolation: Towards Microfluidic Droplet Operation.</b> <i>Marco Morani, Institut Galien Paris Saclay, FRANCE</i>
10:10-10:25am	<b>Asymmetric Peak Behaviour in Free-flow Counterflow Gradient Focusing.</b> <i>Matthew Courtney, University of Waterloo, CANADA</i>	<b>(YS) Extracellular Fluid Collection, Neurotransmitter, and Proteome Analysis of Drosophila Melanogaster Brain Tissue with Low-flow Push-pull Perfusion.</b> <i>Patrick Fisher, University of Illinois at Chicago, USA</i>
10:25-10:40am	<b>(YS) Micro-scale Concentration by Leading Electrolyte-free Conductive Wall Isotachophoresis.</b> <i>Steven Doria, Texas A&amp;M University, USA</i>	<b>High-throughput Solid Phase Microextraction Method for Determination of Plasma Protein Binding.</b> <i>M. James Ross, MilliporeSigma, USA</i>
10:40-10:55am	<b>Non Aqueous Capillary Electrophoresis on Thiolene-based Microfluidic Devices with an Integrated Electrospray Interface.</b> <i>Jörg Kutter, University of Copenhagen, DENMARK</i>	<b>(YS) Combining In Vivo Microsampling with Capillary Electrophoresis High-Resolution Mass Spectrometry (CE-HRMS) Enabled Proteo-metabolomic Single-cell Systems Biology.</b> <i>Jie Li, University of Maryland College Park, USA</i>
10:55-11:00am	<b>eScience Café Break with Sponsored Videoclip</b>	
11:00am-12:30pm	<b>Tuesday Parallel Session 9: Single-Cell Analysis (Session sponsored by Bruker)</b> Session Introduction: Peter Nemes, University of Maryland, College Park and Tharan Srikumar, Bruker	<b>Tuesday Parallel Session 10: Biosensors and Bioaffinity Assays: Design and Development</b> Session Introduction: Hadley D. Sikes, Massachusetts Institute of Technology
11:05-11:30am	<b>(KN) Improved NanoLC Separations for Single-Cell Proteomics.</b> <i>Ryan Kelly, Brigham Young University, USA</i>	<b>(KN) Skin-interfaced Wearable Biosensors.</b> <i>Wei Gao, California Institute of Technology, USA</i>
11:30-11:45am	<b>High-throughput and High-efficiency Sample Preparation for Single-cell Proteomics using a Nested Nanowell Chip.</b> <i>Ying Zhu, Pacific Northwest National Laboratory, USA</i>	<b>Comparative Quantitative Analysis of Plasmonic Polymer Nanocomposites as Reliable Optical Sensing Platforms.</b> <i>Swarnapali De Silva Indrasekara, University of North Carolina Charlotte, USA</i>
11:45am-12:00pm	<b>(YS) Efficient Single Cell Proteomics Sample Preparation at High-throughput with Remarkable Sensitivity.</b> <i>Claudia Ctordecka, IMP, AUSTRIA</i>	<b>(YS) Comprehensive Online 2D-LC/MS Platform for Enzymatic Inhibitor Screening Assay: A Study of Conditions.</b> <i>Ananda Ferreira Pires, University of São Paulo, BRAZIL</i>
12:00-12:15pm	<b>(YS) Improved Sensitivity in Proteomic Profiling of Limited Samples using Novel MicroSPE-based Sample Preparation, Ultra-low Flow LC-MS, and FAIMS Interface.</b> <i>Michal Gregus, Barnett Institute of Chemical and Biological Analysis, Northeastern University, USA</i>	<b>(YS) Carbamazepine Detection in Whole Human Saliva using an Electrochemical Sensor with Stencil-printed Electrodes.</b> <i>Lael Wentland, Oregon State University, USA</i>

12:15-12:30pm	<b>(YS) Comparison of Photoactivatable Crosslinkers for In-gel Single-cell Immunoblotting.</b> <i>Kristine Tan, University of California, Berkeley, USA</i>	<b>Towards Rethinking Nanosafety: Quantitative Assessment of the Nanomaterial Metabolite Corona by Capillary Electrophoresis-Mass Spectrometry.</b> <i>Wei Zhang, Leiden University, THE NETHERLANDS</i>
12:30-12:35pm	<b>eScience Café Break with Sponsored Videoclip</b>	
12:35-1:20pm	<b>Tuesday Free eScience Café Seminar sponsored by VICI</b> <b>Microscale Separations at Nanoscale</b> <i>Presented by Jennifer Copeland, VICI</i>	<b>Tuesday Free eScience Café Seminar sponsored by MOBILion Systems</b> <b>Is Structures for Lossless Ion Manipulation (SLIM) a One Trick Pony or a One Stop Shop for Ion Mobility-Mass Spectrometry Analysis?</b> <i>Presented by Daniel DeBord, MOBILion Systems, Inc.</i>
1:20-2:35pm	<b>Networking and Building Connections</b> <b>Vendor Booths in the Exhibit Hall</b> <b>Poster Session and Poster Pitches in the Poster Hall</b>	
2:35-3:15pm	Session Introduction: Kimberly Hamad-Schifferli, University of Massachusetts Boston, USA <b>PLENARY 5: Organoids Microphysiological Analysis Platforms (MAP) and Exosome Detection via the Ultrafast-isolation System (EXODUS)</b> <i>Luke P. Lee, Harvard Medical School, Brigham Women's Hospital, Boston, MA, USA</i>	
3:15-4:45pm	<b>Tuesday Parallel Session 11: Microscale Techniques in Biopharmaceutical R&amp;D</b> Session Introduction: Shujia (Daniel) Dai, Sanofi US	<b>Tuesday Parallel Session 12: New Applications and Developments in Electrodriven Separations</b> Session Introduction: Myriam Taverna, University Paris Saclay, Institut Galien Paris Saclay
3:20-3:45pm	<b>(KN) Micro-scale Technologies Empower Drug Discovery and Development.</b> <i>Katherine Klinger, Sanofi R&amp;D, USA</i>	<b>(KN) Liquid Extraction Surface Analysis Coupled with Capillary Electrophoresis.</b> <i>Doo Soo Chung, Seoul National University, KOREA</i>
3:45-4:00pm	<b>(YS) Development of a Low-cost Nano ESI-MS Microfluidic Chip for Effective Mixtures and Detection of Biological Samples.</b> <i>Jéssica Freire Feitor, University of São Paulo, BRAZIL</i>	<b>Improved Biopharmaceutical Characterization Workflows for Next-Generation mAb-based Therapeutics.</b> <i>Jose-Luis Gallegos-Perez, SCIEEX, USA</i>
4:00-4:15pm	Pause	<b>Rapid Serum Lipid Profiling by Multisegment Injection-nonaqueous Capillary Electrophoresis-Mass Spectrometry: Expanding Coverage Beyond Hydrophilic Metabolites.</b> <i>Philip Britz-Mckibbin, McMaster University, CANADA</i>
4:15-4:30pm	<b>(YS) Mono- and Disaccharide Monitoring in Cell Culture Medium by Capillary and Microchip Electrophoresis.</b> <i>Debbie van der Burg, Kantisto, THE NETHERLANDS</i>	<b>Capillary Zone Electrophoresis Top-Down Proteomics for In-depth Proteoform Characterization.</b> <i>Kevin Jooss, Northwestern University, USA</i>
4:30-4:45pm	<b>Capillary Gel Electrophoresis Characterization of New Modality Protein Therapeutics.</b> <i>Andras Guttman, University of Debrecen, HUNGARY</i>	<b>Capillary Electrophoresis Connected with Inorganic as well as Organic Mass Spectrometry for Separation of Enantiomers.</b> <i>Jan Petr, Palacky University Olomouc, CZECH REPUBLIC</i>
4:45-4:55pm	<b>eScience Café Break with Sponsored Videoclip</b>	
4:55-6:25pm	<b>Tuesday Parallel Session 13: Innovations in Microfluidic Systems</b> Session Introduction: Elain Fu, Oregon State University	<b>Tuesday Parallel Session 14: Advanced Instruments and Instrument Components</b> Session Introduction: Beatrix Ueberheide, New York University Langone Health
5:00-5:25pm	<b>(KN) Paper-based Microfluidic Biosensors for Viral and Serological Testing of COVID-19.</b> <i>Xinyu Liu, University of Toronto, CANADA</i>	<b>(KN) Towards Highly Reproducible, Time- and Cost-efficient Proteomics Sample Preparation of Larger Sample Cohorts.</b> <i>Albert Sickmann, Leibniz Institute for Analytical Sciences, GERMANY</i>
5:25-5:40pm	<b>(YS) An Immunoglobulin Bioassay Implemented in a Laser Patterned Multilamellar Device Comprised of Dissimilar Functional Materials.</b> <i>Saichon Sumantakul, Oregon State University, USA</i>	<b>Metal Ion Leaching of Common HPLC Hardware Substrates when Exposed to Pure Water, Methanol, and Acetonitrile and Its Impact on Separations.</b> <i>Jesse Bischof, SilcoTek Corporation, USA</i>
5:40-5:55pm	<b>(YS) Unraveling the Protective Mechanism of Biofluid Thin Films for use in Microsampling in Remote Settings.</b> <i>Benjamin Frey, The Ohio State University, USA</i>	<b>(YS) Orthogonal Solid-Phase Extraction-Contained-Electrospray Ionization Mass Spectrometry for Complex Lipid Mixture Analysis.</b> <i>Benjamin Burris, The Ohio State University, USA</i>
5:55-6:10pm	<b>Two-capillary Nanoflow Sheath Liquid Interface for CE-MS based on a 3D-printed Device.</b> <i>Christian Neusûß, Aalen University, GERMANY</i>	<b>Spray-capillary: A Novel Device for Microsampling and Online Capillary Electrophoresis Mass Spectrometry Analysis.</b> <i>Si Wu, University of Oklahoma, USA</i>

6:10-6:25pm	<b>(YS) Two in One: In Situ Hydrogel Formation in Microfluidics for One-step Competitive Assays.</b> <i>Marco Rocca, IBM Research Zurich, SWITZERLAND</i>	<b>Vibrating Sharp Edge Spray Ionization for Efficient and Flexible CE-MS Interfacing.</b> <i>Lisa Holland, West Virginia University, USA</i>
<b>Wednesday, July 14, 2021</b>		
8:40-9:20am	Session Introduction: Jarrod Marto, Dana-Farber Cancer Institute, Brigham and Women's Hospital, Harvard Medical School, USA <b>PLENARY 6: Proteomics 3.0: "Space" the New Frontier.</b> <i>John Yates, The Scripps Research Institute, La Jolla, CA, USA</i>	
9:20-9:25am	<b>eScience Café Break with Sponsored Videoclip</b>	
9:25-10:55am	<b>Wednesday Parallel Session 15: Fundamentals of Microscale Separation Techniques</b> Session Introduction: Rob Haselberg, Vrije Universiteit Amsterdam	<b>Wednesday Parallel Session 16: Nanoproteomics Technologies (Session sponsored by VICI)</b> Session Introduction: Yu Lu, McMaster University and Jennifer Copeland, VICI
9:30-9:55am	<b>(KN) Molecular Biophysics: Charge Interactions, CIEF and Affinity CE.</b> <i>Hermann Wätzig, University of Braunschweig, GERMANY</i>	<b>(KN) Integrated Proteomics Sample Preparation for Nanoscale Interactome Profiling.</b> <i>Ruijun Tian, Southern University of Science and Technology (SUSTech), CHINA</i>
9:55-10:10am	<b>(YS) Polyacrylamide Monoliths for Hydrophilic Interaction Chromatography Mass Spectrometry of Intact Proteins.</b> <i>Marta Passamonti, University of Amsterdam, THE NETHERLANDS</i>	<b>Highly Efficient Proteome and Phosphoproteome Capture and Analysis Procedure of Extracellular Vesicles from Urine and Plasma.</b> <i>Anton Iliuk, Tymora Analytical Operations, USA</i>
10:10-10:25am	<b>(YS) Determination of NSAIDS by Capillary Electrophoresis with Capacitively Coupled Contactless Conductivity Detection in Wastewater.</b> <i>Hanan Alatawi, UCC-Analytical Chemistry, IRELAND</i>	<b>Digital Microfluidics for Quantitative and Functional Low Cell Number Proteomics and Multi-omics.</b> <i>Andreas Tholey, Kiel University, GERMANY</i>
10:25-10:40am	<b>Native Capillary Electrophoresis-Mass Spectrometry of the Near 1 MDa Non-covalent GroEL/GroES/Substrate Protein Complexes.</b> <i>Anne-Lise Marie, Northeastern University, USA</i>	<b>Quantification of TMPRSS2-ERG Protein Isoforms in Prostate Cancer by Orthogonal Immunoaffinity-targeted Proteomics Assays.</b> <i>Andrei Drabovich, University of Alberta, CANADA</i>
10:40-10:55am	<b>(YS) Silylated Amino Acids as Hybrid Precursors for Protein-biomimetic Surface Coating: Application to Electrophoresis Separation.</b> <i>Jérémie Gouyon, Université de Montpellier, FRANCE</i>	<b>(YS) High Sensitivity Proteomic Profiling of Limited Samples by Capillary Electrophoresis Coupled to Electrospray Ionization Mass Spectrometry.</b> <i>Kendall Johnson, Barnett Institute of Chemical and Biological Analysis, Northeastern University, USA</i>
10:55-11:00am	<b>eScience Café Break with Sponsored Videoclip</b>	
11:00am-12:30pm	<b>Wednesday Parallel Session 17: Multidimensional Methods in Separations</b> Session Introduction: Andy High, St. Jude Children's Research Hospital	<b>Wednesday Parallel Session 18: Green Techniques for Microscale Sample Preparation and Analysis</b> Session Introduction: Jeongmi Lee, Sungkyunkwan University
11:05-11:30am	<b>(KN) Advanced Separation and Mass Spectrometry Methods to Characterize Host Cell Proteins in Biotherapeutics.</b> <i>Christine Carapito, CNRS Strasbourg University, FRANCE</i>	<b>(KN) Minimization of Organic Solvent Use in Sample Preparation and Extraction.</b> <i>Hian Kee Lee, National University of Singapore, SINGAPORE</i>
11:30-11:45am	<b>(YS) Peptide Mapping of Charge-based Separated Biotherapeutics by CZE-CZE-MS/MS.</b> <i>Johannes Schlecht, Aalen University, GERMANY</i>	<b>(YS) A Simple and Green Microscale Sample Preparation Method for Antibiotics Analysis via in situ Formation of Hydrophobic Eutectic Solvents in Surface Water.</b> <i>Ke Li, Sungkyunkwan University, SOUTH KOREA</i>
11:45am-12:00pm	<b>(YS) Charge-based Fractionation of Blood Plasma-derived Extracellular Vesicle Subpopulations for Proteomics Profiling.</b> <i>Xianyi Su, Northeastern University, USA</i>	<b>Application of Novel Microsampling Approach based on SPME Probes for Monitoring Age and Gender-related Alterations in the Level of Endocannabinoids in Brain Samples.</b> <i>Anna Roszkowska, Medical University of Gdańsk, POLAND</i>
12:00-12:15pm	<b>(YS) Deterministic iDEP Ratchet Devices for High-throughput Organelle Separation.</b> <i>Domin Koh, Center for Applied Structural Discovery (CASD), USA</i>	<b>Sample Preparation Carried out by 3D-printed Sorbents – Opportunities and Challenges in View of Miniaturization and Environmental Impact.</b> <i>Mariusz Belka, Medical University of Gdańsk, POLAND</i>
12:15-12:30pm	<b>(YS) Top-down Proteomics of Complex Protein Samples using Online 2D High-pH/Low-pH Ultra High-pressure Nano-RPLC-MS.</b> <i>Dahang Yu, University of Oklahoma, USA</i>	
12:30-12:35pm	<b>eScience Café Break with Sponsored Videoclip</b>	

12:35-1:20pm	<p><b>Wednesday Free eScience Café Seminar sponsored by BRUKER</b>  <b>Latest Applications of 4D-Proteomics using Trapped Ion Mobility on the timsTOF Pro 2</b>  Presented by Gary Kruppa  <b>4D Proteomics – Dissecting the 3D Structure of Proteins through Ion Mobility Enhanced Crosslinking Mass Spectrometry</b> Presented by Richard Scheltema</p>	<p><b>Wednesday Free eScience Café Seminar sponsored by SCIEX</b>  <b>Comprehensive, 15-min Charge Variant Analysis of Biotherapeutics with a Microfluidic Chip-Based Integrated iCIEF-MS System</b>  Presented by Maggie A. Ostrowski, Intabio, now part of SCIEX</p>
1:20-2:35pm	<p><b>Networking and Building Connections</b>  <b>Vendor Booths in the Exhibit Hall</b>  <b>Poster Session and Poster Pitches in the Poster Hall</b></p>	
2:35-3:15pm	<p>Session Introduction: Alexander Ivanov, Barnett Institute of Chemical and Biological Analysis, Northeastern University, USA  <b>Wednesday Award Session for Thermo Fisher Scientific Early Career Award for Breakthrough Research Advancing the Field of Microscale Separations and Bioanalysis</b>  <b>PLENARY 7: Leveraging Capillary Electrophoresis-Mass Spectrometry for Multi-level Proteomics.</b> <i>Liangliang Sun, Michigan State University, East Lansing, MI, USA</i></p>	
3:15-4:45pm	<p><b>Wednesday Parallel Session 19: Single-Particle Assays: Single Molecules to Single Cells</b>  Session Introduction: Stephen C. Jacobson, Indiana University</p>	<p><b>Wednesday Parallel Session 20: Innovation in Microfluidics, Point-of-care Devices, Precision Medicine</b> Session Introduction: Takehiko Kitamori, National Tsing Hua University</p>
3:20-3:45pm	<p><b>(KN) A Single Cell Mechanical Assay on a Chip.</b>  <i>Noritada Kaji, Kyushu University, JAPAN</i></p>	<p><b>(KN) IL-6 Diagnostic Device for COVID-19 and Its Clinical Validations.</b>  <i>Chao-Min Cheng, National Tsing Hua University, TAIWAN</i></p>
3:45-4:00pm	<p><b>Stiffness of Single Apoptotic Bodies to Inform Brain Cancer Therapeutics.</b>  <i>Joanna Dahl, University of Massachusetts Boston, USA</i></p>	<p><b>(YS) Ultrasensitive and Label-free Fluorescent Nanobiosensor for the Detection of miRNA in Breast Cancer Progression.</b>  <i>Zheng Wei Wong, University of Nottingham Malaysia, MALAYSIA</i></p>
4:00-4:15pm	<p><b>(YS) Increasing the Purity of Extracellular Vesicle Isolation from Blood Plasma using Multi-mode Chromatography Techniques.</b>  <i>Alan Zimmerman, Barnett Institute of Chemical and Biological Analysis, Northeastern University, USA</i></p>	<p><b>Automation of Solid Phase Extraction for Peptide Desalting by Centrifugal Microfluidics.</b>  <i>Jan-Niklas Klatt, University of Freiburg, GERMANY</i></p>
4:15-4:30pm	<p><b>(YS) Microfluidic Fractionation: A New Approach to Study Heterogeneous Yeast Cultures.</b>  <i>Sebastian Schwaminger, Massachusetts Institute of Technology, USA</i></p>	<p><b>Quantification of Metalloprotein Biomarkers in Human Blood Plasma.</b>  <i>Juergen Gailer, University of Calgary, CANADA</i></p>
4:30-4:45pm	<p><b>Size-Exclusion Chromatography Shows that Lipid Nanoparticles Acquire Lipoproteins from HDL.</b> <i>Rositsa Koleva, Moderna, USA</i></p>	<p><b>Epitachophoresis – Theoretical and Practical Considerations.</b>  <i>Frantisek Foret, Institute of Analytical Chemistry, CZECH REPUBLIC</i></p>
4:45-4:55pm	<p><b>eScience Café Break with Sponsored Videoclip</b></p>	
4:55-6:25pm	<p><b>Wednesday Parallel Session 21: Advancements in Miniaturized Sample Preparation Techniques</b>  Session Introduction: Ryan T. Kelly, Brigham Young University</p>	<p><b>Wednesday Parallel Session 22: Novel and Advanced Approaches and Hardware Solutions for Enabling Microscale Bioseparations and Microanalysis</b>  Session Introduction: Frantisek Foret, Institute of Analytical Chemistry</p>
5:00-5:25pm	<p><b>(KN) Droplet Sample Preparation for Single-cell Proteomics Applied to the Cell Cycle.</b>  <i>Nikolai Slavov, Barnett Institute, USA</i></p>	<p><b>(KN) Multimodal Imaging of 3D Cell Aggregates.</b>  <i>Jan Preisler, Masaryk University, CZECH REPUBLIC</i></p>
5:25-5:40pm	<p><b>Advanced 3D Printing for Microfluidics.</b>  <i>Gregory Nordin, Brigham Young University, USA</i></p>	<p><b>(YS) Development of a Micro-LC-MS/MS Method for Quantitative Analysis of Endocannabinoids and Related N-acylethanolamines in Human Cerebrospinal Fluid.</b>  <i>Bingshu He, Leiden University, THE NETHERLANDS</i></p>
5:40-5:55pm	<p><b>Ultrasensitive Top-down Proteomics based on a Nanodroplet Sample Processing Platform.</b>  <i>Mowei Zhou, Pacific Northwest National Laboratory, USA</i></p>	<p><b>(YS) High Throughput Analysis and Ultra-small Volume Detection of Biological Samples using Droplet Imbibition Mass Spectrometry.</b>  <i>Taghi Sahraeian, The Ohio State University, USA</i></p>
5:55-6:10pm	<p><b>(YS) A Capillary Flow-based Sample Preparation System for Metabolomic Sample Preparation of Mammalian Cells in Suspension.</b>  <i>John Coulton, Saint Louis University, USA</i></p>	<p><b>A 3-D Printed Sheath Flow Cuvette for Capillary Array Detection.</b>  <i>Cameron Skinner, Concordia University, CANADA</i></p>
6:10-6:25pm	<p><b>Development of New Disposable Pipette Extraction Sorbents for Clinical Purposes.</b>  <i>Andrea Chaves, Universidade Federal de Goiás, BRAZIL</i></p>	<p><b>(YS) High-resolution 3D-printed Insulator-based Dielectrophoresis Devices Towards Manipulation of Bioanalytes.</b> <i>Mukul Sonker, Arizona State University, USA</i></p>

# Thursday, July 15, 2021

8:40-9:20am	Session Introduction: Kimberly Hamad-Schifferli, University of Massachusetts Boston, USA <b>PLENARY 8: Microfluidic Sorting of Extremely Rare Circulating Tumor Cells and Clusters from Blood</b> <i>Mehmet Toner, Massachusetts General Hospital and Harvard Medical School, Harvard-MIT Health Sciences and Technology, Boston, MA, USA</i>	
9:20-9:25am	<b>eScience Café Break with Sponsored Videoclip</b>	
9:25-10:55am	<b>Thursday Parallel Session 23: Novel Informatics and Software Approaches for Enabling Bioseparations and Microanalysis</b> Session Introduction: Oleg V. Krokhin, University of Manitoba and Darien Yeung, Manitoba Centre for Proteomics and Systems Biology	<b>Thursday Parallel Session 24: Micro-Analytical Systems for Point-of-Care Disease Diagnosis</b> Session Introduction: Abraham Badu-Tawiah, The Ohio State University
9:30-9:55am	<b>(KN) Bioinformatic Methods to Leverage High Quality Retention Time Libraries in Proteomics.</b> <i>Brian C. Searle, The Ohio State University, USA</i>	<b>(KN) Flow-through Sensors for Chemical and Biochemical Analysis in the Field.</b> <i>Dionysios Christodouleas, University of Massachusetts Lowell, USA</i>
9:55-10:10am	<b>(YS) Unique Computational Perspectives of Terminal Residue Effects on Peptide Retention Properties.</b> <i>Darien Yeung, Manitoba Centre for Proteomics and Systems Biology, CANADA</i>	<b>Quantitative Analysis of Virus Like Particle Separation using Insulator-based Gradient Dielectrophoresis.</b> <i>David Charlot, Arizona State University, USA</i>
10:10-10:25am	<b>(YS) MS-based Molecular Networking Strategy for Drug Metabolite Identification: In Case of Sildenafil In Vitro Metabolism Study.</b> <i>Jun Sang Yu, Hanyang University, SOUTH KOREA</i>	<b>Open-source Mass Spectrometry for Clinical Applications.</b> <i>Abraham Badu-Tawiah, Ohio State University, USA</i>
10:25-10:40am	<b>(YS) A New Open-source and User-friendly Tool for Accurate and Automated Baseline Correction in Capillary Electrophoresis.</b> <i>Tijmen S. Bos, Vrije Universiteit Amsterdam, THE NETHERLANDS</i>	<b>(YS) Large-scale Top-down Proteomics of Human Colorectal Cancer Cell Lines using Capillary Zone Electrophoresis-Tandem Mass Spectrometry.</b> <i>Elijah McCool, Michigan State University, USA</i>
10:40-10:55am	<b>(YS) Development of Data Analysis and Software Approaches to Improve the Sensitivity of Mass Spectrometry-based Thermal Shift Assays (MS-TSA) for Target Engagement and Drug Discovery.</b> <i>Amanda Figueroa-Navedo, Barnett Institute of Chemical and Biological Analysis, Northeastern University, USA</i>	<b>Thermal Denaturation Proteolysis for Viral Capsid Protein Structural Analysis.</b> <i>Estee Toole, Thermo Fisher Scientific, USA</i>
10:55-11:00am	<b>eScience Café Break with Sponsored Videoclip</b>	
11:00am-12:30pm	<b>Thursday Parallel Session 25: Glycomic and (Glyco)Proteomic Applications to Address Unsolved Biomedical Question</b> Session Introduction: Guinevere S.M. Lagveen-Kammeijer, Leiden University Medical Center	<b>Thursday Parallel Session 26: Biosensors and Actuators: Instruments, Components and Applications</b> Session Introduction: Vincent Remcho, Oregon State University
11:05-11:30am	<b>(KN) Multi-glycomics Discovery.</b> <i>Nicolle Packer, Macquarie University, AUSTRALIA</i>	<b>(KN) 3D Printing as a Powerful Tool for the Production of Low-cost Microfluidic Devices.</b> <i>José Alberto Fracassi Da Silva, State University of Campinas, UNICAMP, BRAZIL</i>
11:30-11:45am	<b>(YS) Monolith O-glycosidase Microreactor for Efficient O-glycan Release.</b> <i>Bin Yang, Université Paris-Saclay CNRS Institut Galien Paris Saclay, FRANCE</i>	<b>(YS) Fabrication of Hydrogels for the Recognition of Specified Proteins via Grafting Molecularly Imprinted Polymers.</b> <i>Chenchen Liu, Kyoto University, JAPAN</i>
11:45am-12:00pm	<b>(YS) Alterations in Protein Expression and Site-specific N-glycosylation of Prostate Cancer Tissues.</b> <i>Simon Sugár, Eötvös Loránd Research Network, HUNGARY</i>	<b>(YS) Novel Strategies for Elucidation of the Interaction between Functionalized Magnetic Beads and Pharmaceutical and Diagnostic Molecules.</b> <i>Ngoc-Van-Thanh Nguyen, Institut Galien Paris-Saclay, FRANCE</i>
12:00-12:15pm	<b>(YS) Combined PGC LC-MS/MS and mRNA Expression Analyses in AML Cells Delineates Differential GSL-Glycan Signatures.</b> <i>Di Wang, Leiden University Medical Center, THE NETHERLANDS</i>	<b>(YS) Nucleic Acid Amplification using Radio Frequency Electrokinetic Heating.</b> <i>Jarad Yost, Texas A&amp;M University, USA</i>
12:15-12:30pm	<b>(YS) Dopant-enriched Nitrogen Gas for Enhanced Electrospray Ionization of Released Glycans in Negative Ion Mode.</b> <i>Katarina Madunic, Leiden University Medical Center, THE NETHERLANDS</i>	<b>Nitrogen-doped Carbon Dots Aid Electrokinetic Separations of ssDNA Molecules.</b> <i>Christa Colyer, Wake Forest University, USA</i>
12:30-12:35pm	<b>eScience Café Break with Sponsored Videoclip</b>	

12:35-1:20pm	<b>Thursday Free eScience Café Seminar sponsored by AGILENT</b> <b>Advancing Denaturing and Native Top-down Proteomics Analysis using CE-MS</b> Presented by Liangliang Sun, Michigan State University	
1:20-2:35pm	<b>Networking and Building Connections</b> <b>Vendor Booths in the Exhibit Hall</b> <b>Poster Session and Poster Pitches in the Poster Hall</b>	
2:35-3:15pm	Session Introduction: Jarrod Marto, Dana-Farber Cancer Institute, Brigham and Women's Hospital, Harvard Medical School, USA <b>PLENARY 9: Toward Universal Druggability.</b> <i>Gregory Verdine, FogPharma, Cambridge, MA, USA</i>	
3:15-4:25pm	<b>Thursday Parallel Session 27: Celebrating the Greater Boston and Massachusetts Life Science Industry</b> Session Introduction: Paola Castaldi, LifeMine Therapeutics	<b>Thursday Parallel Session 28: Additional Young Scientists Orals in Competition for the 2021 MSB Young Scientist Award (Session sponsored by Dana-Farber Cancer Institute)</b> 3:20pm Session Introduction
3:25-3:40pm	<b>Experimental Strategies to Improve Target Identification in Mass Spectrometry-based Thermal Stability Assays.</b> <i>Clifford Phaneuf, Sanofi, USA</i>	<b>(YS) Rapid In-gel Protein Detection from Highly-integrated Single-cell Immunoassays by Electrotransfer Probing.</b> <i>Andoni Mourdoukoutas, University of California Berkeley, USA</i>
3:40-3:55pm	<b>Complementary Chemoproteomic Workflows: Applications of Chemoproteomics in Target Identification and Drug Discovery.</b> <i>Francisco Garcia, Novartis Institutes for BioMedical Research, USA</i>	<b>(YS) Droplet Microfluidic Technology for the Early and Label-free Isolation of Activated T-cells.</b> <i>Claudia Zielke, Santa Clara University, USA</i>
3:55-4:10pm	<b>Development of a Novel Automated, High-Throughput, Plasma Protein Biomarker Enrichment Protocol.</b> <i>Ulrich Thomann, Covaris Inc., USA</i>	<b>(YS) Novel Water-compatible Type of Stationary Phase for Thin-film Microextraction (TFME) of Small Molecules from Aqueous Samples.</b> <i>Lukasz Sobczak, Nicolaus Copernicus University Toruń, POLAND</i>
4:10-4:25pm	<b>Development of a Broad Spectrum, Vinyl Sulfonate-based Activity-based Probe for SHP2.</b> <i>Wankyu Lee, Dewpoint Therapeutics, USA</i>	<b>(YS) Isotope Encoded Derivatization of Endothelial Cell Lysates for Nine-plex Quantitation of Aldehyde Metabolites using nESI-LC-HRMS.</b> <i>Michael Armbruster, Saint Louis University, USA</i>
4:25-4:40pm	<b>eScience Café Break with Sponsored Videoclip</b>	
4:40-5:30pm	<b>Thursday Closing Session: Awards and Final Remarks</b> Presentation of Young Scientist (YS) Oral Presentation Award Presentation of Best Poster Awards Invitation to MSB 2022 – April 3-6, 2022, Liege, Belgium Closing Session and Final Remarks	