MSB 2021 Preliminary Scientific Program

Monday, July 12, 2021

(KN) = Keynote Speaker; (YS) = Young Scientist Speaker; P=plenary paper #; L=oral paper #

MSB 2021 will take place on the VCS virtual platform. Lectures, eScience Café Seminars, tutorial, and lightning talks will be accessible through the entrance to the Auditorium. The Exhibit Hall and Poster Hall will be open throughout the conference for viewing on-demand.

Monday AM FOUNDER’S PLENARY LECTURE 1
(P-L-101) BARRY L. KARGER

Monday AM PLENARY LECTURE 2
(P-L-102) Robust and In-depth Work Flows for Single Cell and Clinical Proteomics
MATTHIAS MANN, Max Planck Institute of Biochemistry, Planegg, GERMANY

Monday AM Parallel Session 1: Analysis of Pharmaceutical Proteins and New Modalities of Biopharmaceuticals
Session Organizer and Chair: Li Zang, Director, Protein Analytics, Science and Technology, Operations, AbbVie Bioresearch Center, Inc., Worcester, MA, USA and Co-chair: Maggie A. Ostrowski, Senior Manager, Marketing, SCIEX, Fremont, CA, USA


(L-104) MicroFlow Size-exclusion Chromatography Enables Enhanced Native Mass Spectrometry of Proteins and Complexes. Iro Konstantina Ventouri¹, Sharene Veelders¹, Patrick Endres², Regina Roemling³, Peter J. Schoenmakers¹, Govert W. Somsen³, Rob Haselberg¹, Andrea Gargano¹, Ivan’t Hoff Institute for Molecular Science, University of Amsterdam, Amsterdam, THE NETHERLANDS; ²Tosoh Bioscience GmbH, Griesheim, GERMANY; ³Division of BioAnalytical Chemistry, Amsterdam Institute for Molecules Medicines and Systems, Vrije Universiteit Amsterdam, Amsterdam, THE NETHERLANDS

(L-105) (YS) Characterization of Bispecific T Cell Engager (BiTE) Antibody Fragmentation Sites using Capillary Electrophoresis Coupled to Mass Spectrometry (CE-MS). Arnik Shah¹, Weidong Cui¹, John Harrahy², Aditya Kulkarni², Alexander Ivanov⁴, ¹Amgen Inc., Cambridge, MA, USA; ²908 Device, Boston, MA, USA; ³Northeastern University, Boston, MA, USA

(L-106) Expanding Functional Antibody Characterization to Proteoforms: Affinity CE-MS to Study Antibody – FcRs Interactions. Elena Dominguez-Vega, Leiden University Medical Center, Leiden, THE NETHERLANDS
(L-107) (YS) Rapid Analysis of a Cysteine-linked Antibody-drug Conjugate by Liquid Chromatography Coupled to Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. Eli Larson¹, Yanlong Zhu¹, Zhijie Wu², Bifan Chen¹, Zhaorui Zhang², Shiyue Zhou², Linjie Han², Qunying Zhang², Ying Ge¹; ¹University of Wisconsin-Madison, Madison, WI, USA; ²AbbVie Inc., North Chicago, IL, USA

### Monday AM Parallel Session 2: Microscale Techniques in Forensic Analysis
Session Organizer and Chair: Adam Hall, Assistant Professor, Biomedical Forensic Sciences Program, Boston University School of Medicine, Boston, MA, USA

(L-108) (KN) Improvements in Sampling and Detection of VOCs Associated with Drugs and Explosives using Capillary Microextraction. Jose Almirall, Department of Chemistry and Biochemistry, Florida International University, Miami, FL, USA

(L-109) (YS) A Biocompatible Solid Phase Microextraction and Direct Analysis in Real Time Mass Spectrometry Method to Detect Drugs of Abuse in Human Breast Milk. Emily Woods, Baylor University School of Medicine, Brookline, MA, USA

(L-110) (YS) Performance Evaluation of a Commercial Handheld Raman-spectrometer for Cocaine Detection in Street Samples. Joska Verduin¹, Ruben Kranenburg¹, Arian van Asten²; ¹Forensic Laboratory Dutch National Police Unit Amsterdam, Amsterdam, THE NETHERLANDS; ²Van’t Hoff Institute for Molecular Sciences, University of Amsterdam, Amsterdam, THE NETHERLANDS

(L-111) (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. Ali Azizi, Fereshteh Shahhoseini, Christina Bottaro, Memorial University of Newfoundland, St. John’s, CANADA

(L-112) Nanomanipulation-coupled to Nanospray Mass Spectrometry for the Analysis of Ultra-trace Forensic and Single Cell Chemical Determination. Guido Verbeck, University of North Texas, Denton, TX, USA

### Monday Tutorial
Capillary Iso-Electric Focusing (CIEF) – Prime Methodology for Protein Characterization
GERARD ROZING, ROZING.COM Consulting, Karlsruhe, GERMANY
(Tutorial sponsored by AES Life Sciences)

### Monday eScience Café Seminar sponsored by PHENOMENEX
Combining the Power of a Core-Shell Particles and Advanced Stationary Phase Selectivity to Improve Micro and Nano Flow Separations

### Monday Vendor Exhibits, Pre-recorded Lightning Talks, Poster Session

### Monday PM PLENARY LECTURE 3
(P-L-113) Electrophoretic Cytometry: Single-cell and Sub-cellular Targeted Proteomics using Microfluidic Design
AMY E. HERR, University of California, Berkeley, Berkeley, CA, USA
(Lecture sponsored by journal, Lab on a Chip)

### Monday PM Parallel Session 3: New Developments in Omics Technologies
Session Organizer and Chair: Rawi Ramautar, Associate Professor, Leiden University, Leiden Academic Centre for Drug Research, Leiden, THE NETHERLANDS

(L-115) (YS) Profiling Acidic Metabolites by Capillary Electrophoresis-Mass Spectrometry in Low Numbers of Mammalian Cells using a Novel Chemical Derivatization Approach. Marien van Mever, Cornelius Willacey, Wei Zhang, Nicolas Drouin, Jaco van Veldhoven, Daan van der Es, Thomas Hankemeier, Rawi Ramautar, Leiden University, Leiden, THE NETHERLANDS

(L-116) (YS) Ultrasensitive Capillary Electrophoresis Ion Mobility Mass Spectrometry for Targeted Peptidomics of Mouse Brain Tissue Regions. Kellen DeLaney¹, Sam Choi¹, Zhe Yu², Paul Marvar², Peter Nemes², ¹University of Maryland, College Park, MD, USA; ²The George Washington University, Washington, DC, USA

(L-117) (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. Wai Cheung Chan¹, Sara Buhrlage², Jarrod Marto², ¹Harvard University, Boston, MA, USA; ²Dana-Farber Cancer Institute, Boston, MA, USA

(L-118) (YS) Data-independent Acquisition for Ultrasensitive Proteomics using Capillary Electrophoresis-electrospray ionization High-resolution Mass Spectrometry. Bowen Shen, Leena Pade, Kellen DeLaney, Peter Nemes, University of Maryland, College Park, MD, USA

(L-119) (YS) Large Scale Top-down Proteomics on Arabidopsis Leaf Proteins and Chloroplast. Qianjie Wang, Peter Lundquist, Liangliang Sun, Michigan State University, East Lansing, MI, USA

Monday PM Parallel Session 4: Biomarker Discovery and Validation
Session Organizer and Chair: James L. Edwards, Associate Professor, Department of Chemistry, Saint Louis University, St. Louis, MO, USA

(L-120) (KN) Development of Automated Multiplexed Assays for Cancer-related Proteins in Tumor Tissue Samples using Immuno-mass Spectrometry. Christoph Borchers, McGill University, Montreal, QC, CANADA

(L-121) Oxylipins as Early Markers of Cardiometabolic Health in Young Adults. Xinyu Di¹, Lucas Jurado Fasoli², Wei Yang³, Thomas Hankemeier⁴, Jonatan Ruiz⁵, Patrick Rensen³, Borja Martinez-Tellez³, Isabelle Kohler⁴, ¹Leiden Academic Center for Drug Research, Leiden, THE NETHERLANDS; ²University of Granada, Granada, SPAIN; ³Leiden University Medical Centre, Leiden, THE NETHERLANDS; ⁴Vrije Universiteit, Amsterdam, THE NETHERLANDS

(L-122) A Point-of-Care Suitable Assay for MicroRNA Detection and Quantitation using Liquid Biopsy Samples. Anastassia Kanavarioti¹, Janette Bernasconi¹, Albert Kang¹, William Jack², ¹Yenos Analytical LLC, El Dorado Hills, CA, USA; ²New England Biolabs, Ipswich, MA, USA

(L-123) (YS) Finding the Sweet Spot of Prostate-specific Antigen. Alan B. Moran¹, Elena Domínguez-Vega¹, Jan Nouta¹, Tamas Pongrácz², Theo M. de Reijke³, Manfred Wahrner¹, Guinevere S.M. Lageveen-Kammeijer¹, ¹Leiden University Medical Center, Center for Proteomics and Metabolomics, Leiden, THE NETHERLANDS; ²Amsterdam UMC Location, Academic Medical Center, Department of Urology, University of Amsterdam, Amsterdam, THE NETHERLANDS

(L-124) Deep Steroidome Annotation Enables Fine Mechanistic Insights in Toxicology Risk Assessment. Víctor González-Ruiz¹, Melanie Patt², Julien Boccard¹, Alex Odermatt³, Serge Rudaz¹, ¹University of Geneva, Geneva, SWITZERLAND; ²University of Basel, Basel, SWITZERLAND

(L-125) MALDI MS Imaging of Carbon–carbon Double Bond Positional Isomers of Lipids Enabled by Off-line Reaction with Ozone. Antonín Bednářík¹, Dominika Bezdeková¹, Jan Valášek¹, Monika Koktavá¹, Michal Hendrych², Jan Preisler¹, ¹Masaryk University Department of Chemistry, Brno, CZECH REPUBLIC; ²Masaryk University, Department of Pathology, Brno, CZECH REPUBLIC
Monday PM Parallel Session 5: Analysis of the Microbiome
Session Organizer and Chair: Liangliang Sun, Assistant Professor, Department of Chemistry, Michigan State University, East Lansing, MI, USA

(L-126) (KN) Opportunities for Analytical Chemists in Human Microbiome Research. A. Sloan Devlin, Harvard Medical School, Boston, MA, USA

(L-127) Electrophoretic Fractionation of Intact Microbes: A Preparative Method to Enhance Detection of Species within Complex Communities in Metagenomic Sequencing. Bonnie Jaskowski Huge1, Orlando DeLeon2, John Kirby3, Matthew Champion1, Norman Dovichi1, 1University of Notre Dame, Notre Dame, IN, USA; 2Medical College of Wisconsin, Milwaukee, WI, USA

(L-128) Glycan Labeling-based Chemical Proteomics Strategy Enables Host and Pathogen Temporal Interaction Profiling (HAPTIP) in Nanoscale. Ying Zhang1, Haojie Lu1, Weiguo Andy Tao2, 1Fudan University, Shanghai, CHINA; 2Purdue University, West Lafayette, IN, USA

Monday PM Parallel Session 6: Advancements in Ion Mobility Spectrometry and Gas Phase Separation-based Analytical Techniques
Session Organizer and Chair: Susan E. Abbatiello, Interim Director, The Barnett Institute of Chemical and Biological Analysis, Department of Chemistry and Chemical Biology, Northeastern University, Boston, MA, USA

(L-129) (KN) Increasing the Throughput, Specificity and Confidence in Omic Analyses using Multidimensional Measurements. Erin Baker, James Dodds, Melanie Odenkirk, Karen Butler, Kaylie Kirkwood, MaKayla Foster, Allison Stewart, North Carolina State University, Raleigh, NC, USA

(L-130) (YS) Establishing Native Trapped Ion Mobility Spectrometry of Biomolecules: How to Prevent System Potentials from Altering Protein Conformations. Hanx Majeed, Robert Voeten, Rob Haselberg, Isabelle Kohler, Govert Somsen, Vrije Universiteit Amsterdam, Amsterdam Institute of Molecular and Life Sciences, Division of Bioanalytical Chemistry, Amsterdam, THE NETHERLANDS and Centre for Analytical Sciences Amsterdam, Amsterdam, THE NETHERLANDS

(L-131) (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. Tobias Werres1,2, Christian Thoben2, Ireneus Henning3, Torsten C. Schmidt4, Stefan Zimmermann2, Thorsten Teutenberg3, 1Institut für Energie- und Umwelttechnik e. V. (IUTA); 2Leibniz University Hannover, Hannover, GERMANY; 3Institut für Energie- und Umwelttechnik e. V. (IUTA), Duisburg, GERMANY; 4University of Duisburg-Essen, Essen, GERMANY

(L-132) (YS) PRM-LIVE with Trapped Ion Mobility Spectrometry and Its Application in Selectivity Profiling of Kinase Inhibitors. He Zhu1, Scott Faricaro1, William Alexander1, Laura Fleming1, Guillaume Adelmant1, Tinghu Zhang2, Matthew Willetts3, Jens Decker4, Sven Brehmer4, Mike East5, Nathaniel Gray2, Gary Johnson5, Gary Kruppa6, Jarrod Marto1, 1Dana-Farber Cancer Institute Brigham and Women’s Hospital and Harvard Medical School, Boston, MA, USA; 2Department of Chemical & Systems Biology and ChEM-H, Stanford University School of Medicine, Stanford, CT, USA; 3Bruker Daltonics Inc, Billerica, MA, USA; 4Bruker Daltonik GmbH, Bremen, GERMANY; 5School of Medicine, University of North Carolina, Chapel Hill, NC, USA; 6Bruker S.R.O., District Brno-City, CZECH REPUBLIC
## Tuesday, July 13, 2021

### Tuesday AM Award Session for SCIEX Microscale Separations Innovations Medal and Award for Current and Breakthrough Research in the Field of Electrodruk Separations

**PLENARY LECTURE 4**

(P-L-201) **Biosignatures, Electrophoresis, and the Search for Life Beyond Earth**

*PETER WILLIS,* Group Supervisor, Chemical Analysis & Life Detection, NASA Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, USA

### Tuesday AM Parallel Session 7: Microfluidic Chip-based Electrophoresis. Fundamentals and Novel Applications

**Session Organizer and Chair:** Chengxi Cao, Full Professor with Tenure, Department of Instrument Science and Engineering, Shanghai Jiao Tong University, Shanghai, CHINA

(L-202) **(KN) Surface Plasmon Resonance Imaging the Fingerprints via Chemical Composition.** Yi Chen¹, Mingjie Li², Jiyung Xu¹, ¹Institute of Chemistry CAS, Beijing, CHINA; ²University of Chinese Academy of Sciences, Beijing, CHINA

(L-203) **Multiplex Detection of SARS-CoV-2 Variants of Concerns using ARMS-PCR on LabChip® GX Touch™ Nucleic Acid Analyzer.** Zhi-xiang Lu, Michael Miller, Macy Veling, Thomas Perroud, Yanhong Tong, PerkinElmer Inc., Waltham, MA, USA

(L-204) **Asymmetric Peak Behaviour in Free-flow Counterflow Gradient Focusing.** Matthew Courtney, Tomasz Glawdel, Carolyn Ren, University of Waterloo, Waterloo, CANADA

(L-205) **(YS) Micro-scale Concentration by Leading Electrolyte-free Conductive Wall Isotachophoresis.** Steven Doria, Zachary Gagnon, Texas A&M University, College Station, TX, USA

(L-206) **Non Aqueous Capillary Electrophoresis on Thiolene-based Microfluidic Devices with an Integrated Electrospray Interface.** Nan Lu, Andreas Kretschmann, Nickolaj Petersen, Jörg Kutter, University of Copenhagen, Copenhagen, DENMARK

### Tuesday AM Parallel Session 8: Microsampling and Microscale Sample Preparation Techniques

**Session Organizer and Chair:** Tomasz Bączek, Professor, Head of the Department, Department of Pharmaceutical Chemistry, Medical University of Gdańsk, Gdańsk, POLAND

(L-207) **(KN) Diffusion-based Separation and Extraction using Bidirectional Electroosmotic Flow.** Vesna Bacheva¹, Federico Paratore², Maya Dolev¹, Baruch Rolman¹, Govind Kaigala³, Moran Bercovici⁴, ¹Technion, ISRAEL; ²IBM Research Zurich, SWITZERLAND; ³IBM Research Europe, SWITZERLAND

(L-208) **(YS) New Magnetic Bead-based Strategies for Extracellular Vesicle Isolation: Towards Microfluidic Droplet Operation.** Marco Morani, Myriam Taverna, Thanh Duc Mai, Institut Galien Paris Saclay, Paris, FRANCE

(L-209) **(YS) Extracellular Fluid Collection, Neurotransmitter, and Proteome Analysis of Drosophila Melanogaster Brain Tissue with Low-flow Push-pull Perfusion.** Patrick Fisher, Stephanie Cologna, Scott Shippy, University of Illinois at Chicago, Chicago, IL, USA

(L-210) **High-throughput Solid Phase Microextraction Method for Determination of Plasma Protein Binding.** M. James Ross, Olga Shimelis, Hugh Cramer, Teresa Marsala, Yong Chen, MilliporeSigma, Bellefonte, PA, USA

(L-211) **(YS) Combining In Vivo Microsampling with Capillary Electrophoresis High-Resolution Mass Spectrometry (CE-HRMS) Enabled Proteo-metabolomic Single-cell Systems Biology.** Jie Li¹, Camille Lombard-Banek¹, Erika Portero¹, Rosemary Onjiko², Chase Singer¹, David Plotnick², Reem Al Shabeeb², Peter Nemes¹, ¹Department of Chemistry and Biochemistry, University of Maryland College Park, College Park, MD, USA; ²Department of Chemistry, The George Washington University, Washington, DC, USA
Tuesday AM Parallel Session 9: Single-Cell Analysis
Session Organizer and Chair: Peter Nemes, Associate Professor, Department of Chemistry & Biochemistry, University of Maryland, College Park, MD, USA

(L-212) (KN) Improved NanoLC Separations for Single-Cell Proteomics. Ryan Kelly, Brigham Young University, Provo, UT, USA

(L-213) High-throughput and High-efficiency Sample Preparation for Single-cell Proteomics using a Nested Nanowell Chip. Jongmin Woo¹, Sarah Williams¹, Victor Aguilera-Vazquez¹, Ryan Sontag¹, Ronald Moore¹, Lye Meng Markillie¹, Hardeep Mehta¹, Joshua Cantlon², Joshua Adkins³, Geremy Clair³, Ljiljana Pasa-Tošić³, Ying Zhu³. ¹Pacific Northwest National Laboratory, Richland, WA, USA; ²Scienion AG, Berlin, GERMANY

(L-214) (YS) Efficient Single Cell Proteomics Sample Preparation at High-throughput with Remarkable Sensitivity. Claudia Ctortecka¹, David Hartlmyr¹, Anjali Seth², Guilhem Tournaire², Karl Mechtler³, ¹IMP, Vienna, AUSTRIA; ²Cellenion, Lyon, FRANCE

(L-215) (YS) Improved Sensitivity in Proteomic Profiling of Limited Samples using Novel MicroSPE-based Sample Preparation, Ultra-low Flow LC−MS, and FAIMS Interface. Michal Gregus, James C. Kostas, Jan Schejbal, Somak Ray, Susan E. Abbatiello, Alexander R. Ivanov, Barnett Institute of Chemical and Biological Analysis, Department of Chemistry and Chemical Biology, Northeastern University, Boston, MA, USA

(L-216) (YS) Comparison of Photoactivatable Crosslinkers for In-gel Single-cell Immunoblotting. Kristine Tan¹, Surbhi Desai², Erum Raja², Chris Etienne², Amy Herr¹, ¹University of California, Berkeley, Berkeley, CA, USA; ²Thermo Fisher Scientific, Rockford, IL, USA

Tuesday AM Parallel Session 10: Biosensors and Bioaffinity Assays: Design and Development
Session Organizer and Chair: Hadley D. Sikes, Associate Professor, Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA

(L-217) (KN) Skin-interfaced Wearable Biosensors. Wei Gao, California Institute of Technology, Pasadena, CA, USA

(L-218) Comparative Quantitative Analysis of Plasmonic Polymer Nanocomposites as Reliable Optical Sensing Platforms. Swarnapali De Silva Indrakara, Casey Folks, Uttam Sharma, University of North Carolina Charlotte, Charlotte, NC, USA

(L-219) Comprehensive Online 2D-LC/MS Platform for Enzymatic Inhibitor Screening Assay: A Study of Conditions. Ananda Ferreira Pires, Carmen Lúcia Cardoso, Claudia Seidl, University of São Paulo, Ribeirão Preto, BRAZIL

(L-220) (YS) Carbamazepine Detection in Whole Human Saliva using an Electrochemical Sensor with Stencil-printed Electrodes. Lael Wentland, Corey Downs, Elain Fu, Oregon State University, Corvallis, OR, USA

(L-221) Towards Rethinking Nanosafety: Quantitative Assessment of the Nanomaterial Metabolite Corona by Capillary Electrophoresis-Mass Spectrometry. Andrew Chetwynd¹, Wei Zhang¹, James Thorn², Iseult Lynch¹, Rawi Ramautar², ¹University of Birmingham, Birmingham, UK; ²Leiden University, Leiden, THE NETHERLANDS; ³AB Sciex UK Ltd., Warrington, UK
Tuesday eScience Café Seminar sponsored by VICI
Microscale Separations at Nanoscale

Tuesday Vendor Exhibits, Pre-recorded Lightning Talks, Poster Session

Tuesday PM PLENARY LECTURE 5
(P-L-222) Organoids Microphysiological Analysis Platforms (MAP) and Exosome Detection via the Ultrastart-isolation System (EXODUS)
LUKE P. LEE, Professor, Harvard Medical School, Department of Medicine, Brigham Women’s Hospital, Boston, MA, USA

Tuesday PM Parallel Session 11: Microscale Techniques in Biopharmaceutical R&D
Session Organizer and Chair: Shujia (Daniel) Dai, Senior Principal Scientist, Lab Head, Proteomics, Translational Science, Sanofi US, Cambridge, MA, USA

(L-223) (KN) Micro-scale Technologies Empower Drug Discovery and Development. Katherine Klinger 1, Deepak Rajpal 1, Stephen Madden 1, William Weber 1, Bailin Zhang 2, Gejing Deng 2, Matthew Davison 2, Mikhail Levit 2, Shujia Dai 2, 1 Sanofi R&D, Framingham, MA, USA; 2 Sanofi R&D, Cambridge, MA, USA

(L-224) Rapid and Sensitive LC-MS/MS Method for the Enantioanalysis of Verapamil in Rat Plasma using Superficially Porous Silica Isopropyl-Cyclofructan 6 Chiral Stationary Phase After SPE: Application to A Stereoselective Pharmacokinetic Study. Mohamed Hefnawy 1, Manal El-Gendy, King Saud University, Riyadh, Riyadh, SAUDI ARABIA

(L-225) (YS) Development of a Low-cost Nano ESI-MS Microfluidic Chip for Effective Mixtures and Detection of Biological Samples. Jéssica Freire Feitor, Vinicius Guimarães Ferreira, Daniel Rodrigues Cardoso, Emanuel Carrilho, University of São Paulo, São Carlos, BRAZIL

(L-226) Sugar-based Biopolyethers: Biologically Active Poly(sugar acid) – Poly[(3,4-dihydroxyphenyl)glyceric acid] from Medicinal Plants of Boraginaceae Family and Its Synthetic Analogues. Vakhtang Barbakadze, Tbilisi State Medical University, I.Kutateladze Institute of Pharmacochemistry, Tbilisi, GEORGIA

(L-227) (YS) Mono- and Disaccharide Monitoring in Cell Culture Medium by Capillary and Microchip Electrophoresis. Debbie van der Burg, Carl Sänger - van de Griep, Kantoisto, Baarn, THE NETHERLANDS

Tuesday PM Parallel Session 12: New Applications and Developments in Electrodriven Separations
Session Organizer and Chair: Myriam Taverna, Full Professor, Faculty of Pharmacy, University Paris Saclay, Institut Galien Paris Saclay, FRANCE

(L-228) (KN) Liquid Extraction Surface Analysis Coupled with Capillary Electrophoresis. Sunkyung Jeong, Doo Soo Chung, Seoul National University, Seoul, KOREA

(L-229) Multi Attribute Characterization of New Modality Protein Therapeutics by CE-MS. Andras Guttman, SCIEX, San Diego, CA, USA


(L-231) Capillary Zone Electrophoresis Top-Down Proteomics for In-depth Proteoform Characterization. Kevin Jooss, Bryon S. Drown, Rafael D. Melani, Neil L. Kelleher, Northwestern University, Departments of Chemistry and Molecular Biosciences, Evanston, IL, USA

(L-232) Capillary Electrophoresis Connected with Inorganic as well as Organic Mass Spectrometry for Separation of Enantiomers. Jan Petr, Daniel Baron, Petra Švecová, Tomáš Pluháček, Palacky University Olomouc, Olomouc, CZECH REPUBLIC
Tuesday PM Parallel Session 13: Innovations in Microfluidic Systems
Session Organizer and Chair: Elain Fu, Associate Professor of Bioengineering, School of Chemical, Biological, and Environmental Engineering, Oregon State University, Corvallis, OR, USA


(L-234) (YS) An Immunoglobulin Bioassay Implemented in a Laser Patterned Multilamellar Device Comprised of Dissimilar Functional Materials. Saichon Sumantakul, Vincent Remcho, Oregon State University, Corvallis, Oregon, USA

(L-235) Unraveling the Protective Mechanism of Biofluid Thin Films for use in Microsampling in Remote Settings. Benjamin Frey, Deidre Damon, Danyelle Allen, Jill Baker, Sam Asamoah, Abraham Badu-Tawiah, The Ohio State University, Columbus, OH, USA

(L-236) Two-capillary Nanoflow Sheath Liquid Interface for CE-MS based on a 3D-printed Device. Alexander Stolz, Johannes Schlecht, Yvonne Kreutzer, Christian Neusüss, Aalen University, Aalen, GERMANY

(L-237) (YS) Two in One: In Situ Hydrogel Formation in Microfluidics for One-step Competitive Assays. Marco Rocca1, Maxime Dufresne2, Marie Salva3, Christof Niemeyer3, Emmanuel Delamarche1, 1IBM Research Zurich, Ruschlikon, SWITZERLAND; 2ETH Zurich, Zurich, SWITZERLAND; 3Karlsruhe Institute of Technology, Karlsruhe, GERMANY

Tuesday PM Parallel Session 14: Advanced Instruments and Instrument Components
Session Organizer and Chair: Beatrix Ueberheide, Director of the Proteomics Laboratory and Associate Professor of Biochemistry and Molecular Pharmacology and Neurology, New York University Langone Health, New York, NY, USA


(L-239) Metal Ion Leaching of Common HPLC Hardware Substrates when Exposed to Pure Water, Methanol, and Acetonitrile and Its Impact on Separations. Jesse Bischof, SilcoTek Corporation, Bellefonte, PA, USA

(L-240) (YS) Orthogonal Solid-Phase Extraction-Contained-Electrospray Ionization Mass Spectrometry for Complex Lipid Mixture Analysis. Benjamin Burris, Abraham Badu-Tawiah, The Ohio State University, Columbus, OH, USA

(L-241) Spray-capillary: A Novel Device for Microsampling and Online Capillary Electrophoresis Mass Spectrometry Analysis. Lushuang Huang1, Jiaxue Li1, Mulin Fang1, Kellye Cupp-Sutton1, Zhe Wang1, Kenneth Smith2, Si Wu1, 1University of Oklahoma, Norman, OK, USA; 2Oklahoma Medical Research Foundation, Oklahoma City, OK, USA

(L-242) Vibrating Sharp Edge Spray Ionization for Efficient and Flexible CE-MS Interfacing. Lindsay Veltri, Peng Li, Tony DeBastiani, Steve Valentine, Lisa Holland, West Virginia University, Morgantown, WV, USA
Wednesday AM PLENARY LECTURE 6
(P-L-301) Advances in Proteomics
JOHN YATES, Ernest W. Hahn Professor, Departments of Molecular Medicine and Neurobiology, The Scripps Research Institute, La Jolla, CA, USA

Wednesday AM Parallel Session 15: Fundamentals of Microscale Separation Techniques
Session Organizer and Chair: Rob Haselberg, Assistant Professor, Division of BioAnalytical Chemistry, Vrije Universiteit Amsterdam, Amsterdam, THE NETHERLANDS

(L-302) (KN) Molecular Biophysics: Charge Interactions, CIEF and Affinity CE. Christin Scheller, Marc Hoffstedt, Ratih Hofstede, Finja Krebs, Holger Zagst, Robert Minkner, Matthias Stein, Hermann Wätzig, University of Braunschweig, Braunschweig, GERMANY

(L-303) (YS) Polyacrylamide Monoliths for Hydrophilic Interaction Chromatography Mass Spectrometry of Intact Proteins. Marta Passamonti, Chiem de Roos, Marta Moreschini, Peter J. Schoenmakers, Andrea F. G. Gargano, University of Amsterdam, Amsterdam, THE NETHERLANDS

(L-304) (YS) Determination of NSAIDS by Capillary Electrophoresis with Capacitively Coupled Contactless Conductivity Detection in Wastewater. Hanan Alatawi, Anna Hogan, Eric Moore, UCC-Analytical Chemistry, Cork, IRELAND

(L-305) Native Capillary Electrophoresis-Mass Spectrometry of the Near 1 MDa Non-covalent GroEL/GroES/Substrate Protein Complexes. Anne-Lise Marie, Florian Georgescauld, Kendall Johnson, John R. Engen, Alexander R. Ivanov, Northeastern University, Boston, MA, USA

(L-306) Silylated Amino Acids as Hybrid Precursors for Protein-biomimetic Surface Coating: Application to Electrophoresis Separation. Jérémie Gouyon, Catherine Perrin, Ladner Yoann, Institut des Biomolécules Max Mousseron (IBMM), UMR 5247-CNRS-UM-ENSCM, Université de Montpellier, Montpellier, FRANCE

Wednesday AM Parallel Session 16: Nanoproteomics Technologies
Session Organizer and Chair: YU LU, Assistant Professor, Department of Biochemistry and Biomedical Sciences, McMaster University, Hamilton, Ontario, CANADA

(L-307) (KN) Integrated Proteomics Sample Preparation for Nanoscale Proteomics. Ruijun Tian, Southern University of Science and Technology (SUSTech), Shenzhen, CHINA

(L-308) Highly Efficient Proteome and Phosphoproteome Capture and Analysis Procedure of Extracellular Vesicles from Urine and Plasma. Anton Iliuk¹, Marco Hadisurya², Li Li¹, Xiaofeng Wu², Shalini Padmanabhan³, Andy Tao², ¹Tymora Analytical Operations, West Lafayette, IN, USA; ²Purdue University, West Lafayette, IN, USA; ³The Michael J. Fox Foundation, New York City, NY, USA

(L-309) Digital Microfluidics for Quantitative and Functional Low Cell Number Proteomics and Multi-omics. Jan Leipert, Max Steinbach, Andreas Tholey, Kiel University, Dept. Proteomics and Bioanalytics, Kiel, GERMANY

(L-310) Quantification of TMPRSS2-ERG Protein Isoforms in Prostate Cancer by Orthogonal Immunoffinity-targeted Proteomics Assays. Zhiqiang Fu, Yasmine Rais, Andrei Drabovich, Department of Laboratory Medicine and Pathology, University of Alberta, Edmonton, CANADA

(L-311) (YS) High Sensitivity Proteomic Profiling of Limited Samples by Capillary Electrophoresis Coupled to Electrospray Ionization Mass Spectrometry. Kendall Johnson, James C. Kostas, Alexander R. Ivanov, Barnett Institute of Chemical and Biological Analysis, Department of Chemistry and Chemical Biology, Northeastern University, Boston, MA, USA
**Wednesday AM Parallel Session 17: Multidimensional Methods in Separations**
Session Organizer and Chair: Andy High, Director, Research Operations, Center for Proteomics and Metabolomics, St. Jude Children’s Research Hospital, Memphis, TN, USA

(L-312) **(KN) Advanced Separation and Mass Spectrometry Methods to Characterize Host Cell Proteins in Biotherapeutics.** Christine Carapito, CNRS Strasbourg University, Strasbourg, FRANCE

(L-313) **(YS) Peptide Mapping of Charge-based Separated Biotherapeutics by CZE-CZE-MS/MS.** Johannes Schlecht¹, Kevin Jooss², Bernd Moritz³, Steffen Kiessig⁴, Christian Neusuess¹, ¹Aalen University, Aalen, GERMANY; ²Northwestern University, Evanston, IL, USA; ³F. Hoffmann-La Roche Ltd., Basel, SWITZERLAND; ⁴Lonza AG, Basel, SWITZERLAND

(L-314) **(YS) Charge-based Fractionation of Blood Plasma-derived Extracellular Vesicle Subpopulations for Proteomics Profiling.** Xianyi Su, Northeastern University, Boston, MA, USA

(L-315) **(YS) Deterministic iDEP Ratchet Devices for High-throughput Organelle Separation.** Domin Koh, Ricardo Ortiz, Mukul Sonker, Alexandra Ros, Center for Applied Structural Discovery (CASD), Tempe, AZ, USA

(L-316) **(YS) Top-down Proteomics of Complex Protein Samples using Online 2D High-pH/Low-pH Ultra High-pressure Nano-RPLC-MS.** Dahang Yu¹, Zhe Wang¹, Yanting Guo¹, Kellye Cupp-Sutton¹, Xiaowen Liu², Kenneth Smith³, Si Wu⁴, ¹University of Oklahoma, Norman, OK, USA; ²Indiana University-Purdue University Indianapolis, Indianapolis, IN, USA; ³Oklahoma Medical Research Foundation, Oklahoma City, OK, USA; ⁴University of Oklahoma, Norman, OK, USA

**Wednesday AM Parallel Session 18: Green Techniques for Microscale Sample Preparation and Analysis**
Session Organizer and Chair: Jeongmi Lee, Associate Professor, School of Pharmacy, Sungkyunkwan University, Gyeonggi-do, REPUBLIC OF KOREA

(L-317) **(KN) Minimization of Organic Solvent Use in Sample Preparation and Extraction.** Hian Kee Lee, National University of Singapore, Singapore, SINGAPORE

(L-318) **A Simple and Green Microscale Sample Preparation Method for Antibiotics Analysis via in situ Formation of Hydrophobic Eutectic Solvents in Surface Water.** Ke Li, Jeongmi Lee, Yan Jin, Dasom Jung, Keunbae Park, Hireem Kim, Sungkyunkwan University, Suwon Gyeonggi-do, SOUTH KOREA

(L-319) **Application of Novel Microsampling Approach based on SPME Probes for Monitoring Age- and Gender-related Alterations in the Level of Endocannabinoids in Brain Samples.** Anna Roszkowska¹, Ilona Klejbor², Joanna Bogusiewicz², Barbara Bojko³, Janusz Moryś², Tomasz Baćzek¹, ¹Department of Pharmaceutical Chemistry, Medical University of Gdańsk, Gdańsk, POLAND; ²Department of Anatomy, Medical University of Gdańsk, Gdańsk, POLAND; ³Department of Pharmacodynamics and Molecular Pharmacology Collegium Medicum Bydgoszcz, Nicolaus Copernicus University Toruń, Bydgoszcz, POLAND

(L-320) **Sample Preparation Carried out by 3D-printed Sorbents – Opportunities and Challenges in View of Miniaturization and Environmental Impact.** Mariusz Belka, Szymon Ulenberg, Paweł Georgiev, Dagmara Szynkiewicz, Tomasz Baćzek, Medical University of Gdańsk, Gdańsk, POLAND
Wednesday eScience Café Seminar sponsored by BRUKER
Latest Applications of 4D-Proteomics using Trapped Ion Mobility on the timsTOF Pro 2; and 4D Proteomics – Dissecting the 3D Structure of Proteins through Ion Mobility Enhanced Crosslinking Mass Spectrometry

Wednesday eScience Café Seminar sponsored by SCIEX
Comprehensive, 15-min Charge Variant Analysis of Biotherapeutics with a Microfluidic Chip-Based Integrated iCIEF-MS System

Wednesday Vendor Exhibits, Pre-recorded Lightning Talks, Poster Session

Wednesday PM Award Session for Thermo Fisher Scientific Early Career Award for Breakthrough Research Advancing the Field of Microscale Separations and Bioanalysis
PLENARY LECTURE 7
(P-L-321) LIANGLIANG SUN, Assistant Professor, Department of Chemistry, Michigan State University, East Lansing, MI, USA

Wednesday PM Parallel Session 19: Single-Particle Assays: Single Molecules to Single Cells
Session Organizer and Chair: Stephen C. Jacobson, Professor, Dorothy & Edward Bair Chair, Department of Chemistry, Indiana University, Bloomington, IN, USA

(L-322) (KN) A Single Cell Mechanical Assay on a Chip. Noritada Kaji, Kyushu University, Fukuoka, JAPAN

(L-323) Stiffness of Single Apoptotic Bodies to Inform Brain Cancer Therapeutics. Joanna Dahl¹, Miho Jeong², Hyungsoon Im². ¹Engineering Department, University of Massachusetts Boston, Boston, MA, USA; ²Center for Systems Biology, Massachusetts General Hospital, Boston, MA, USA

(L-324) Increasing the Purity of Extracellular Vesicle Isolation from Blood Plasma using Multi-mode Chromatography Techniques. Alan Zimmerman¹, Xianyi Su¹, Getulio Pereira de Oliveira Jr.², Jacqueline Wood¹, Zhengxin Fu¹, Brandy Pickney², John Tigges³, Ionita Ghiran², Alexander R. Ivanov¹, ¹Barnett Institute of Chemical and Biological Analysis, Northeastern University, Boston, MA, USA; ²Division of Allergy and Inflammation, Department of Medicine, Beth Israel Deaconess Medical Center, Boston, MA, USA; ³Nano Flow Core Facility, Beth Israel Deaconess Medical Center, Boston, MA, USA

(L-325) (YS) Microfluidic Fractionation: A New Approach to Study Heterogeneous Yeast Cultures. Sebastian Schwaminger¹, Leonie Wittmann². ¹Massachusetts Institute of Technology, Cambridge, MA, USA; ²Technical University of Munich, Garching, GERMANY
**Wednesday PM Parallel Session 20: Innovation in Microfluidics, Point-of-care Devices, Precision Medicine**

Session Organizer and Chair: Takehiko Kitamori, Yushan Honorary Chair Professor, Institute of Nanoengineering and Microsystems iNEMS, Department of Power Mechanical Engineering, National Tsing Hua University, Hsinchu City, TAIWAN

(L-326) **KN** IL-6 Diagnostic Device for COVID-19 and Its Clinical Validations. Chao-Min Cheng, National Tsing Hua University, Hsinchu, Other, TAIWAN

(L-327) **YS** Ultrasensitive and Label-free Fluorescent Nanobiosensor for the Detection of miRNA in Breast Cancer Progression. Zheng Wei Wong, Siu Yee New, University of Nottingham Malaysia, Semenyih, MALAYSIA

(L-328) Automation of Solid Phase Extraction for Peptide Desalting by Centrifugal Microfluidics. Jan-Niklas Klatt¹, Thien-Ly Julia Dinh², Roland Zengerle¹, Frank Schmidt³, Nils Paust⁴, Oliver Schilling², Tobias Hutzenlaub⁴, ¹Laboratory for MEMS Applications IMTEK, Department of Microsystems Engineering, University of Freiburg, Freiburg, GERMANY; ²Institute for Surgical Pathology Medical Center, University of Freiburg, Freiburg, GERMANY; ³Weill Cornell Medicine, Qatar, Doha, QATAR; ⁴Hahn-Schickard, Freiburg, GERMANY

(L-329) Quantification of Metalloprotein Biomarkers in Human Blood Plasma. Kerri Miller, Juergen Gailer, University of Calgary, Calgary, CANADA

(L-330) Epitachophoresis – Theoretical and Practical Considerations. Frantisek Foret¹, Ivona Voracova¹, Jan Prikryl¹, Bohuslav Gas², Vladimira Datinska³, Yann Astier³, Gheibi Pantea³, Jakub Novotny¹, ¹Institute of Analytical Chemistry, Brno, CZECH REPUBLIC; ²Charles University, Prague, CZECH REPUBLIC; ³Roche Inc., Pleasanton, CA, USA

**Wednesday PM Parallel Session 21: Advancements in Miniaturized Sample Preparation Techniques**

Session Organizer and Chair: Ryan T. Kelly, Associate Professor, Department of Chemistry and Biochemistry, Brigham Young University, Provo, UT, USA

(L-331) **KN** Droplet Sample Preparation for Single-cell Proteomics Applied to the Cell Cycle. Nikolai Slavov, Bioengineering Department, Barnett Institute, Cambridge, MA, USA

(L-332) **KN** Advanced 3D Printing for Microfluidics. Gregory Nordin, Adam Woolley, Brigham Young University, Provo, UT, USA

(L-333) Ultrasonic Top-down Proteomics based on a Nanodroplet Sample Processing Platform. Mowei Zhou¹, Yen-Chen Liao¹, Naomi Uwugiaren², Sarah Williams¹, Dusan Velickovic¹, Ryan Sontag¹, Ronald Moore¹, Rui Zhao¹, David Goodlett³, Irena Dapic³, Ljiljana Paša-Tolić¹, Ying Zhu¹, ¹Pacific Northwest National Laboratory, Richland, WA, USA; ²University of Gdansk, Gdansk, POLAND; ³University of Maryland, Baltimore, MD, USA

(L-334) **YS** A Capillary Flow-based Sample Preparation System for Metabolomic Sample Preparation of Mammalian Cells in Suspension. John Coulton, Jim Edwards, Saint Louis University, St. Louis, MO, USA

Wednesday PM Parallel Session 22: Novel and Advanced Approaches and Hardware Solutions for Enabling Microscale Bioseparations and Microanalysis

Session Organizer and Chair: Frantisek Foret, Director of the Institute of Analytical Chemistry, Brno, CZECH REPUBLIC

(L-336) (KN) Multimodal Imaging of 3D Cell Aggregates. Jan Preisler¹, Markéta Machalkova¹, Barbora Pavlatovska¹, Jarmila Navratilova¹, Marek Stiborek¹, Stanislava Meliorisova¹, Jiří Kroupa², Pavel Houska², Jan Michalek¹, Karel Stepka¹, Katarzyna Anna Radaszkiewicz¹, Adam Pruska¹, Viktor Kanicky¹, Michal Kozube¹, Jan Smarda¹, ¹Masaryk University, Brno, CZECH REPUBLIC; ²University of Technology, Brno, CZECH REPUBLIC

(L-337) (YS) Development of a Micro-LC-MS/MS Method for Quantitative Analysis of Endocannabinoids and Related N-acylethanolamines in Human Cerebrospinal Fluid. Bingshu He¹, Xinyu Di², Faisa Guled³, Aster Harder², Arn Maagdenberg², Gisela Terwindt², Amy Harms¹, Rawi Ramautar¹, Thomas Hankemeier¹, ¹Division of Systems Biomedicine and Pharmacology, Leiden Academic Centre for Drug Research, Leiden University, Leiden, THE NETHERLANDS; ²Departments of Neurology and Human Genetics, Leiden University Medical Center, Leiden University, Leiden, THE NETHERLANDS

(L-338) (YS) High Throughput Analysis and Ultra-small Volume Detection of Biological Samples using Droplet Imbition Mass Spectrometry. Taghi Sahraeian, Abraham Badu-Tawiah, The Ohio State University, Columbus, OH, USA

(L-339) A 3-D Printed Sheath Flow Cuvette for Capillary Array Detection. Cameron Skinner, Concordia University, Montreal, Quebec, CANADA

(L-340) (YS) High-resolution 3D-printed Insulator-based Dielectrophoresis Devices Towards Manipulation of Bioanalytes. Mukul Sonker, Mohammad Towshif Rabbani, Jorvani Cruz Villarreal, Alexandra Ros, School of Molecular Sciences, Arizona State University, Tempe, AZ, USA

Thursday, July 15, 2021

Thursday AM PLENARY LECTURE 8
(P-L-401) Microfluidic Sorting of Extremely Rare Circulating Tumor Cells and Clusters from Blood. MEHMET TONER, Helen Andrus Benedict Professor of Biomedical Engineering, Co-Director, Center for Engineering in Medicine & Surgery, Massachusetts General Hospital & Harvard Medical School, Harvard-MIT Health Sciences & Technology, Boston, MA, USA

Thursday AM Parallel Session 23: Novel Informatics and Software Approaches for Enabling Bioseparations and Microanalysis

Session Organizer and Chair: Oleg V. Krokhin, Associate Professor, Department of Internal Medicine, University of Manitoba, Winnipeg, MB, CANADA

(L-402) (KN) Bioinformatic Methods to Leverage High Quality Retention Time Libraries in Proteomics. Brian C. Searle, The Ohio State University, Columbus, OH, USA

(L-403) (YS) Unique Computational Perspectives of Terminal Residue Effects on Peptide Retention Properties. Darien Yeung, Victor Spicer, Oleg Krokhin, Manitoba Centre for Proteomics and Systems Biology, Winnipeg, CANADA

(L-404) MS-based Molecular Networking Strategy for Drug Metabolite Identification: In Case of Sildenafil In Vitro Metabolism Study. Jun Sang Yu¹, Hye Hyun Yoo¹, Kyo Bin Kang², ¹Hanyang University, Ansan, SOUTH KOREA; ²Sookmyung Women’s University, Seoul, SOUTH KOREA

(L-405) (YS) A New Open-source and User-friendly Tool for Accurate and Automated Baseline Correction in Capillary Electrophoresis. Tijmen S. Bos, Martijn Knoope, Rob Haselberg, Govert W. Somsen, Division of Bioanalytical Chemistry, Amsterdam Institute for Molecular and Life Sciences, Vrije Universiteit Amsterdam, Amsterdam, THE NETHERLANDS
Thursday AM Parallel Session 24: Micro-Analytical Systems for Point-of-Care Disease Diagnosis
Session Organizer and Chair: Abraham Badu-Tawiah, Associate Professor, Chemistry and Biochemistry, The Ohio State University, Columbus, OH, USA

(L-406) (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. Amanda Fiqueroa-Navedo1, Clifford Phaneuf2, Harvey Lieberman3, Alla Kloss3, Alexander Ivanov4, 1Department of Chemistry and Chemical Biology, Barnett Institute of Chemical and Biological Analysis, Northeastern University, Boston, MA, USA; 2Analytical Research and Development, Sanofi, Cambridge, MA, USA; 3Analytical Research and Development, Sanofi, Waltham, MA, USA; 4Department of Chemistry and Chemical Biology, Barnett Institute of Chemical and Biological Analysis, Northeastern University, Bayamon, PR, USA

Thursday AM Parallel Session 25: Glycomic and (Glyco)Proteomic Applications to Address Unsolved Biomedical Question
Session Organizer and Chair: Guinevere S.M. Lageveen-Kammeijer, Post-doctoral Researcher, Center for Proteomics and Metabolomics, Leiden University Medical Center, Leiden, THE NETHERLANDS

(L-412) (KN) Multi-glycomics Discovery. Nicolle Packer, Department of Molecular Sciences, Macquarie University, Sydney, AUSTRALIA

(L-413) (YS) Monolith O-glycosidase Microreactor for Efficient O-glycan Release. Bin Yang1, Thuy N. Tran1, Zhengjin Jiang2, Myriam Taverna3, 1Université Paris-Saclay CNRS Institut Galien Paris Saclay, Paris, FRANCE; 2Institute of Pharmaceutical Analysis, College of Pharmacy, Jinan University, Guangzhou, CHINA; 3Université Paris-Saclay CNRS, Institut Galien Paris Saclay; Institut Universitaire de France (IUF), Paris, FRANCE

(L-414) (YS) Alterations in Protein Expression and Site-specific N-glycosylation of Prostate Cancer Tissues. Simon Sugár, Gábor Tóth, Fanni Bugyi, Károly Vékey, László Dráhos, Lilla Turiák, MS Proteomics Research Group Research, Centre for Natural Sciences, Eötvös Loránd Research Network, Budapest, HUNGARY

(L-415) (YS) Combined PGC LC-MS/MS and mRNA Expression Analyses in AML Cells Delineates Differential GSL-Glycan Signatures. Di Wang1, Tao Zhang1, Guinevere S. M. Lageveen-Kammeijer1, Katarina Madunic1, Oleg A. Mayboroda1, Marieke Griffioen1, Robbert M. Spaapen2, Manfred Wuhrer1, 1Leiden University Medical Center, Leiden, THE NETHERLANDS; 2Sanquin, Amsterdam, THE NETHERLANDS
Dopant-enriched Nitrogen Gas for Enhanced Electrospray Ionization of Released Glycans in Negative Ion Mode. Katarina Madunic¹, Sander Wagt², Tao Zhang², Manfred Wuhrer², Guinevere S. M Lageveen-Kammeijer², ¹Leiden University Medical Center, Leiden, THE NETHERLANDS; ²Leiden University Medical Center, Leiden, THE NETHERLANDS

Thursday AM Parallel Session 26: Biosensors and Actuators: Instruments, Components and Applications
Session Organizer and Chair: Vincent Remcho, Professor, Department of Chemistry and Materials Sciences, Oregon State University, Corvallis, OR, USA

3D Printing as a Powerful Tool for the Production of Low-cost Microfluidic Devices. José Alberto Fracassi Da Silva, Department of Analytical Chemistry, Chemistry Institute, State University of Campinas, UNICAMP, Campinas, Sao Paulo, BRAZIL

Fabrication of Hydrogels for the Recognition of Specified Proteins via Grafting Molecularly Imprinted Polymers. Chenchen Liu, Takuya Kubo, Koji Otsuka, Graduate School of Engineering, Kyoto University, Kyoto, JAPAN

Novel Strategies for Elucidation of the Interaction between Functionalized Magnetic Beads and Pharmaceutical and Diagnostic Molecules. Ngoc-Van-Thanh Nguyen¹, Duc-Thanh Mai¹, Claire Smadja¹, Jean-Michel Siaugue², Myriam Taverna³, ¹Institut Galien Paris-Saclay, Chatenay-Malabry, FRANCE; ²University Sorbonne, Paris, FRANCE; ³Institut Galien Paris-Saclay, Institut Universitaire de France, Paris, FRANCE

Nucleic Acid Amplification using Radio Frequency Electrokinetic Heating. Jarad Yost, Zachary Gagnon, Texas A&M University, College Station, TX, USA

Nitrogen-doped Carbon Dots Aid Electrokinetic Separations of ssDNA Molecules. Debashish Roy, Christa Colyer, Wake Forest University, Winston-Salem, NC, USA

Thursday eScience Café Seminar sponsored by AGILENT
Advancing Denaturing and Native Top-down Proteomics Analysis using CE-MS

Thursday Vendor Exhibits, Pre-recorded Lightning Talks, Poster Session
Thursday PM PLENARY LECTURE 9

(P-L-422) Toward Universal Druggability
GREGORY VERDINE, President, Chief Executive Officer and Chief Scientific Officer, LifeMine Therapeutics, Cambridge, MA, USA

Thursday PM Parallel Session 27: Celebrating the Greater Boston and Massachusetts Life Science Industry
Session Organizer and Chair: Paola Castaldi, Vice President of Chemical Biology and Proteomics, LifeMine Therapeutics, Cambridge, MA, USA (Industrial Advisory Committee Chair)

(L-423) Experimental Strategies to Improve Target Identification in Mass Spectrometry-based Thermal Stability Assays. Clifford Phaneuf¹, Amanda Figueroa-Navedo², Alexander Ivanov², Konstantin Ayzikov³, ¹Sanofi, Cambridge, MA, USA; ²Northeastern University, Boston, MA, USA; ³Thermo Fisher Scientific, Bremen, GERMANY

(L-424) Complementary Chemoproteomic Workflows: Applications of Chemoproteomics in Target Identification and Drug Discovery. Francisco Garcia, Mike Jones, Jennifer Lipps, Lynn McGregor, Jason Murphy, Claude Shelton, Jason Thomas, Markus Schirle, National Institutes of BioMedical Research, Cambridge, MA, USA

(L-425) Development of a Novel Automated, High-Throughput, Plasma Protein Biomarker Enrichment Protocol. Patrick McCarthy¹, Jason Evans², Rachel Muriph², Ulrich Thomann¹, ¹Covaris Inc., Woburn, MA, USA; ²University of Massachusetts Boston, Boston, MA, USA

(L-426) Development of a Broad Spectrum, Vinyl Sulfonate-based Activity-based Probe for SHP2. Wankyu Lee¹, Christopher am Ende², Uthpala Seneviratne³, ¹Dewpoint Therapeutics, Boston, MA, USA; ²Pfizer, Groton, CT, USA; ³Pfizer, Cambridge, MA, USA

Thursday PM Parallel Session 28: Additional Young Scientists Orals in Competition for the 2021 MSB Young Scientist Award
(Session sponsored by Dana-Farber Cancer Institute)

(L-427) (YS) Rapid In-gel Protein Detection from Highly-integrated Single-cell Immunoassays by Electrotransfer Probing. Andoni Mourdoukoutas, Amy Herr, University of California Berkeley, Bioengineering, Berkeley, CA, USA

(L-428) (YS) Droplet Microfluidic Technology for the Early and Label-free Isolation of Activated T-cells. Claudia Zielke, Adriana Gutierrez Ramirez, Paul Abhyad, Santa Clara University, Santa Clara, CA, USA

(L-429) (YS) Novel Water-compatible Type of Stationary Phase for Thin-film Microextraction (TFME) of Small Molecules from Aqueous Samples. Lukasz Sobczak, Dominika Kołodziej, Krzysztof Goryński, Nicolaus Copernicus University Toruń, Bydgoszcz, POLAND

(L-430) (YS) Isotope Encoded Derivatization of Endothelial Cell Lysates for Nine-plex Quantitation of Aldehyde Metabolites using nESI-LC-HRMS. Michael Armbruster, Scott Grady, Julius Agongo, Chris Arnatt, James Edwards, Saint Louis University, St. Louis, MO, USA

THURSDAY PM AWARDS AND PRIZES CEREMONY

INVITATION TO MSB 2022

CLOSING SESSION AND FINAL REMARKS

- Alexander Ivanov, Chair MSB 2021, Barnett Institute of Chemical & Biological Analysis, Northeastern University, Boston, MA, USA
- Kimberly Hamad-Schifferli, Co-Chair MSB 2021, University of Massachusetts Boston, Boston, MA, USA
- Jarrod Marto, Co-Chair MSB 2021, Dana-Farber Cancer Institute, Brigham and Women’s Hospital, Harvard Medical School, Boston, MA, USA