

2022 Preliminary Technical Oral Program

Here is the preliminary list of oral invited and contributed sessions. The Poster Sessions will be announced in September. It is not too late to submit an abstract for a **poster** presentation! The deadline is September 4th. Visit our submission site for more details and to submit: www.EAS.org/asubmit

MONDAY MORNING, NOVEMBER 14

Time	Title, Author(s)
EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry Honoring Richard Crooks, University of Texas-Austin Chair: Frank Zamborini, University of Louisville	
9:00am	<i>Oxidation and Deposition Processes with Metal Nanoparticles</i> , <u>Frank Zamborini</u> , University of Louisville
9:30am	<i>Desalting and Salting Nanoliter-Scale Water-in-Oil Droplets</i> , <u>Robbyn Anand</u> , Iowa State University
10:00am	Break
10:30am	<i>Serial and Parallel Approaches to High-Throughput Electro-Chemistry</i> , <u>Lane Baker</u> , Texas A&M University
11:00am	<i>Presentation of the EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry</i>
11:05am	<i>Magnetic and Electrochemical Preconcentration: A Route to Home-Based, Picomolar Detection of a Heart Failure Biomarker</i> , <u>Richard Crooks</u> , University of Texas-Austin

Advances in NMR Data Science Chair: David Rovnayk, Bucknell University	
9:00am	<i>Getting New Correlations from Old Spectra-Covariance NMR to Rescue Challenging Biomolecular Projects</i> , <u>Dominique Frueh</u> , Kenneth Marincin, Johns Hopkins University, Aswani Kancharla, Mynvax Private Limited, Subrata Mishra, United States Pharmacopeia
9:30am	<i>Characterization of Biotherapeutics by Chemometrics and Machine Learning Analysis of NMR Spectra</i> , <u>Frank Delaglio</u> , University of Maryland
10:00am	Break
10:30am	<i>Shifting-Corrected Regularized Regression Model for NMR Metabolomic Identification</i> , <u>Thao Vu</u> , Colorado School of Public Health, Yuhang Xu, Bowling Green State University, Yumou Qiu, Iowa State University, Robert Powers, University of Nebraska-Lincoln
11:00am	<i>Using Deep Learning to Unleash the Potential of NMR Spectroscopy</i> , <u>Flemming Hansen</u> , University College London

STEM Education Innovations Chair: Shirley Fischer-Drowos, Widener University	
9:00am	<i>BCEENET: Creating a Collaborative Network to Support Course-Based Undergraduate Research Experiences (CUREs) Using Digitized Natural History Collections</i> , <u>Janice Krumm</u> , Widener University
9:30am	<i>Student Outcomes and Perceptions of Specifications Grading in a First Semester General Chemistry Course</i> , <u>Stephen Habay</u> , Salisbury University
10:00am	Break
10:30am	<i>Thinking Outside the Classroom – Coursework Using Current Environmental Case Studies</i> , <u>Gina Plantz</u> , Haley & Aldrich
11:00am	<i>Transforming the Chemistry Lab Experience</i> , <u>Shirley Fischer-Drowos</u> , Widener University

Innovative Approaches to Liquid Chromatography in Drug Development: From Small Molecules to New Modalities Chair: Yi He, John Jay College of Criminal Justice	
9:00am	<i>Novel Strategies for Targeted Protein Quantification in Biomatrices</i> , <u>Bo An</u> , GlaxoSmithKline
9:30am	<i>In Silico Multifactorial Modeling for Streamlined Development and Optimization of Chromatography Methods</i> , <u>Imad Haidar Ahmad</u> , Merck & Co., Inc.
10:00am	Break
10:30am	<i>Improving Oligonucleotide Separations and Impurity Analysis Using LC Systems and Columns with Hybrid Surface Technology</i> , <u>Martin Gilar</u> , Waters Corporation
11:00am	<i>Empower mRNA-Based Medicines by HPLC</i> , <u>Penggao Duan</u> , Moderna

Applied Data Science: Expanding the Chemometrics Toolbox Chair: Brandye Smith-Goettler, Merck & Co., Inc.	
9:00am	<u>Peter Harrington</u> , Ohio University
9:30am	<i>Online Model Selection: Which One?</i> , <u>Barry Wise</u> , Eigenvector Research
10:00am	Break
10:30am	<i>Pharmaceutical Applications of Machine Learning</i> , <u>Brandye Smith-Goettler</u> , Merck & Co., Inc.
11:00am	<u>Adam Gilmore</u> , HORIBA Scientific

2022 Preliminary Technical Oral Program

Monday Morning continued

Advancements of Mass Spectrometry and Applications Diversity Chair: Peter Bratin, ECI Technology	
9:00am	<i>The Importance of High Resolution Ion Mobility Mass Spectrometry to Accurately Read Back the Complex Language of Biology</i> , <u>David Muddiman</u> , Jeffrey Enders, Taufika Williams, Kenneth Garrard, North Carolina State University
9:30am	<i>Statistical Approach for System Suitability Testing for Mass Spectrometry Imaging by Infrared Matrix-Assisted Laser Desorption Electrospray Ionization (IR-MALDESI)</i> , <u>Olivia Dioli</u> , Hellena Bai, Kenneth Garrard, David Muddiman, Emily Hector, North Carolina State University
10:00am	Break
10:30am	<i>Quantitation of Antibody Deamidation Degradation and Host Cell Proteins by Coulometric Mass Spectrometry</i> , <u>Yongling Ai</u> , Hao Chen, New Jersey Institute of Technology
11:00am	<i>A Novel Chromatographic Approach to Microplastics Analysis Using Pyrolysis-GC-MS: How Your GC/MS Can Be Adapted for Microplastics Research</i> , <u>Khadiza Mom</u> , Quantum Analytics

Applications and Technologies Addressing Environmental Concerns Chair: Neil Jespersen and Christina Robb, United States Food & Drug Administration SANFL	
9:00am	<i>Green Chemistry Initiatives at MilliporeSigma for a Sustainable Future</i> , <u>Ettigounder Ponnusamy</u> , Milliporesigma
9:30am	<i>Growth Rate Dependence of Secondary Organic Aerosol on Seed Particle Size, Composition, and Phase</i> , <u>Devon Higgins</u> , Michael Taylor, Justin Krasnomowitz, Murray Johnston, University of Delaware
10:00am	Break
10:30am	<i>Unraveling the Complex Composition of Produced Water by Specialized Extraction Methodologies</i> , <u>Emanuela Gionfriddo</u> , Ronald V. Emmons, Govind S. Shyam Sunder, Jon R. Kirchhoff, The University of Toledo, Tiffany Liden, Kevin A. Schug, University of Texas at Arlington
11:00am	<i>A Screening Test for Pollution of Lakes with Perfluoroalkyl Substances (PFAS): Raman Spectroscopy of Fish Blood</i> , <u>Luis Pérez-Almodóvar</u> , Igor Lednev, State University of New York

Bioanalysis: New Technology Advances and Developments Chair: Mary Lynn Grayeski	
9:00am	<i>Smart Biosensors with Machine Learning for Objective Pain Assessment</i> , <u>Omowunmi Sadik</u> , New Jersey Institute of Technology
9:30am	<i>Light-Addressable Electroanalysis with Semiconductor/Metal Nanoparticle Junctions</i> , <u>Glen O'Neil</u> , Montclair State University
10:00am	Break
10:30am	<i>AI for Model Exploration of Molecular Equilibria in VR</i> , <u>Fereshteh Emami</u> , Tara Richard, Bryanne Boudreaux, Mathew Massey, Southeastern Louisiana University, Sheldon Zhu, Joseph Perez, Liam Golly, Theodore Nguyen, Srujan Gutta, Sunwoo Kim, Jonathon Padon, Thomas DeFanti, Larry Smarr, University of San Diego

Forensic Analysis: Innovations and Technological Advancements Chair: Penny Moore	
9:00am	<i>Forensics and Innovative Technologies (FIT): How FIT Fits in Bristol-Myers Squibb</i> , <u>Ravi Kalyanaraman</u> , Bristol Myers Squibb
9:30am	<i>HPTLC Separation of Novel Psychoactive Substances</i> , <u>Thomas Brettell</u> , Marianne Staretz, Cedar Crest College
10:00am	Break
10:30am	<i>Identification of Fibers Using Raman Microspectroscopy: A Case Study</i> , <u>Sergey Mamedov</u> , HORIBA Scientific
11:00am	<i>Examination of Pigmented Fibers for Trace Evidence Applications</i> , <u>Christopher Palenik</u> , Kelly Beckert, Ethan Groves, Skip Palenik, Otyllia Abraham, Microtrace LLC

Vibrational Spectroscopy: Propelling New Insights into Chemical Analysis Chair: Dave Russell	
9:00am	<i>Raman Spectroscopy of TiO₂, WO₃, and Y₂O₃ Nanoparticles</i> , <u>Sergey Mamedov</u> , HORIBA Scientific
9:30am	<i>Differentiation of Structurally Similar Fentanyl Analogues with Theoretical and Experimental Analysis by Surface-Enhanced Raman Spectroscopy (SERS)</i> , <u>Sevde Dogruer</u> , Emily Hernandez, Bruce McCord, Florida International University
10:00am	Break
10:30am	<i>Highly Selective Differentiation of Organic Gunshot Residues Combining their Elemental and Molecular Signatures</i> , <u>Shelby Khandasammy</u> , Igor Lednev, University at Albany – SUNY, Lenka Halámková, Texas Tech University, Matthieu Baudélet, University of Central Florida
11:00am	<i>Root Cause Spectroscopic Failure Investigation Aided by High Resolution SEM/EDS, FT-IR, XPS Instruments</i> , <u>Jeanette vaiji Vass</u> , Auto & Materials

2022 EAS Preliminary Technical Oral Program

MONDAY AFTERNOON, NOVEMBER 14

Time	Title, Author(s)
<p>EAS Award for Outstanding Achievements in Magnetic Resonance Honoring Philip Grandinetti, The Ohio State University Chair: Lyndon Emsley, École Polytechnique Fédérale de Lausanne Sponsored by Bruker BioSpin and New Era Enterprises</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>	

1:30pm	<i>Higher Resolution and Higher Sensitivity for Solid-State NMR Spectroscopy</i> , <u>Lyndon Emsley</u> , École Polytechnique Fédérale de Lausanne
2:00pm	<i>Scaling Analyses of Hyperpolarization Transfer from Paramagnetic Centers into Solid Media</i> , Brad Chmelka, Nathan Prisco, University of California-Santa Barbara, Arthur Pinon, Lyndon Emsley, École Polytechnique Fédérale de Lausanne
2:30pm	Break
3:00pm	<i>Custom-Made Magnetic Resonance: An Application-Driven Instrumentation Approach</i> , <u>Dimitrios Sakellariou</u> , KU Leuven
3:30pm	<i>Presentation of the EAS Award for Outstanding Achievements in Magnetic Resonance</i>
3:35pm	<i>Statistical Learning in NMR Non-Crystallography</i> , <u>Philip Grandinetti</u> , The Ohio State University

<p>New York Microscopical Society Ernst Abbe Award Honoring: Professor Manu Prakash, Stanford University Chairs: Brooke Kamrath, University of New Haven, John Reffner, John Jay College of Criminal Justice</p>	
1:30pm	<u>Manu Prakash</u> , Stanford University
2:00pm	<u>Benedict Diederich</u> , openUC2
2:30pm	Break
3:00pm	<u>Thibaut Thibaut</u> , Stanford University
3:30pm	Panel Discussion

<p>POWERHOUSE SESSION: Challenges of Counterfeit Detection in Pharmaceutical Industry Chairs: Pauline Leary, Federal Resources, Kim Huynh-Ba, Pharmalytik, LLC</p>	
1:30pm	<i>Analytical and Operational Challenges in Counterfeit Case Studies</i> , <u>Ravi Kalyanaraman</u> , Bristol Myers Squibb
2:00pm	<i>Microscopical Analysis Applied to the Detection and Sourcing of Counterfeit Products</i> , <u>Christopher Palenik</u> , Microtrace LLC
2:30pm	Break
3:00pm	<i>Unsafe: Fake or Counterfeit</i> , <u>Dale Purcell</u> , Chemical Microscopy, LLC
3:30pm	Panel Discussion

<p>Analytical Schemes in Forensic Science, organized by the New Jersey Association of Forensic Scientists Chair: David Fisher, New Jersey Institute of Technology</p>	
1:30pm	<i>Forensic Capabilities for US Trade Enforcement at the CBP New York Laboratory</i> , <u>Adam Hutter</u> , United States Department of Homeland Security
2:00pm	<i>Pain Biosensors in Forensic Identification of Physical Trauma</i> , <u>Omowunmi Sadik</u> , Gaddi Eshun, Christopher Henni, New Jersey Institute of Technology, J Schaffer, Walker Land, State University of New York-Binghamton
2:30pm	Break
3:00pm	<i>Illicit Drugs: A Guide for Analysis</i> , <u>Kristi Bartok</u> , Union County Prosecutor's Office Forensic Laboratory
3:30pm	<i>Quantitation of Protein Deamidation Degradation by Coulometric Mass Spectrometry (CMS) and Its Potential Application for Determining Post-Mortem Interval (PMI)</i> , <u>Hao Chen</u> , New Jersey Institute of Technology

<p>Food Spectroscopy - It's not Just Near Infrared Chair: Ellen Miseo, Miseo Consulting</p>	
1:30pm	<i>Adapting Portable XRF Spectroscopy for Field Use in Agriculture</i> , <u>Jill Clapperton</u> , Rhizoterra Inc.
2:00pm	<i>Exploring the Contours of A-TEEM Spectroscopy for Food Analysis</i> , <u>Linda Kidder</u> , Adam Gilmore, Cary Davies, HORIBA Scientific Instruments
2:30pm	Break
3:00pm	<i>Mid-Infrared Solutions for Rapid Sensing of Food Contaminants</i> , <u>Luis Rodriguez-Soana</u> , The Ohio State University
3:30pm	<i>Applications of Raman Spectroscopy for Food Analysis</i> , <u>Zili Gao</u> , University of Massachusetts-Amherst

2022 Preliminary Technical Oral Program

Monday Afternoon continued

Electrochemical Analysis Chair: Michelle Rasmussen, Lebanon Valley College	
1:30pm	<i>Functional Biosensors for Infectious Disease</i> , <u>Ariel Furst</u> , Massachusetts Institute of Technology
2:00pm	<i>Using Bioelectrocatalysis for Analysis</i> , <u>Shelley Minter</u> , University of Utah
2:30pm	Break
3:00pm	<i>Revealing the Heterogeneity in Metal Dissolution Reaction via Colocalized Electrochemical and Structural Imaging</i> , <u>Hang Ren</u> , University of Texas at Austin
3:30pm	<u>David Hickey</u> , Michigan State University

Mass Spectrometry Solutions to Challenges in the Pharmaceutical Industry, organized by the North Jersey Mass Spec Discussion Group Chair: David J. Schenk, Merck & Co., Inc.	
1:30pm	<i>HRMS on Small Molecule Impurity Identification in Pharmaceutical Development</i> , <u>Jiaxuan Yan</u> , Xing Yin, Wendy Zhong, Douglas Richardson, Hillary Schuessler, Merck & Co., Inc.
2:00pm	<i>2-Pyridine Carboxaldehyde for Semi-Automated Soft Spot Identification in Cyclic Peptides</i> , <u>Joe R. Cannon</u> , Bristol Myers Squibb
2:30pm	Break
3:00pm	<i>Host Cell Protein Characterization Methodology and Use within Downstream Process Development Pipeline</i> , <u>Stephanie Lehman</u> , Josue Baeza, GlaxoSmithKline
3:30pm	<i>Two-Dimensional Liquid Chromatography-Mass Spectrometry (2DLC-MS) for Simultaneous Multi-Attribute Characterization of Adeno-Associated Viruses</i> , <u>Zhijie Wu</u> , Hongxia Wang, Andrew Tustian, Haibo Qiu, Ning Li, Regeneron Pharmaceuticals, Inc.

Sustainable Separations, sponsored by the Chromatography Forum of the Delaware Valley Chair: Mary Ellen McNally, FMC Corporation	
1:30pm	<i>The Role of Instrument Detection Level in the Development of Sustainable Trace Level Methods</i> , <u>James Stry</u> , FMC Corporation
2:00pm	<i>Greening Separation Science</i> , <u>Chris Welch</u> , Center for Bioanalytic Metrology an NSF Industry-University Cooperative Research Center
2:30pm	Break
3:00pm	<i>A Rapid Automated Extraction Platform to Assess Drug Product Potency by Online Liquid Chromatography</i> , <u>Stephen Groskreutz</u> , Grodon Lambertus, Eli Lilly and Company
3:30pm	<i>Transferring Analytical-Scale LC Separations to Compact Capillary LC Instrumentation</i> , <u>James Grinias</u> , Rowan University

Innovations in Vibrational Spectroscopy as an Essential Tool in Chemical Analyses Chair: Kate Jackson, Colgate Palmolive	
1:30pm	<i>Determining the Time Since Deposition of Menstrual Blood Stains Utilizing Raman Spectroscopy</i> , <u>Alexis Weber</u> , Igor Lednev, University at Albany-SUNY
2:00pm	<i>The Role of Micro Spectroscopic Analysis Tools in Industrial Problem Solving</i> , <u>Jeanette vajki Vass</u> , Auto & Materials
2:30pm	Break
3:00pm	<i>Phenotype Profiling Based on Raman Spectroscopy of a Blood Deposit: The Effect of Hormone Replacement Therapy on Sex Determination</i> , <u>Emily Miller</u> , Brooke Kammrath, University of New Haven, Alexis Weber, Igor Lednev, University at Albany-SUNY

KEYNOTE LECTURE

Monday, November 14, 4:15pm

Making Progress with Social Justice and Sensing

Dr. Raychelle Burks - @DrRubidium
Analytical Chemist, Forensic Scientist &
Science Communicator, American University

All registered Conferees, Attendees and Exhibitors are invited to attend.
A reception will be held immediately following the lecture.

2022 Preliminary Technical Oral Program

TUESDAY MORNING, NOVEMBER 15

BREAKFAST LECTURE

Tuesday, November 15, 8:00am

The Dark Side of Science: Misconduct in Research

Dr. Elisabeth Bik - @MicrobiomeDigest
Science Consultant - Microbiome, Science Integrity & Image Forensics
Harbers Bik LLC

All registered Full Conferees and Full-Time Student Conferees are invited to attend the Breakfast Lecture. A light breakfast will be provided.

Time	Title, Author(s)
EAS Award for Outstanding Achievements in Vibrational Spectroscopy Honoring Richard Crocombe, Crocombe Spectroscopic Consulting Chair: Ellen Miseo, Miseo Consulting	
9:00am	Presentation of the EAS Award for Outstanding Achievements in Vibrational Spectroscopy
9:05am	<i>Spectrometers in Wonderland: Shrinking, Shrinking, Shrinking</i> , <u>Richard Crocombe</u> , Crocombe Spectroscopic Consulting
9:30am	<i>Safety and Security Dependence on Vibrational Spectroscopy</i> , <u>Pauline Leary</u> , Federal Resources
10:00am	Break
10:30am	<i>Advancing the On-Scene Detection and Identification of Illicit Drugs With Portable Technologies</i> , <u>Brooke Kammrath</u> , Henry C. Lee College of Criminal Justice and Forensic Sciences
11:00am	<i>Process Analytical Technology for Oral Solid Dose Manufacturing</i> , <u>Larry McDermott</u> , Vertex Pharmaceuticals

EAS Young Investigator Award; New Perspectives in the Analysis of the Modified Proteome Using Mass Spectrometry

Honoring Simone Sidoli, Albert Einstein College of Medicine

Chair: Benjamin Garcia, Washington University in St. Louis

9:00am	<i>Quantitative Mass Spectrometry for Understanding Chromatin Mutations in Human Disease</i> , <u>Benjamin Garcia</u> , Washington University in St. Louis
9:30am	<i>Proteomics Analysis Combined with Pulsed Metabolic Labeling Reveals Phosphorylation-Mediated Regulation of Host Heterochromatin during Herpes Simplex Virus 1 Infection</i> , <u>Katarzyna Kulej</u> , Children's Hospital of Philadelphia
10:00am	Break
10:30am	<i>Activity-Based Protein Profiling of PTMs and Enzyme Cofactors</i> , <u>Megan Matthews</u> , University of Pennsylvania
11:00am	Presentation of the EAS Young Investigator Award
11:05am	<i>A New Perspective for Aging Research: The Proteome that Decorates Reactivated Heterochromatin</i> , <u>Simone Sidoli</u> , Albert Einstein College of Medicine

POWERHOUSE SESSION

Challenges in Cannabis Testing for a Growing Industry

Chair: Anthony Provatas, University of Connecticut

9:00am	<i>D8-THC Distillates Analysis Using High Resolution and Ion Mobility Mass Spectrometry</i> , <u>Douglas Stevens</u> , Marian Twohig, Andrew Baker, Waters Corporation, Andrew Aubin, Christopher Hudalla, ProVerde Laboratories, Inc.
9:30am	<i>Case Studies Where Regulations Drive Laboratory Failure</i> , <u>Susan Audino</u> , Audino & Associates
10:00am	Break
10:30am	<i>Compliance Testing of Cannabis Sativa L. for Delta-9 THC and CBD Using Gas Chromatography with Flame Ionization Detection Compared to Liquid Chromatography with UV Detection</i> , <u>Anuja Bharadwaj</u> , Terri Arsenault, The Connecticut Agricultural Experiment Station
11:00am	<i>Cannabis & CBD Testing Primer: Understanding the Details of Testing Cannabis & CBD in 2022</i> , <u>Toby Astill</u> , Perkin Elmer

Managing the Analytical Laboratory: The New "Normal"

Chair: Dennis Swijter, Association of Laboratory Managers (ALMA)

9:00am	<i>Laboratory Automatization is no Silver Bullet</i> , <u>Pascal Mbithy</u> , Pwani Oil Limited
9:30am	<i>Empowering Staff through a Constructive Performance Review</i> , <u>Scott Hanton</u> , Lab Manager Magazine
10:00am	Break
10:30am	<i>A Diverse and Collaborative Workforce: Starting it and Keeping it</i> , <u>Maria Dennis</u> , Weill Cornell Medicine
11:00am	<i>Motivating and Retaining Staff</i> , <u>May Adaeze Chinda</u> , University of Ghana Medical Centre

2022 Preliminary Technical Oral Program

Tuesday Morning continued

The Research from our Emerging Forensic Scientists, sponsored by New Jersey Association of Forensic Scientists Chair: Monica Joshi, West Chester University of PA	
9:00am	<i>Expanding the PROVEDIt Set with Next Generation Sequencing Data: Supporting Foundational Forensic Research Initiatives</i> , Ami Reader, Jessica Dominguez Lopez, Catherine Grgicak Rutgers University-Camden
9:30am	<i>Optimization of Feltatio Sample Analysis</i> , Brianna Gregory, Janine Kishbaugh, Cedar Crest College
10:00am	Break
10:30am	<i>Development and Validation of a GC-QQQ Method for Smokeless Powder Additives</i> , <u>Blake Kerstetter</u> , Monica Joshi, West Chester University of Pennsylvania
11:00am	<i>Method Development and Validation for the Determination of Fentanyl and Fentanyl-Related Compounds on United States Paper Currency by LC-QQQ-MS</i> , <u>Matthew Hewes</u> , Barry Logan, Thomas Jefferson University, Donna Papsun, NMS Labs, Alex Krotulski, Center for Forensic Science Research and Education

Accelerating Innovation with Machine learning, Predictive Technologies and Lab Automation Chairs: Yongchao Su, Merck & Co., Kim Huynh-Ba, Pharmalytik, LLC	
9:00am	<i>Predicting Pharmaceutical Product Performance through Modeling, Machine Learning and Statistics</i> , <u>Timothy Rhodes</u> , Merck & Co., Inc.
9:30am	<i>Automated High-Throughput Biophysical Methods for Higher Order Structure Analysis of Protein Biopharmaceuticals</i> , <u>Anne Kim</u> , Pfizer
10:00am	Break
10:30am	<i>Computational Tools for Modeling Critical Quality Attributes in Biologics</i> , <u>Naresh Chennamsetty</u> , Bristol Myers Squibb
11:00am	<i>NMR as Integral Part of Innovative, Smart Solutions to Increase Automation from R&D to Manufacturing - New Compact, Mobile, Affordable Approach to API Manufacturing</i> , <u>Anna Codina</u> , Bruker, Luis Carrillo, De Dietrich Process Systems, Julien Marin, NovAliX, Philippe Robin, Alysophil SAS

Recent Advances in Liquid Chromatography, sponsored by the Chromatography Forum of the Delaware Valley Chair: Joe Foley, Drexel University	
9:00am	<i>Recent Developments in Tandem-Column Liquid Chromatography and Chiral Capillary Electrophoresis</i> , <u>Joe Foley</u> , Drexel University
9:30am	<i>Capillary Electrophoresis Coupled to Mass Spectrometry through Vibrational Sharp-Edge Spray Ionization</i> , <u>Lisa Holland</u> , West Virginia University
10:00am	Break
10:30am	<i>Liquid Chromatography Column Considerations in Pharmaceutical & Biopharmaceutical Analysis</i> , <u>James Grinias</u> , Rowan University
11:00am	<i>Improving the Performance of Second Dimension Separations in 2D-LC - Vignettes about Recent Progress</i> , <u>Dwight Stoll</u> , Gustavus Adolphus College

Frontiers in Pharmaceutical Analysis: Technology and Applications Chair: Michelle Case, Bristol Myers Squibb	
9:00am	<i>Sustainable Analytical Methodology for Residual Dextran Sulfate in Biopharmaceutical In-process Samples by UV-Vis Spectrophotometry</i> , <u>Lee Oliver</u> , GlaxoSmithKline
9:30am	<i>Modernized Impurity Analysis of the Kinase Inhibitor Imatinib by High-Resolution LC with MS-Compatible Mobile Phases</i> , Peng Chen, Bonnie Alden, Matthew Lauber, Waters Corporation
10:00am	Break
10:30am	<i>Root Cause Identification of Unexpected Toluene Ingress Enables Commercial Process Validation for the Synthesis of a GMP Pharmaceutical Intermediate</i> , <u>Jackson Hall</u> , Robert Franklin, Pratiq Patel, Holst Halsey, Zhu Liu, Linda Zheng, James Corry, Lisa Jellet, Hanlin Luo, Morgan Crawford, Cheol Chung, Nadine Kuhl, Rebecca Arvary, Feng Tan, Sachin Lohani, Merck & Co.
11:00am	<i>Determination of Promethazine and Codeine and Differentiation from Dextromethorphan by HPTLC</i> , <u>Sateedrah Beckwith</u> , Marianne Staretz, Thomas Brettell, Cedar Crest College, Samantha Berrios, OCME

2022 Preliminary Technical Oral Program

TUESDAY AFTERNOON, NOVEMBER 15

Time	Title, Author(s)
EAS Award for Outstanding Achievements in Separation Sciences Honoring Fabrice Gritti, Waters Corporation Chair: Mark Schure, Kroungold Analytical, Inc. Sponsored by Restek Corporation	
	
1:30pm	<i>Innovative Chromatographic Approaches to Improve the Characterization of Complex Biopharmaceutical Products</i> , <u>Davy Guillaume</u> , <u>Amarande Murisier</u> , University of Geneva, <u>Szabolcs Fekete</u> , Waters Corporation
2:00pm	<i>Three More Chromatographic Questions Needing to be Answered</i> , <u>Mark Schure</u> , Kroungold Analytical, Inc.
2:30pm	Break
3:00pm	<i>Fabrice Gritti: Chromatographic MythBuster</i> , <u>Martin Gilar</u> , Waters Corporation
3:30pm	Presentation of the EAS Award for Outstanding Achievements in Separation Sciences
3:35pm	<i>Retention Mechanism in Reversed-Phase Liquid Chromatography: Past, Recent, and Future Research Investigations</i> , <u>Fabrice Gritti</u> , Waters Corporation
Novel Applications of Electron-Based Dissociation for Proteomics Chair: Jeremy L. Balsbaugh, University of Connecticut	
1:30pm	<i>Application of Electron Transfer Dissociation in Phosphoproteomics to Identify Rewiring of Kinase Substrate Specificity</i> , <u>Danielle Cafer</u> , University of Connecticut
2:00pm	<i>ETD and Glycoproteomics</i> , <u>Stacy Malaker</u> , Yale University
2:30pm	Break
3:00pm	<i>Analysis of Intact Proteins with Electron Transfer Dissociation, Proton Transfer Charge Reduction, and Parallel Ion Parking</i> , <u>Seamus Kelley</u> , <u>Jeffrey Shabanowitz</u> , <u>Donald Hunt</u> , University of Virginia
3:30pm	<i>ETD of Charge Reduced Precursors...a Moot Point?</i> , <u>Lissa Anderson</u> , National High Magnetic Field Laboratory
Probing the Microbiome Using Mass Spectrometry Chair: Roy Martin, Waters Corporation	
1:30pm	<i>MicrobeMASST - Detection of MS/MS Spectra in a Bacterial and Fungal Reference Database</i> , <u>Simone Zuffa</u> , <u>Robin Schmid</u> , <u>Anelize Bauermeister</u> , <u>Andres Mauricio Caraballo Rodriguez</u> , <u>Emily Gentry</u> , <u>Paulo Wender Portal Gomes</u> , <u>Michael Meehan</u> , <u>Mingxun Wang</u> , <u>Pieter Dorrestein</u> , University of California-San Diego
2:00pm	<i>Toward High-Throughput Metabolic Phenotyping in Synthetic Biology with Desorption Electrospray Ionization-Mass Spectrometry Imaging</i> , <u>Hawkins Shepard</u> , <u>Jody May</u> , <u>John McLean</u> , Vanderbilt University
2:30pm	Break
3:00pm	<i>D-Amino Acids in the Microbiome-Gut-Brain Axis</i> , <u>Huang Chen</u> , <u>Tian Qiu</u> , <u>Cindy Lee</u> , <u>Stanislav Rubakhin</u> , <u>Jonathan Sweedler</u> , University of Illinois, <u>Dongkyu Lee</u> , Chung-Ang University
3:30pm	<i>Metabolomics - A Discovery-Based Approach in the Infection Relevant Environment</i> , <u>Neha Garg</u> , <u>Andrew Mcavoy</u> , Georgia Institute of Technology
Forensics on the Go: Portable Instruments in the Field, sponsored by SAS New England Chair: Suzanne Schreyer, Rigaku Analytical Devices	
1:30pm	<i>Portable Raman Spectroscopy for Screening of Phthalate Plasticizers in Food Contact Materials via Chemometrics and Library Spectral Matching</i> , <u>Joshua Moskowitz</u> , University of Maryland, <u>Katherine Carlos</u> , <u>Luke Lindahl-Ackerman</u> , <u>Kristen Reese</u> , <u>Betsy Yakes</u> , United States Food & Drug Administration
2:00pm	<i>Rapid Field Screening of New Psychoactive Substances in Suspect Counterfeit Tablets Using SERS, FT-IR and DART-TD-MS</i> , <u>Kimani Martin</u> , United States Food & Drug Administration
2:30pm	Break
3:00pm	<i>Portable Instrumentation for the Screening of Explosives</i> , <u>Gina Guerrero</u> , Federal Bureau of Investigation
3:30pm	<i>Street Chemistry: How are Portable Handheld Raman and Infrared Spectroscopy are being used by Law Enforcements to Solve Crimes</i> , <u>Pakorn Patimetha</u> , New Jersey State Police
Green Chemistry from Fundamentals to Applications Chairs: Shirley Fischer-Drowos, Widener University, Christina Robb, United States Food & Drug Administration	
1:30pm	<i>Creating more Efficient, Less Hazardous Syntheses of Pharmaceutical Using the 12 Principles of Green Chemistry</i> , <u>Loyd Bastin</u> , Widener University
2:00pm	<i>The Driving Sustainable Research: Maximizing Spectroscopy and Spectrometry Tools</i> , <u>John Wasyluk</u> , <u>Robert Wethman</u> , <u>Ming Huang</u> , Bristol Myers Squibb
2:30pm	Break
3:00pm	To be announced
3:30pm	Panel Discussion

2022 Preliminary Technical Oral Program

Tuesday Afternoon continued

Cannabis - CBD Product Testing Chair: Gregory Sotzing, University of Connecticut	
1:30pm	<i>Raising Awareness: The Successful Implementation of Natural Plant Based Medicines Used as Adjunct Therapies with Standard Treatments for Metastatic Breast Cancer</i> , <u>Jaime Brambilla</u> , Grace Health and Wellness
2:00pm	<u>Robert Rankin</u> , Nice Cannabis
2:30pm	Break
3:00pm	<i>Leveraging Advanced Mass Spectrometry Tools to Explore Complex Cannabinoid Distributions</i> , <u>Alex Aksenov</u> , University of Connecticut
3:30pm	<i>Cannabinoid Composition Analysis by Nuclear Magnetic Resonance Spectroscopy and Mass Spectrometry</i> , <u>Gregory Sotzing</u> , University of Connecticut

HPLC/UHPLC Separations in Pharmaceutical Applications Chair: Oscar Liu, Silver Spring Scientific LLC	
1:30pm	<i>Systematic RPLC Method Development for an Important Class of Pharmaceutical Compounds Possessing Ketoamide Group</i> , <u>Nilusha Padivitage</u> , <u>Yong Liu</u> , <u>Brittany Kassim</u> , <u>Jinjian Zheng</u> , <u>Paul Bulger</u> , Merck & Co., Inc.
2:00pm	<i>Exploring the Improvements Enabled by 1.5 mm ID UHPLC SPP Columns</i> , <u>Stephanie Schuster</u> , <u>Peter Pellegrinelli</u> , <u>Conner McHale</u> , <u>Benjamin Libert</u> , Advanced Materials Technology, Inc.
2:30pm	Break
3:00pm	<i>Trace Corrosion of Stainless Steel HPLC Components from Common Mobile Phase Additive and the Deleterious Impact on Separations</i> , <u>Jesse Bischof</u> , SilcoTek Corporation
3:30pm	<i>Characterization of Zwitterionic HILIC Columns Based on Ethylene-Bridged Hybrid Particles</i> , <u>Thomas Walter</u> , <u>Bonnie Alden</u> , <u>Kenneth Berthelette</u> , Waters Corporation

HPTLC: A Powerful Technique Addressing Analytical Challenges Chair: Leonel Santos	
1:30pm	<i>High-Performance Thin-Layer Chromatography and Morpho-Anatomy and of Monteverdia Illicifolia "Espinheira-Santa" and its Adulterants</i> , <u>Wilmer Perera</u> , <u>Christopher Howard</u> , <u>Eike Reich</u> , CAMAG Scientific, Inc., <u>Kevin Antunes</u> , <u>Valter Paes de Almeida</u> , <u>Luciane Mendes Monteiro</u> , <u>Vera Lúcia Pereira dos Santos</u> , <u>Jane Manfron</u> , State University of Ponta Grossa, <u>Gustavo Heiden</u> , <u>Ernestino de Souza Gomes Guarino</u> , <u>Embrapa</u> , <u>Vijayasankar Raman</u> , University of Mississippi
2:00pm	<i>Hair, Hair Follicle, and Sebum Lipids Evaluation Using HPTLC</i> , <u>Ernesta Malinauskite*</u> , <u>Katerin Mateo</u> , TRI Princeton
2:30pm	Break
3:00pm	<i>HPTLC 4.0 - The Future of Planar Chromatography?</i> , <u>Eike Reich</u> , HPTLC Association
3:30pm	<i>Psilocybe: Potency of Active Compounds, Psilocybin and Psilocin. A Single Lab Validation Using HPTLC, LC/MS/MS</i> , <u>Sidney Sudberg</u> , Alkemist Labs

NMR Spectroscopy as a Versatile Analytical Tool in Chemical Characterizations Chair: Cecil Dybowski, University of Delaware	
1:30pm	<i>2D NMR Peak Profiling to Compare Chemical Differences between Batches of Pentosan Polysulfate Sodium</i> , <u>Kang Chen</u> , United States Food & Drug Administration
2:00pm	<i>Investigating Pharmaceutical Frozen Solution Using ³¹P and ¹H Solid-State NMR</i> , <u>Yong Du</u> , <u>Yongchao Su</u> , Merck & Co., Inc., <u>Jinghan Li</u> , <u>Raj Suryanarayanan</u> , University of Minnesota
2:30pm	Break

WEDNESDAY MORNING, NOVEMBER 16

New York/New Jersey Sections of the Society for Applied Spectroscopy Gold Medal Award Honoring: Rohit Bhargava, University of Illinois-Urbana-Champaign Chairs: Dana Garcia, Deborah Peru, DP Spectroscopy and Training	
9:00am	<i>Nanoscale IR Spectroscopy: From Recent Technical Advances to Nanoscale Mapping and Identification of Metal Soaps in Oil Paints</i> , <u>Andrea Centrone</u> , National Institute of Standards & Technology
9:30am	<i>Stimulated Raman Scattering Microscopy: From Label Free to Metabolic and to Super-Multiplex Imaging</i> , <u>Wei Min</u> , Columbia University
10:00am	Break
10:30am	<u>Rina Dukor</u> , BioTools, Inc.
11:00am	<i>Infrared Chemical Imaging: Uniting Theory, Modeling and Instrumentation for New Capabilities</i> , <u>Rohit Bhargava</u> , University of Illinois-Urbana-Champaign

2022 Preliminary Technical Oral Program

Wednesday Morning continued

Handheld Instrumentation and Chemometrics as Diverse Analytical Tools Chair: Caelin Celani, University of Delaware	
9:00am	<i>Challenges in Applying Chemometrics to Data from Handheld Instrumentation</i> , <u>Barry Lavine</u> , Collin White, Oklahoma State University, William Gilbert, Wesley Carson, Karl Booksh, University of Delaware, James Jordon, United States National Geodetic Survey
9:30am	<i>Handheld Laser Induced Breakdown Spectroscopy, Chemometrics, and the Supply Chain</i> , <u>Nancy McMillen</u> , New Mexico State University
10:00am	Break
10:30am	<i>Self-Optimizing Support Vector Machines</i> , <u>Peter Harrington</u> , Ohio University
11:00am	<i>Chemometrics & Portable Instrumentation: From Environmental Forensics to Art Conservation</i> , <u>Karl Booksh</u> , University of Delaware

Addressing PFAS Total Analytical Challenges Chair: James D. Stuart, University of Connecticut	
9:00am	<i>Leveraging Advances in Mass Spectrometry Instrumentation & Techniques to Address PFAS Contamination</i> , <u>Craig Butt</u> , SCIEX-Danaher Corporation
9:30am	<i>Remediation of PFAS from a Variety of Environmental Matrices</i> , <u>Jay Meegoda</u> , New Jersey Institute of Technology
10:00am	Break
10:30am	<i>Collaborative PFAS Research Using High Resolution Mass Spectrometry: Challenges and Progress</i> , <u>Sara Nason</u> , Connecticut Agricultural Experiment Station
11:00am	<i>Challenges in Method Development of PFAS in Food</i> , <u>Susan Genualdi</u> , Cynthia Srigley, Wendy Young, Christine M. Fisher, Lowri deJager, United States Food and Drug Administration

You Are What You Eat as Viewed Through the Eyes of High-Resolution Mass Spectrometry Analyses of Foods Chair: Gene Hall, Rutgers University	
9:00am	<i>From Fast Food to a Slow Cooked Home Meal Non-Targeted Analyses as Seen Through the Eyes of a High-Resolution Mass Spectrometer</i> , <u>Gene Hall</u> , Rutgers University
9:30am	<i>Non-Targeted Analysis of Foods Using Liquid Chromatography High-Resolution Mass Spectrometry</i> , <u>Christine Fisher</u> , Ann Knolhoff, United States Food and Drug Administration
10:00am	Break
10:30am	<u>Christina Krueger</u> , Complete Phytochemical Solutions, LLC
11:00am	<i>Ensuring Food Ingredient Quality with Mass Spectrometry</i> , <u>Uwe Nienaber</u> , David Bolliet, James Redwine, Kalsec Inc.

Recent Applications of Separations for Chemical Analysis and Physical Characterization, sponsored by ACS Division of Analytical Chemistry Chairs: James Grinias, Rowan University & Jonathan Edelman, Restek	
9:00am	<i>Microelectrophoretic Separations for Studies of Microbial Stress Response</i> , <u>Michelle Kovarik</u> , Trinity College
9:30am	<i>Development of Gas and Liquid Chromatographic Methods for the Determination of Cannabinoids in Cannabis Samples</i> , <u>Walter Wilson</u> , Jerome Mulloor, Andrea Yarberr, National Institute of Standards and Technology
10:00am	Break
10:30am	<i>Rapid Screening and Confirmation of Target Analytes in Biological Fluids with CBS-MS Using a Modified Automated Liquid Handling Robot</i> , <u>Thomas Kane</u> , Ryan Micklitsch, Shane Stevens, Tracey Peters, Matt Lininger, Restek Corporation
11:00am	<i>Building Robustness into a Drug Substance Stability-Indicating Method with QbD – A Case Study</i> , <u>Elizabeth Yuill</u> , Yande Huang, Jonathan Shackman, Hua-Chia Tai, Peter Tattersall, Jia Zang, Bristol Myers Squibb

Liquid Chromatography Applications for Better Separations Chair: Pankaj Aggarwal, Merck & Co., Inc.	
9:00am	<i>HPLC- and UHPLC-MS Analysis of Pharmaceutically Relevant Bio-Macromolecules on the Analytical and Capillary Scale</i> , <u>Hayley Herderschee</u> , Robert Kennedy, University of Michigan, Tian Lu, James Deng, Ping Zhuang, Merck & Co., Inc.
9:30am	<i>LPH-C18: A C18 Column Alternative</i> , <u>Conner McHale</u> , Advanced Materials Technology
10:00am	Break
10:30am	<i>Clear As a Diamond: Fundamentals and Strategies for Using Porous Graphitic Carbon Columns in Liquid Chromatography</i> , <u>Cory Muraco</u> , Michael Ye, Clinton Corman, MilliporeSigma
11:00am	<i>Development of Robust 2D RPLC-NPLC Methods to Support Simultaneous Achiral-Chiral Analysis in High-Throughput Experimentation</i> , <u>Steven Chin</u> , Karissa Cruz, Kenji Kurita, Genentech

2022 Preliminary Technical Oral Program

Wednesday Morning continued

The Utility of Supercritical Fluid Chromatography in Challenging Separations Chair: Enju Wang, St. John's University	
9:00am	Screening for Generality in Asymmetric Catalysis, <u>Spencer McMinn</u> , Merck & Co., Inc.
9:30am	Chiral Method Development and Optimization on Daicel Polysaccharide Chiral Stationary Phases, <u>Weston Umstead</u> , Chiral Technologies
10:00am	Break
10:30am	Accelerating Chiral Supercritical Fluid Chromatography with 3- and sub-2-um Fully Porous Particles and 2.7-um Superficially Porous Particles, <u>Edward Franklin</u> , Melissa Wilcox, Regis Technologies, Inc.

Advances in Proteomics & Metabolomics Research Chair: Costel Daria, Clarkson University	
9:00am	Optimization of the In-Gel Sample Preparation for Mass Spectrometry-Based Proteomics, <u>Mary Donnelly</u> , Hannah Yorkey, Danielle Whitham, Costel Daria, Clarkson University
9:30am	Investigation of the Effects of Human Jumping Translocation Breakpoint (hJTB) Protein for Potential use as a Cancer Biomarker, <u>Madhuri Jayathirtha</u> , Danielle Whitham, Shelby Alwine, Hannah Yorkey, Costel Daria, Clarkson University
10:00am	Break
10:30am	Proteomic Analysis of Human Breast Milk Using Mass Spectrometry to Reveal Protein Biomarkers for Early Breast Cancer Detection, <u>Danielle Whitham</u> , Roskanak Aslebagh, Devika Channaveerappa, Costel C. Daria, Clarkson University, Brian Pentecost, Kathleen F. Arcaro, University of Massachusetts Amherst
11:00am	Proteomics Analysis of Sera from an Asian American woman with Triple Negative Breast Cancer and a Matched Control: A Case Study Investigation for Biomarker Discovery, <u>Isabelle Sullivan</u> , Panashe Mutsengi, Danielle Whitham, Costel Daria, Clarkson University, Brian Pentecost, Kathleen F. Arcaro, University of Massachusetts Amherst

WEDNESDAY AFTERNOON, NOVEMBER 16

PLENARY LECTURE
Wednesday, November 16, 12:00pm – 1:00pm

Professor Angela Belcher
Materials Chemist & Biological Engineer
Massachusetts Institute of Technology

All registered Attendees are invited to attend.

Time	Title, Author(s)
EAS Award for Outstanding Achievements in Mass Spectrometry Honoring Martin Jarrold, Indiana University Chair: David Clemmer, Indiana University	
1:30pm	<u>David Clemmer</u> , Indiana University
2:00pm	Advanced Mass Spectrometric Approaches to Pharmaceutical Product Development, <u>Elizabeth Pierson</u> , Josey Topolski, Alyssa Stiving, Dave Foreman, Huaming Sheng, Merck & Co., Inc.
2:30pm	Break
3:00pm	<u>David Russell</u> , Texas A&M
3:30pm	<u>Martin Jarrold</u> , Indiana University

Solving your PAT Problems with Technology Chair: James Ryzak, Specere Consulting	
1:30pm	Visualizing Reactions and Particle Transformations Using Online and Offline Raman, FTIR and Optical Microscopy, <u>Charles Goss</u> , Daniel Green, Anthony Nocket, Andrew DiPietro, Kevin Chu, Swetha Ainampudi, Alexis Venere, Alicia Potuck, Kaitlyn Lehman, Nick Radziul, Connor Faith, Luke Huelsenbeck, GlaxoSmithKline, Anjan Pandey, Mettler Toledo AutoChem
2:00pm	Driving Sustainable Research by Maximizing Spectroscopy and Spectrometry Tools, <u>John Wasyluk</u> , Bristol Myers Squibb
2:30pm	Break
3:00pm	Highly Selective Small Molecule Impurity Monitoring Using Molecular Rotational Resonance: From Residual Solvents to Challenging Isomers, <u>Alex Mikhonin</u> , Brightspec
3:30pm	Do You Really Understand Your Crystallization - The Value of PAT, <u>Norman Wright</u> , Brian Wittkamp, Charlie Rabinowitz, Mettler-Toledo

2022 Preliminary Technical Oral Program

Wednesday Afternoon continued

Optical Technologies in the Fight Against Disease	
Session Chair: Fay Nicolson, Dana-Farber Cancer Institute	
1:30pm	<i>A-TEEM - A Spectroscopic Tool for the Rapid Characterization of Low Concentration Therapeutics</i> , <u>Linda Kidder</u> , Adam Gilmore, HORIBA Scientific
2:00pm	<i>SERS-Active Diagnostic Platforms for the Early Detection of Preeclampsia</i> , <u>Samuel Mabbott</u> , Texas A&M University
2:30pm	Break
3:00pm	<i>Chemically Defined Media Analysis by Absorbance-Transmission & fluorescence Excitation Emission Matrix (A-TEEM)</i> , <u>Andrew Lewis</u> , Janssen
3:30pm	<i>Targeting the Oncogene HPV16 E7 with Affibody Molecules in Head and Neck Cancer</i> , <u>Sheryl Roberts</u> , Karmanos Cancer Institute, Wayne State University

Data Integrity and Security in Pharmaceuticals	
Chairs: Mariann Neverovitch, Bristol Myers Squibb, Brandy Young, University of Rochester	
1:30pm	<i>Data Security in Gene Therapy</i> , <u>Paul Lake</u> , BioAnalysis LLC
2:00pm	<i>LIMS, Automation Software and Data Integrity: Why it Matters</i> , <u>Christine Paszko</u> , Accelerated Technologies Laboratories
2:30pm	Break
3:00pm	<i>Data Integrity and Compliance – A Lab Scientist's Perspective</i> , <u>Sharla Wood</u> , Bristol Myers Squibb
3:30pm	<i>LIMS Data Security</i> , <u>Melissa Magliola</u> , Thermo Fisher

Forensic Microscopy "What is it? Who does it?", sponsored by ACS New York Section	
Chair: Thomas A. Kubic, John Jay College & The Graduate Center, CUNY	
1:30pm	<i>Microscopy & Microanalysis of Temporary Tattoos</i> , <u>Michelle Miranda</u> , Farmingdale State College-SUNY
2:00pm	<i>Hammer Bounce</i> , <u>Peter Diaczuk</u> , John Jay College of Criminal Justice
2:30pm	Break
3:00pm	<i>The Application of Electron Backscatter Diffraction to the Forensic Analysis of Minerals</i> , <u>Tiffany Millett</u> , John Jay College & The Graduate Center, CUNY
3:30pm	<i>Look Before You Leap</i> , <u>Peter DeForest</u> , Forensic Consultants

1+1=3: Applications of Automated Particle Imaging Combined with Raman Spectroscopy	
Chair: Brooke Kammrath, University of New Haven	
1:30pm	<i>Follow that Particle: Applying Morphological and Spectral Analysis to Pharmaceutical Product Development and Process Understanding</i> , <u>Anne Virden</u> , Deborah Huck-Jones, Malvern Panalytical Ltd.
2:00pm	<i>Automated Particle Correlated Raman Spectroscopy: Case Studies from Microplastics and Pharma to Illustrate Correct Methodology for Diverse Samples</i> , <u>Bridget O'Donnell</u> , HORIBA
2:30pm	Break
3:00pm	<i>Raman Spectroscopy of Sedimentary Grains Shows Potential for Use in Provenance Analysis</i> , <u>Tim Prusnick</u> , Sarah Shidler, Lucy Grainger, Renishaw Inc., Achim Hermann, Louisiana State University
3:30pm	<i>Panel Discussion</i>

Enhanced Approaches to LC Method Development, sponsored by Waters Corporation	
Chair: Isabelle Vu Trieu, Waters Corp.	
1:30pm	<i>USP <1220> and ICH Q14: Differences and Similarities</i> , <u>Horacio Pappa</u> , United States Pharmacopeia
2:00pm	<i>Phase-Appropriate Implementation of AQBd Method Development</i> , <u>Jinjian Zheng</u> , Xiaohua Zhang, Pankaj Aggarwal, Merck & Co., Inc.
2:30pm	Break
3:00pm	<i>Expanding the Use of AQBd Tools to Address Small Molecule Pharmaceutical Development Challenges</i> , <u>Fadi Alkhateeb</u> , Waters Corporation
3:30pm	<i>Panel Discussion</i>

New Advances and Trends in HPLC/UHPLC	
Chair: Robert Menger, Bristol Myers Squibb	
1:30pm	<i>Cannabinoid Separation: A New HPLC System Suitable for Cannabis Research</i> , <u>Alicia Stell</u> , Benedict Liu, Candice Cashman, CEM Corporation
2:00pm	<i>Addressing Secondary Interactions in Size Exclusion Chromatography of Protein Therapeutics</i> , <u>Lavelay Kizekai</u> , Stephen Shiner, Matthew Lauber, Szabolcs Fekete, Mathew Delano, Yeliz Sarisozen, Nicole Lawrence, Waters Corporation
2:30pm	Break
3:00pm	<i>Applying Method Operable Design Region (MODR) and Replication Strategy Optimization Results to Support Analytical Procedure Lifecycle Management (APLM) Stage 2 Method Validation and Transfer and APLM Stage 3 Procedure Monitoring</i> , <u>Richard Verseput</u> , S-Matrix Corporation
3:30pm	<i>Alternative Approach to HPLC Instrumentation</i> , <u>Yury Zelechonok</u> , Bradley Widawer, Olga Kolesnik, Denis Vakulenko, SIELC Technologies

2022 Preliminary Technical Oral Program

Wednesday Afternoon continued

Proteomics & Metabolomics: Challenges and Recent Developments Chair: Debopreeti Mukherjee, Merck & Co., Inc.	
1:30pm	<i>Automated Platform Analytical Method to Determine Polysorbate 80 Content in Biopharmaceutical Drug Product Using the Andrew Robot: A Practical Approach to Automation</i> , <u>Sharon Matamoros</u> , Katie Carnes, Dao Nguyen, Kaitie Grinias, GlaxoSmithKline
2:00pm	<i>Enhanced Sensitivity for Peptide and Protein Applications Using the 1.5mm ID Column</i> , <u>Peter Pellegrinelli</u> , Stephanie Schuster, Conner McHale, AMT
2:30pm	Break
3:00pm	<i>A Proteomic Investigation of Human Serum from Donors with Triple Negative Breast Cancer and Matched Controls to Identify Protein Biomarkers for Breast Cancer Detection</i> , <u>Danielle Whitham</u> , Panashe Mutsengi, Costel Darie, Clarkson University, Brian Pentecost, Kathleen F. Arcaro, University of Massachusetts Amherst
3:30pm	<i>A Proteomics Investigation of Human Sera from African American Donors with Invasive Ductal Carcinoma Breast Cancer and Matched Controls</i> , <u>Panashe Mutsengi</u> , Danielle Whitha, Costel Darie, Clarkson University, Brian Pentecost, Kathleen F. Arcaro, University of Massachusetts Amherst

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