2020 EAS Final Technical Program

Here is the list of oral invited & contributed sessions and poster sessions – all are available from **Nov. 16 – Dec. 31, 2020**. On the virtual event portal – go to **Auditorium** to access the presentations listed below. You will be able to search by SESSION titles

- **Live** sessions are provided via video link with real-time presentations and Q&As. Recordings of the live sessions will be available on-demand on the meeting website 24 hours after the live event
- **Pre-Recorded** presentations are available for on-demand viewing
- **Poster Gallery** pdf files are available for on-demand viewing

LIVE SESSIONS

MONDAY MORNING, NOVEMBER 16:

EAS Award for Outstanding Achievements in Magnetic Resonance ***Sponsored by Bruker BioSpin and New Era Enterprises*** **Honoring Arthur Palmer, Columbia University** **Chair: Ann McDermott, Columbia University**	
9:30	*The Winding Road from G-Quadruplexes to Telomerase*, Juli Feigon, University of California – Los Angeles
10:00	*Mechanistic Aspects of the Acid Loop in Protein Tyrosine Phosphatases*, Patrick Loria, Yale University
10:30	*NMR in Integrative Structural Biology*, Walter J. Chazin, Agnieszka Topolska-Wos, Norie Sugitani, Remy LeMeur, Vanderbilt University
11:00	*Conformational Dynamics in Substrate Recognition by Ribonuclease H and Dimerization of Cadherins*, Arthur Palmer, Columbia University
11:30	*Presentation of the EAS Award for Outstanding Achievements in Magnetic Resonance* followed by LIVE Questions & Answers with all 4 presenters

EAS Young Investigator Award ***Sponsored by Thermo Fisher Scientific*** **Honoring Dajana Vuckovic, Concordia University** **Chair: Pierre Chaurand, University of Montreal**	
9:30	*High Dimensional Molecular Phenomics in Systems, Synthetic, and Chemical Biology*, John McLean, Vanderbilt University
10:00	*Lipid Metrology and New Frontiers in Environmental Lipidomics*, John Bowden, University of Florida
10:30	*Metal-Assisted LDI for High Resolution Imaging MS of Neutral Lipids from Thin Tissue Sections*, Pierre Chaurand, University of Montreal
11:00	*New Advances in Lipidomics and Mycotoxin Analysis*, Dajana Vuckovic, Irina Slobodchikova, Alexander Napylov, Cian Monnin, Concordia University, Nathaly Reyes Garces, Barbara Bojko, Janusz Pawliszyn, University of Waterloo, Clement Hamani, Sunnybrook Health Sciences Centre
11:30	*Presentation of the EAS Young Investigator Award* followed by LIVE Questions & Answers with all 4 Presenters

Nitrosamine Solutions for Pharmaceuticals; Presented by Thermo Fisher Scientific **Chair: Lori Dolata, Thermo Fisher Scientific**	
11:00 - 1:00	*Advanced GC-MS Technologies Serving Pharmaceutical Laboratories for Nitrosamines Testing*, Suresh Seethapathy, Thermo Fisher Scientific
	Advanced LC-MS Technologies Serving Pharmaceutical Laboratories for Nitrosamines Testing, Mark Yang, Thermo Fisher Scientific

MONDAY AFTERNOON, NOVEMBER 16

KEYNOTE LECTURE
Sponsored by Kuraray America Foundation
1:00pm – 2:00pm
The Human Genome Project was just the Beginning: Research Opportunities at 'The Forefront of Genomics'
Dr. Eric Green, National Institutes of Health

TECHNICAL POWERHOUSE **Impurities in the Pharmaceutical Industry** **Chairs: Kim Huynh-Ba, Pharmalytik, Yan Wu, Merck & Co.**	
2:00-4:00	*The Science, Regulations and Analytical Challenges behind Genotoxic Impurities*, Saji Thomas, Par Pharmaceuticals
	Technical Discussion: Impurities in the Pharmaceutical Industry, Antonio Hernandez-Cardoso, United States Pharmacopeial Convention
	Terminal Sterilization of Drug Products and their Degradation: Unique Stability Considerations, Leonardo Allain, Merck & Co.
	Live Panel Discussion followed by Questions & Answers

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TUESDAY MORNING, NOVEMBER 17

EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry ***Sponsored by Bristol-Myers Squibb*** **Honoring Susan Olesik, The Ohio State University** **Chair: Luis A. Colón, University at Buffalo-SUNY**	
9:30	*New Ways to Modify Silica Particles for HPLC*, Luis A. Colón, Joseph R. Ezzo, Josmely Vélez-González, Brandon Salazar, University at Buffalo-SUNY
10:00	*Optimization of Solid Phase Microextraction (SPME)*, Janusz Pawliszyn, University of Waterloo
10:30	*A New Voltage-Free Interface for Capillary Electrophoresis and Mass Spectrometry through Vibrating Sharp Edge Spray Ionization*, Lisa Holland, West Virginia University
11:00	*Advances in Ionic Liquid-Based Stationary Phases and Sorbent Materials for Chromatography and Sample Preparation*, Jared Anderson, Iowa State University
11:30	Live Questions and Answers with all 4 Presenters

TECHNICAL POWERHOUSE **Artificial Intelligence / Deep Learning vs. Classic Interpretation / Quantification Use of Infrared Spectroscopy** **Chair: Brandy Smith-Goettler, Merck & Co.**	
10:00 - 12:00	*Strategies and Resources for Successful Infrared and Raman Spectral Interpretation*, Peter Larkin, Solvay
	Mid-Infrared Spectroscopic Imaging for Diagnosis of Ovarian Cancer, Rohith Reddy, Chalapathi Gajjela, Rupali Mankar, David Mayerich, University of Houston
	David Mayerich, University of Houston
	Live Panel Discussion followed by Questions & Answers with all 3 Presenters

TUESDAY AFTERNOON, NOVEMBER 17

Plenary Lecture
1:00pm – 2:00pm
The Fascinating Impact of Nanoscale Structure on Chromatography and Mass Spectral Ionization
Professor Susan Olesik, The Ohio State University

New York Microscopical Society Ernst Abbe Award **Honoring Brian J. Ford, Microscopist, Biologist, Author and Lecturer** **Chairs: John Reffner, John Jay College of Criminal Justice, Brooke Kammrath, University of New Haven**	
2:00	*Oblique Illuminations*, Christopher Palenik, Microtrace LLC
2:30	*Tools and Techniques of Investigative Forensic Microscopy*, Richard Brown, MVA Scientific Consultants, Inc.
3:00	*A Closer Look at Tape; Microscopy of Tape in Forensic Examinations*, Andrew Bowen, US Postal Inspection Service
3:30	*The Lion, the Witch and the Microscope*, Brian J. Ford, Microscopist, Biologist, Author and Lecturer
4:00	*Presentation of the Ernst Abbe Award* followed by LIVE Questions & Answers with all 4 Presenters

Complete Solution for Accurate and Low-Level Detection of PFAS Compounds; Presented by Thermo Fisher Scientific **Chair: Milla Neffling, Thermo Fisher Scientific**	
11:00 - 1:00	*Learn How to Fully Automate Sample Preparation for PFAS Analysis in Drinking Water*, Ed George, Thermo Fisher Scientific
	PFAS Analysis In Drinking Water Using LC-MS/MS, Ed George, Thermo Fisher Scientific

Program continued on next page

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WEDNESDAY MORNING, NOVEMBER 18

Time	Title, Author(s)
EAS Award for Outstanding Achievements in Separation Sciences ***Sponsored by ACCTA, Inc.*** **Honoring Joe Foley, Drexel University** **Chair: Mark Schure, Kroungold Analytical, Inc.**	
9:30	*Benefits and Challenges of Tandem-Column Liquid Chromatography for Improved Separations via Increased Selectivity,* Joe Foley, Zhiyang Liu, Drexel University, Dwight R. Stoll, Gustavus Adolphus College, Amaris Borges-Munoz, Jonathan Shackman, Qinggang Wang, Yiyang Zhou, Bristol-Myers Squibb
10:00	*A Materials Approach to Separation Science*, Isiah Warner, Rocio L. Perez, Caitlan E. Ayala, Louisiana State University
10:30	*Accurate, 'Trivial' Determination of Polymer Molar Masses when Using Mixed Solvents*, Andre Striegel, National Institute of Standards
11:00	*The Particle Roadmap: Capillary Columns - Where are the Sweet Spots and What are the Limitations of these Approaches for Biomolecular Analysis Compared with Traditional Packed Beds?,* Mark Schure, Kroungold Analytical, Inc., Robert S. Maier, Robert S. Maier Consulting, Matthew D. Beauchamp, Merck & Co.
11:30	*Presentation of the EAS Award for Outstanding Achievements in Separation Sciences* followed by LIVE Questions & Answers with all 4 Presenters

WEDNESDAY AFTERNOON, NOVEMBER 18

SPECIAL LECTURE
Sponsored by ACS Reagent Chemicals
1:00pm – 2:00pm
The FDA Forensic Chemistry Center's Role in the 2019 Vaping Crisis
Dr. Adam Lanzarotta, United States Food & Drug Administration

New York/New Jersey Sections of the Society for Applied Spectroscopy Gold Medal Award **Honoring Howard Mark, Mark Electronics and Jerome J. Workman Jr., Spectroscopy & LCGC** **Chairs: Dana Garcia, Arkema, Inc., Deborah Peru, DP Spectroscopy and Training**	
2:00	*History of Calibration Transfer,* Howard Mark, Spectroscopy
2:30	*The Present and Future of Chemometrics in the Analytical Sciences*, Jerome J. Workman Jr., LCGC - Spectroscopy
3:00	*DQM, or My Project with Karl Norris*, David Hopkins, New York Section of SAS
3:30	*Chemometrics Applied to the Forensic Sciences*, Barry Lavine, Oklahoma State University
4:00	*Presentation of the Gold Medal Awards* followed by LIVE Questions & Answers with all 4 Presenters

TECHNICAL POWERHOUSE **Analytical Challenges in Drug Product Development of New Modalities** **Chair: Yongchao Su, Merck & Co.**	
2:00	*Developing Novel NMR Methods toward Quality Assessment of Complex Generic Drug Products*, Kang Chen, United States Food & Drug Administration
2:30	*In-Situ Chemical Imaging of Pharmaceutical Samples at Submicron Resolution*, Dan Fu, University of Washington
3:00	*Advanced Characterization of Complex Formulations Using Solid-State NMR Spectroscopy*, Eric Munson, Purdue University
3:30	*Live Panel Discussion: Case Studies of Drug Development in Industrial Environment*

THURSDAY MORNING, NOVEMBER 19

EAS Award for Outstanding Achievements in Mass Spectrometry ***Sponsored by DuPont Nutrition & Biosciences*** **Honoring Barbara Larsen, DuPont Nutrition & Biosciences** **Chair: Suzanne Koch Singles, DuPont Nutrition & Biosciences**	
9:30	*Mass Spectrometry of Ambient Aerosol: Challenges, Methods, and Applications*, Murray Johnston, University of Delaware
10:00	*Fit-for-Purpose Mass Spectrometry Methods to Address Matrix Effects in Electrospray Ionization*, Sergio Nanita, DuPont Nutrition & Biosciences
10:30	*Advances in Ionization and Ion Sources for Mass Spectrometry*, Charles McEwen, University of the Sciences, Milan Pophristic, Khoa Hoang, MSTM, LLC, Sarah Trimpin, Wayne State University
11:00	*Applications of Proteomics and Metabolomics in Industrial Biosciences,* Barbara Larsen, DuPont Nutrition & Biosciences
11:30	*Presentation of the EAS Award for Outstanding Achievements in Mass Spectrometry* followed by LIVE Questions & Answers with all 4 Presenters

THURSDAY AFTERNOON, NOVEMBER 19

EAS Award for Outstanding Achievements in Vibrational Spectroscopy ***Sponsored by the American Microchemical Society*** **Honoring John A. Reffner, John Jay College of Criminal Justice** **Chair: Brooke Kammrath, University of New Haven**	
1:00	*Numerical Strategies for the Quantitative Analysis of Hyperspectral Images*, E. Neil Lewis, Contract Analyticals LLC
1:30	*Application of Submicron Simultaneous Raman and Optical Photothermal Infrared Spectroscopy to Chemically Identify Microplastic Particles, Cultural Artifacts, and Forensic Samples*, Curtis Marcott, Light Light Solutions, Mustafa Kansiz, Eoghan Dillon, Kevin Kjoller, Frank Weston, Jay Anderson, Photothermal Spectroscopy Corp
2:00	*Microspectroscopy in Pharmaceutical Development and Investigations,* Dale K. Purcell, Chemical Microscopy LLC
2:30	*Advancing our Knowledge Through Studies of Vibrational Spectra*, John A. Reffner, John Jay College of Criminal Justice
3:00	*Presentation of the EAS Award for Outstanding Achievements in Vibrational Spectroscopy* followed by LIVE Questions & Answers with all 4 Presenters

PRE-RECORDED SESSIONS ON-DEMAND

Green Chemistry: Advances in Sustainability with LC and SFC, *sponsored by the Chromatography Forum of the Delaware Valley* **Chair: Mary Ellen McNally, FMC Corporation**	
5039	*Advanced Reaction-Monitoring of Pharmaceutical Processes Enabled with Sub/Supercritical Fluid Chromatography*, Michael Hicks, Weidong Tong, Jason Kowalski, Akasha K. Purohit, Jimmy DaSilva, Erik L. Regalado, Merck & Co.
5105	*A Look at Enhanced Fluidity Liquids as a more Sustainable Liquid Chromatography* , Susan Olesik, Brian Fitch, Rebekah Gibson, The Ohio State University
5061	*Alternative Solvents and Sample Preparation Advances for Sustainable Chromatography*, Douglas Raynie, South Dakota State University

Green and Robust: Applications of Gas Chromatography, *sponsored by the Chromatography Forum of the Delaware Valley* **Chair: Marcelo Filgueira, DuPont**	
5035	*Challenges of VOC Emission Testing for Coating Materials*, Michelle Gallagher, Paul Doll, The Dow Chemical Co.
5064	*Embrace Sustainable Freshness: Evaluating Malodor Control Technologies*, Lisa Powers, DuPont
5053	*Making GC Methods Lean, Mean and Green: False Assumptions and Common Sense Optimizations*, Nicholas Snow, Seton Hall University

Cannabis: Analytical Challenges in an Emerging Industry, *sponsored by New Jersey Association of Forensic Scientists* **Chair: Anthony Provatas, University of Connecticut**	
5069	*Testing Cannabis: Are Laboratories Adding Risk to the Industry or Offering Confidence in Product Information?*, Susan Audino, S.A. Audino & Associates
5067	*Beyond Quantitation: Use of QTOF Mass Spectrometry for Cannabis Profiling*, Craig Butt, Robert Di Lorenzo, Paul Winkler, SCIEX
5003	*Analytical Testing for the Cannabis Industry: Ensuring Consumer Safety in a Rapidly Changing Environment*, Christopher Hudalla, James Roush, Rebecca Stevens, Chris Riley, Jarec Rondeau, ProVerde Laboratories

The Research from our Emerging Forensic Scientists, *sponsored by New Jersey Association of Forensic Scientists* **Chair: Monica Joshi, West Chester University of PA**	
5040	*Developing a Gas Chromatography-Mass Spectrometry Method for Comprehensive Forensic Analysis of Benzodiazepines*, Abigail Hulse, Stevens Institute of Technology, Matthew Wood, Ocean County Sheriff Department
5046	*Handwriting Comparative Analysis Through Kneser Graph Triangle Decomposition*, Alexandra Arabio, Lawrence Quarino, James Hammer, Cedar Crest College, Alicia Carriquiry, James Taylor, Danica Ommen, Iowa State University
5056	*Analysis of Anticoagulant Rodenticides in Forensic Toxicology Casework using Ultra-High Performance Liquid Chromatography Tandem Mass Spectrometry (UPLC-MS/MS)*, Samuel Krug, Karen S. Scott, Arcadia University, Tais R. Fiorentin, CFSRE, Robert Middleberg, NMS Labs

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Current Development in Bioanalysis of Biologic Therapeutics and Biomarkers, *sponsored by Chinese American Chromatography Association* **Chairs: Naidong Weng, Wenying Jian, Janssen R&D**	
5074	*Highly Sensitive and Specific Quantification of Oligonucleotides in Biologic Matrices by Hybridization Immunoassay and LC/MS/MS*, Chenyi Pan, Frontage Laboratories, Inc.
5054	*Overcoming Method Development Challenges for Quantitation of Total PEG in Human Serum: Story of 2 Orthogonal Approaches*, Dong Huijin, Ang Liu, Johanna Mora, Bristol-Myers Squibb
5018	*An Intact Protein MS and MAM Approach for In-Vivo Monitoring of Bispecific Antibody Product Quality Attributes*, John Kellie, GlaxoSmithKline
5116	*Sensitive, Accurate Quantification of Biotherapeutics and Biomarker/Target in FFPE Tissues*, Jun Qu, University at Buffalo

Evolving Methodologies for the Analysis of Environmental Emerging Contaminants, *sponsored by the ACS Division of Analytical Chemistry* **Chairs: Anthony Provatas, University of Connecticut, Satinder Ahuja, Ahuja Consulting**	
5060	*Challenges in the Quantitative and Qualitative Analysis of Microplastics in Aqueous Environments,* Julie Peller, Valparaiso University, Sarah Shidler, Renishaw Inc.
5052	*Investigating Environmental Pollution: The Forensic Approach,* Lawrence Cahoon, University of NC-Wilmington
5115	*Current Status in the Evolution of Analytical Methodologies for the Analysis of PFAS in Environmental Samples*, Charles Neslund, Eurofins Lancaster Laboratories Environmental

Using Lifecycle Management (ICH Q12) to Support Pharmaceutical Product Development **Chairs: Kim Huynh-Ba, Pharmalytik, Karen Lucas, Johnson & Johnson**	
5112	*Post-Approval Changes to Chemistry, Manufacture, and Controls (CMC) in NDAs - FDA Perspective*, Gurpreet Gill-Sangha, United States Food & Drug Administration
5023	*Lifecycle Management of Analytical Methods*, Saji Thomas, Par Pharmaceuticals
5048	*Understanding Biologics Product and Process Related Impurities along Product Lifecycle,* Jianmei Kochling, Sanofi

Novel Analytical Uses of Chemical Isotopes **Chair: Samuel Bonacorsi, Bristol-Myers Squibb**	
5000	*An Overview of Intellectual Property Protection of Biopharmaceutical Compounds via Natural-Abundance Stable Isotopes*, John Jasper, Molecular Isotope Technologies LLC, Peter Farina, Canaan Partners, Ann Pearson, Harvard EPSL, Anthony Sabatelli, Wiggin and Dana, LLP
5020	*Synthesis and Use of Stable Isotope-Labeled Signature Peptides as Internal Standards in Protein Quantitation by LC-MS/MS*, Alban Allentoff, Kimberly Voronin, Sharon Gong, Samuel Bonacorsi, Naiyu Zheng, Hao Jiang, Jianing Zeng, Bristol-Myers Squibb
5026	*Understand Drug Targeting through the Application and Analysis of Positron Emitting Isotopes*, Samuel Bonacorsi, Bristol-Myers Squibb

Bioanalytical Challenges of Biosimilars **Chair: Sheng Dai, Daiichi-Sankyo, Inc.**	
5078	*Current Strategies on Development and Validation of Neutralizing Antibody Assay for Biosimilar Programs*, Lynn Jiang, Arcus Biosciences, Inc.
5063	*Bioanalysis for Biosimilar Drug Development – Perspectives and Case Examples*, Ling He, Daiichi-Sankyo, Inc.
5109	*Immunogenicity Assessment of Biosimilars*, Sheng Dai, Daiichi-Sankyo, Inc.

New Developments in Nanomaterials, *sponsored by the ACS Division of Analytical Chemistry* **Chair: Satinder Ahuja, Ahuja Consulting**	
5010	*Plant Derived Bionanomaterials and their Applications*, Sunil K. Sharma, Priyanka R. Sharma, Benjamin S. Hsiao, Stony Brook University
5011	*Micro- and Nanostructured Cellulose-Based Scaffold for Water Purification*, Priyanka Sharma, Ken I. Johnson, Sunil K. Sharma, Benjamin S. Hsiao, Stony Brook University

Analytical Characterization of Biotherapeutics **Chair: Olivier Mozziconacci, Merck & Co.**	
5058	*From Protein Chemistry to Native Mass Spectrometry: How to Knit New Analytical Techniques to Support the Development of Complex Biotherapeutics*, Olivier Mozziconacci, Mengxuan Jia, Merck & Co.
5073	*UV A and Visible Light Photo-Degradation of Protein Formulations: Product Formation and Reaction Mechanisms*, Christian Schoeneich, University of Kansas
5068	*Advancing the Lipid Nanoparticle Based Oligonucleotides Therapeutic Through Advanced Particle Characterization*, Yong Liu, Kate Smith, Agnes Zhao, Angela Wagner, Amy Doty, Jameson Bothe, Xiujuan Jia, Eric Kemp, Adam Socia, Erin Guidry, Andreas Abend, Merck & Co.
5120	*Mechanisms for Protein Aggregation and Stabilization in Solution, during Freezing and Drying, and at Interfaces*, John F. Carpenter, University of Colorado

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Analytical Challenges in Antibody Assays **Chair: Gregory Webster, Abbvie**	
5013	*Design of Experiments in ADC Methods Development*, Gregory Webster, Julie L. Heflin, Abbvie
5051	*From Antibodies to Viruses: Charge Characterization of Biotherapeutics Using Imaged Capillary Isoelectric Focusing (icIEF)*, Jiaqi Wu, Chris Heger, ProteinSimple
5042	*A Robust LC-MS based Streamlined Workflow for Peptide Attribute Monitoring and New Peak Detection of Biotherapeutics*, Nilini Ranbaduge, Waters Corporation
5016	*Analytical Characterization of Antibody-Drug Conjugates: Strategy and Case Study*, Guodong Chen, Bristol-Myers Squibb

Laboratory Resource Planning and Modeling, *sponsored by ALMA* **Chair: Dennis Swijter, ALMA**	
5027	*Project Analytical Specialists - How to do More with Less*, Jennifer Donelson, Bureau Veritas
5034	*Managing for the Diversity of Technical Leads in an Analytical Problem Solving Lab*, Richard Durand, Sun Chemical Corp.
5009	*Leveraging CRO Relationships to Accelerate New Product Development*, Scott Hanton, Hanton Consulting LLC
5049	*Counterintuitive Productivity*, Mark Kennedy, Sustainable Transformations LLC

Innovative Uses of NMR Spectroscopy to Explore Materials **Chair: Cecil Dybowski, University of Delaware**	
5057	*Mobile NMR: A Non-invasive Nuclear Magnetic Resonance (NMR) Technique for Studying Cultural Heritage*, Valeria Di Tullio, Italian National Council of Research
5081	*Non-Uniform Sampling in NMR Spectroscopy and the Preservation of Spectral Knowledge in the Time and Frequency Domains*, Leonard Mueller, University of California-Riverside
5087	*Application of 11B solid-state NMR Spectroscopy to Investigate the Role of Boron as a Promoter for Hydrocarbon Conversion on Supported Platinum Catalysts*, Carly Byron, Shi Bai, Andrew Teplyakov, University of Delaware
5008	*Multinuclear, Multidimensional, and Multi-Field NMR Reveals a Puzzling Role for Water in Zeolite Catalysis*, Jeffrey White, Oklahoma State University

Innovations in Mass Spectrometry Applications, *organized by No. Jersey Mass Spectrometry Discussion Group* **Chair: Long Yuan, North Jersey Mass Spectrometry Discussion Group**	
5121	*Summary and Highlights on AAPS Land O'Lakes Workshop on Microsampling: Enabling Broader Adoption*, Qin Ji, Bristol-Myers Squibb
5014	*Absolute Quantitation of Proteins by Coulometric Mass Spectrometry Without Using Standards*, Hao Chen, Pengyi Zhao, New Jersey Institute of Technology
5024	*Anti-Peptide Immunocapture with In-Sample Calibration Curve Strategy for LC-MS Bioanalysis of Clinical Cancer Biomarkers in Formalin Fixed Paraffin Embedded (FFPE) Tumor Tissues*, Naiyu Zheng, Kristin Taylor, Huidong Gu, Rasa Santockyte, Xi-Tao Wang, Jean McCarty, Olufemi Adelakun, Yan J. Zhang, Renuka Pillutla, Jianing Zeng, Bristol-Myers Squibb
5041	*LC-MS Based Protein Target Quantitation and Engagement Assays: Application to Therapeutics for Thrombotic Diseases*, Lijuan Kang, Michael Duck, Huang Devine Zheng, Matthew Bunce, Xinkang Wang, Lawrence Szewczuk, Qiu Li, Fuyong Du, Heather Murrey, Madhu Chintala, Naidong Weng, Wenying Jian, Janssen, James Lanter, Arkuda Therapeutics

Biological and Pharmaceutical Applications of Mass Spectrometry Imaging, *organized by No. Jersey Mass Spectrometry Discussion Group* **Chair: Gene Hall, Rutgers University**	
5117	*From Art to Zoology: A 2020 Vision of Imaging Mass Spectrometry*, Gene S. Hall, Rutgers University
5110	*Probing Metabolic Heterogeneity in Tumors Using Imaging MS*, Shawn Davidson, Princeton University
5015	*Mass Spectrometry-Based Imaging at Merck: Enabling Rapid Tissue Distribution of Drugs and Metabolites in Drug Discovery and Development*, Bingming Chen, Merck & Co.

Pharmaceutical Forensics for Safe Manufacturing, Supply and Counterfeit Screening, *sponsored by Rigaku Analytical Devices & New England Society for Applied Spectroscopy* **Chair: Scott Huffman, Bristol-Myers Squibb**	
5007	*Benchtop and Portable Raman Spectrometers to Screen Counterfeit Drugs*, Brittany Handzo, Anna Luczak, Scott Huffman, Jeremy Peters, Ravi Kalyanaraman, Bristol-Myers Squibb
5037	*Forensic Intelligence - It's a Chemical Thing*, Janine Noelle Brouillette, Allison Jacobs, John Douglass, Paul Nguyen, Geoffrey Albert-Bolinski, Yongchao Su, Stephanie Beer, Dorka Sallos, Belen Gonzalez Amoros, Jia Hui Karen Goh, Tuty Norashikin Suhaiemi, Michelle Woo, Chris Hopkins, Merck & Co.
5029	*Portable Spectroscopy for Screening of Plasticizers in Production Line Tubing*, Betsy Jean Yakes, Katherine Carlos, Eric Crump, Timothy Begley, United States Food & Drug Administration
5055	*Forensic Intelligence - Finding the Link in Counterfeit Pharmaceutical Physical Characterization*, John Douglass, Christopher Hopkins, Geoffrey Albert-Bolinski, Belen Gonzalez Amoros, Michelle Woo, Janine Brouillette, Stephanie Beer, Dorottya Sallos, Tuty Norashikin Suhaiemi, Karen Goh, Allison Jacobs, Merck & Co.

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Challenging Issues in Complicated Drug Dosage Forms Chair: Oscar Liu, Silver Spring Scientific LLC	
5050	*Amikacin Liposome Inhalation Suspension (ALIS)*, Zhili Li, Vlad Malinin, Helena Gauani, David Cipolla, Walter Perkins, Insmed Inc.
5062	*Chemical Microscopy and the Determination of API Size and Spatial Distributions in Mixed Solids and Suspensions*, Tim Vander Wood, MVA Scientific Consultants
5107	*Challenges with Development & Commercialization of Fixed Dose Combination Tablets*, Joseph Medendorp, Vertex
5106	*Make Specifications Great Again! Bad Metrics Result in Bad Decisions*, Adrian Goodey, J. David Christopher, Merck & Co., Jolyon P. Mitchell, Jolyon Mitchell Inhaler Consulting Services, Inc., William H. Doub, OINDP In Vitro Analysis

Bioanalytical and Pharmaceutical Analysis - Tradition and Innovation	
2003	*Direct Drug Analysis in Polymeric Implants Using Desorption Electrospray Ionization – Mass Spectrometry Imaging (DESI-MSI)*, Elizabeth Pierson, William Forrest, Seth Forster, Josey Topolski, Merck & Co., Anthony Midey, Bindesh Shrestha, Waters Corp
2005	*Implementing DESI-MS Imaging in Pharmaceutical Product Development: Methods and Challenges*, Josey Topolski, Elizabeth Pierson, Merck & Co.
2019	*Rapid Characterization of Vanilla Extracts & Beans Using Molecular Ionization Desorption Analysis Source (MIDAS) with TOF Mass Spectrometry*, Ciara Pitman, William LaCourse, University of Maryland Baltimore County
2022	*Innovative Analytical Solutions to the Determination of DBU Related Degradants in Pharmaceutical Process Development*, Cong Bi, Ling Zhang, James Chadwick, Jeffrey Nye, Rebecca Green, Yueer Shi, Bristol-Myers Squibb
2023	*Mass Spectrometry Based Proteomics to Investigate and Characterize Human Jumping Translocation Breakpoint (hJTB) Protein using Cancer Cell Lines*, Madhuri Jayathirtha, Devika Channaveerappa, Kangning Li, Costel Darie, Clarkson University
2025	*Challenges with an LC-CAD Method to Determine the Purity and Impurities of a Synthetic Lipid*, George Wang, Bristol-Myers Squibb
2027	*Quantification of Proteins Using LC/EC*, Yongling Ai, Pengyi Zhao, Edward Wang, Hao Chen, New Jersey Institute of Technology
2041	*Voltammetric Detection of Dopamine in Zebrafish Retina*, Alexander Zestos, Whirang Cho, American University
2046	*The Effect of Legacy PBT Chemicals in the Great Lakes Region on the Fish Consumer Proteome*, Emmalyn Dupree, Thomas Holsen, Costel Darie, Clarkson University, Bernard Crimmins, AEACS, LLC, James Pagano, SUNY Oswego, Brooke Thompson, Michelle Raymond, Krista Christensen, Jonathan Meiman, Wisconsin Department of Health Services
2050	*Comparison of Raman Imaging and Transmission Raman Spectroscopy Results on a Pharmaceutical Tablet*, Sarah Shidler, Tim Prusnick, Renishaw Inc.
2052	*Analyzing Lipid Membrane-Membrane Interactions Mediated by Myelin-Associated Glycoprotein Binding to Gangliosides*, Nathan Wittenberg, Lehigh University
2057	*Proteomic Analysis of Nicotine Metabolism in Paenarthrobacter Nicotinovorans*, Marius Mihasan, Cornelia Babii, Roshanak Aslebagh, Devika Channaveerappa, Emmalyn Dupree, Costel Darie, Clarkson University
2064	*Dried Bio-Matrix Spot Analysis Using On-Line Extraction with LC-MS*, Joseph DiBussolo, Thermo Fisher Scientific
2067	*Proteomics: The Good, the Bad, and the Future of this Field*, Costel Darie, Emmalyn Dupree, Madhuri Jayathirtha, Hannah Yorkey, Clarkson University, Marius Mihasan, Brindusa Petre, University of Iasi
2070	*Proteomic Analysis of Human Breast Milk to Reveal Potential Protein Biomarkers for Breast Cancer*, Danielle Whitham, Roshanak Aslebagh, Devika Channaveerappa, Costel Darie, Clarkson University, Brian Pentecost, Kathleen Arcaro, University of Massachusetts Amherst
2072	*Analysis of the Lake Trout Proteome Using Evolutionary Proteomics*, Zaen Manzoor, Emmalyn Dupree, Thomas Holsen, Costel Darie, Clarkson University, Bernard Crimmins, AEACS, LLC
2082	*Accurate Moisture Determination in Lyophilized Product*s, Kerri-Ann Blake, Metrohm USA
2083	*Conductivity Measurement According to USP<645>*, Kerri-Ann Blake, Metrohm USA
2084	*New Calcium Assay for Pharmaceuticals Using Ion Chromatography*, Jay Sheffer, Shibu Paul, Metrohm USA

Laboratory Automation in Pharmaceutical Industry	
2013	*Script-Based Automation of Analytical Instrument Software Tasks for Non-Programmers*, Sharon Tentarelli, AstraZeneca
2016	I*ntegrating Data Platform and Predictive Analytics in Open Access Laboratory Operation: Automation & Data-Driven Analytical Chemistry*, Ronghui Zhou, Zuodong Jiang, Simson Alex, Jeffrey McDowell, Jonathan Cornibe, A. Bingol, John Masucci, Asha Mahesh, Xiaoying Wu, Zhicai Shi, Janssen R&D
2018	*Automated Platform Analytical Method to Determine Excipient Content in Biopharmaceutical Drug Product Using Andrew Alliance Liquid Handler Robot*, Sharon Matamoros, Katie Carnes, Michelle Ward, Justin Shearer, Kaitie Grinias, Kenneth Wells, GlaxoSmithKline
2033	*Enabling Technologies in Laboratory Automation to Benefit Pharmaceutical Development*, Kaitlin Grinias, Sharon Matamoros, Christopher Nunn, Kenneth Wells, Charles Goss, Paul Hopkins, Eva Wu, Brian Lupotsky, GlaxoSmithKline
2077	*Implementation of Cross-Divisional Laboratory Information Management System (LIMS) and Downstream Analytics*, Miu-Ling Lau, Marek Matocha, Debra Prosser, Jason Gardner, Dong-Min Shen, Merck & Co.

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Modern Chromatography - Method Development, Instrumentation, and Pharmaceutical Application	
2007	*Automated Chemistry System Screening with Fusion QbD – the Best Place to Start QbD-aligned Method Development*, Richard Verseput, Joseph Turpin, S-Matrix Corporation
2008	*QbD-Aligned Experiment Automation for Stages 1 and 2 of Analytical Procedure Lifecycle Management with Fusion QbD*, Joseph Turpin, Richard Verseput, S-Matrix Corporation
2024	*A Light in the Black: Investigating the Polar Retention Effect on Graphite as a Unique Mechanism for Liquid Chromatography*, Cory Muraco, MilliporeSigma
2028	*Predicting HPLC Selectivity in Ternary Reversed Phase Solvent Systems*, Merlin Bicking, ACCTA, Inc., Richard Henry, Consultant
2044	*Geosmin and 2-Methylisoborneol in Water by Headspace (HS) Trap-GCMS and Solid Phase Microextraction, (SPME). A Comparison of Methods*, Thomas Mancuso, Bill Hahn, Lee Marotta, PerkinElmer Inc.
2045	*High-Throughput Chiral Screening in HPLC and SFC Using 3- and Sub-2 µm Particles*, Edward Franklin, Regis Technologies
2047	*Characterization of New Hybrid Particle Columns for the Analysis of Polar Acids*, Bonnie Alden, Melvin Blaze, Cheryl Boissel, Mathew DeLano, Jessica Field, Kenneth Glose, Nicole Lawrence, Donna Osterman, Amit Patel, Thomas Walter, Waters Corporation
2059	*Rapid Separation of Trans/cis Fatty Acid Methyl Esters with an Agilent DB-FastFAME GC Column*, Gustavo Serrano Izaguirre, Agilent Technologies
2060	*Evaluation of High Temperature GC Columns for Simulated-Distillation Applications*, Gustavo Serrano Izaguirre, Agilent Technologies
2061	*Effect of Temperature and Column Thermostatting in Liquid Chromatography for Method Transfer*, Zhimin Li, Paula Hong, Patricia McConville, Waters Corporation
2062	*Mitigating Sample Loss and Improving Peak Shape with Specialized LC Surfaces*, Moon Chul Jung, Matthew Lauber, Mathew DeLano, Thomas Walter, Kerri Smith, Robert Birdsall, Michael Donegan, Mary Lame, Thomas McDonald, Jennifer Nguyen, Amit Patel, Bonnie Alden, Kenneth Berthelette, Cheryl Boissel, Jon Belanger, Paul Rainville, Paula Hong, Jennifer Simeone, Martin Gilar, Kevin Wyndham, Waters Corporation
2066	*Superficially Porous Particles with Trifunctional C18 Phase for High Resolution Separations of PAHs*, Stephanie Schuster, Conner McHale, Justin Godinho, Jason Lawhorn Advanced Materials Technology, Inc.
2073	*Automated Development of a Design Space using Chromatographic Modeling Software to Accommodate a Range of Complex OTC Drug Products*, Arnold Zöldhegyi, Imre Molnár, Molnár-Institute for Applied Chromatography, Kylen Whitaker, The Procter & Gamble Co.
2080	*Selecting Optimum Column Configurations for New UHPLC/HPLC Methods*, Richard Henry, Consultant, Merlin Bicking, ACCTA, Inc.
2081	*Biopharmaceutical Applications of FID for HPLC*, Tommy Saunders, Activated Research Company

Novel Applications of Spectroscopy	
2010	*Utilizing Material Characterization to Find Changes in the Supply Chain*, Jesse Bischof, SilcoTek Corporation
2038	*Evaluation of Laser-Induced Breakdown Spectroscopy (LIBS) for the Elemental Analysis of Bullet Lead*, Brooke Kammrath, Lauren Vallee, Peter Valenti, University of New Haven, Chuck Sisson, Applied Spectra, Inc., John Reffner, Peter De Forest, Forensic Consultant
2040	*Understanding Molecular Details of Amorphous Pharmaceutical Solids from MAS NMR*, Mingyue Li, Chengbin Huang, Wei Xu, Allen Templeton, Yongchao Su, Merck & Co., Yu Tsutsumi, Jean-Paul Amoureux, Bruker BioSpin, Stephen Byrn, Purdue University
2042	*UVVIS Simplification in Regulated Environments*, Neil Schaefer, Mettler Toledo
2049	*Implementation of Process Analytical Technology to Support OEB-5 Drug Development*, Hanzhou Feng, Merck
2053	*Insights into Protein Biopharmaceutical Formulations Using NMR*, Anuji Abraham, Bristol-Myers Squibb
2054	*Ultra-Low Frequency Raman Spectra of Linear Alkanes*, Fran Adar, HORIBA Scientific
2055	*The Spectroscopic Crime Clock! Determine the Time since Deposition of Bloodstains Using Vibrational Spectroscopy*, Alexis Weber, Igor Lednev, University at Albany
2058	*O-PTIR for Simultaneous IR & Raman Spectroscopy at Sub-Micron Spatial Resolution*, Frank Weston, Eoghan Dillon, Kevin Kjoller, Photothermal Spectroscopy Corp., Nancy Pleshko, Temple University
2065	*Investigation of Microplastics Ingested by Planktonic Copepods by Complementary FTIR and Raman Analyses,* Karli Sipps, Kasey Walsh, Lori Garzio, Robert Chant, Grace Saba, Nicole Fahrenfeld, Georgia Arbuckle-Keil, Rutgers University-Camden
2068	*Molecular Rotational Resonance Spectroscopy to Support Continuous Manufacturing*, Justin Neill, BrightSpec
2069	*Improving Multivariate Analysis Statistics of Chilean Wine Chemistry from Simultaneous Absorbance-Transmission and Fluorescence Excitation-Emission Matrix (A-TEEM) Analyses*, Adam Gilmore, HORIBA, Doreen Schober, Jorge Herrera, Alvaro Gonzalez, Concha Y. Toro
2078	*Impact of Perfluorination on Homonuclear 13C-13C Coupling Constants*, Jeffrey Raab, Marius Pelmus, Sergiu Gorun, Stephen Kelty, Gary Martin, Seton Hall University, Ron Crouch, Michael Frey, JEOL USA

Analytical Science in Real World - Techniques and Applications	
2006	*Investigation of [3+2] Annulation Reactions of N-Cyclopropylanilines and Styrene by Electrochemistry and Mass Spectrometry*, Qi Wang, Hao Chen, New Jersey Institute of Technology Investigation of [3+2] Annulation Reactions of N-Cyclopropylanilines and Styrene by Electrochemistry and Mass Spectrometry, Qi Wang, Hao Chen, New Jersey Institute of Technology
2029	*Adsorption on Kaolinite Surfaces: A Density Functional Theory (DFT) Approach to Quantifying Interactions Between a Clay Mineral and Small Molecules*, Jessica Heimann, Joseph Bennett, Zeev Rosenzweig, University of Maryland Baltimore County
2030	*Using Zeta Potential to Evaluate the Surface Charge of Microbubbles in a Pharmaceutical Diagnostic Imaging Agent Used for Ultrasound Contrast*, Khrshida Shahidullah, Lantheus Medical Imaging
2032	*ICP Calibration Standards: Design, Handling and Troubleshooting*, James King, Inorganic Ventures
2036	*A Noninvasive Sensor for the Detection and Quantitation of Nanoparticles*, Brittany Rapp, George Mason University, Abul Hussam, Center for Clean and Sustainable Technologies
2037	*Engineered Magnetic Nano-Scavengers: Promising Candidates for Selective Removal and Degradation of Toxic Pollutants Present in Wastewater*, Solanki Kanika, University of Delhi
2043	*Learn How to Get More from Your TGA Analysis with an IR and GCMS - Evolved Gas Analysis*, Thomas Mancuso, Bill Hahn, PerkinElmer Inc.
2051	*Nanomaterials for Water Remediation and Catalysis: Boons and Limitations*, Sriparna Dutta, Rakesh Kumar Sharma, University of Delhi
2076	*Electrochemical Analysis of Soil After Treatment by Nanobubble Water*, Shan Xue, Taha Marhaba, Wen Zhang, New Jersey Institute of Technology

POSTER SESSION ON-DEMAND

Poster Session: Student Research Award Winners	
2115	*Polymer-Modified Field-Effect Transistor Platform for Soybean Agglutinin Detection, Jiayi He, Christy Haynes, University of Minnesota*
2093	*Development of Native CE-MS Methods for Characterization of Proteins and Non-Covalent Protein Complexes*, Kendall Johnson, Alexander Ivanov, Northeastern University
2089	*Diagnosis of Duchenne Muscular Dystrophy Using Raman Hyperspectroscopy: Proof-of-Concept Study Based on a Mouse Model*, Nicole Ralbovsky, Igor Lednev, University at Albany-SUNY
2094	*Investigation of Transient Organometallic Reaction Intermediates by Mass Spectrometry and Machine Learning*, Pengyi Zhao, Hao Chen, New Jersey Institute of Technology
2095	*Comparison of Flow Generation Strategies within Microfluidic Devices*, Joshua Davis, Melanie Padalino, Alexander Kaplitz, Greggory Murray, Samuel Foster, Jonathan Maturano, James Grinias, Rowan University
2091	*Silver(II) and Silver(III) Intermediates in Alkene Aziridination with a Dinuclear Silver(I) Nitrene Transfer Catalyst*, Tasneem Elkoush, Choi Mak, Michael Campbell, Barnard College, Daniel Paley, Columbia University
2098	*Understanding the Mechanism of Proton-coupled Electron Transfer in the Bioinspired Artificial Photosynthetic Mimic, Benzimidazole Phenol Porphyrin*, Brian Mark, William Marshall, Vidmantas Kalendra, K V Lakshmi, Rensselaer Polytechnic Institute, Dalvin Mendez-Hernandez, Jimena Mora, Thomas Moore, Ana Moore, Arizona State University, Oleg Poluektov, Argonne National Laboratory
2099	*Understanding Peripheral Amino Acid Metabolism in Obesity and Alzheimer's Disease,* Amelia Taylor, Simona Codreanu, Don Davis, Fiona Harrison, Stacy Sherrod, John McLean, Vanderbilt University

Poster Session: Analytical Science in Real World - Techniques and Applications	
2087	*Analytical Control Charting in the Registration Phase Stability Space*, Jennifer Shenk, Merck & Co.
2096	*Automating the Preparation of Matrix Matched Calibration Standards for the Analysis of Food Contaminants by LC-MS/MS,* Fredrick Foster, John Stuff, Jaqueline Whitecavage, GERSTEL, Inc.
2101	*An Introduction to ANVISA Regulations on Analytical Chemistry*, Chen Zhang, Yuming Chen, Balvinder Vig, Bristol-Myers Squibb
2109	*Microfluidic Sample Handling to Broaden the Reach of Nanopore Single-Molecule Sensing*, Brian Sheetz, University of Rhode Island
2112	*Using Synthetic Chemistry to Improve Nanopore Sensing of Glycans*, James Hagan, Jason Dwyer, The University of Rhode Island
2113	*Electrostatic Sampling: A Solvent-Free, Non-Contact Approach for Ambient Ionization Mass Spectrometry*, Kenyon Evans-Nguyen, Amanda Rivera, Jannelys Fontanez-Adames, The University of Tampa, Fred Li, Brian Musselman, IonSense, Inc.
2117	*Detection of Polymeric Nanoparticles on Drill-Cuttings mixed with Oilfield Fluids*, Marta Antoniv, S. Sherry Zhu, Martin Poitzsch, Nouf Al-Jabri Saudi, Aramco Alberto Marsala Saudi, Aramco Americas
2118	*Investigation and Characterization of the Jumping Translocation Breakpoint (JTB) Protein using Mass Spectrometry based Proteomics*, Zachary Sechrist, Madhuri Jayathirtha, Devika Channaveerappa, Costel Darie Clarkson University

Poster Session: Analytical Science in Real World - Techniques and Applications (continued)	
2121	*Analytical Approach to PMTA Submissions for e-Liquids*, Madison Moote, Avomeen
2123	*Daily Variation of Air Pollutants Near an Elevated Highway System in Syracuse, NY*, Shelby Coleman, Jaime Mirowsky, SUNY ESF
2124	*Analysis of Mycotoxins in E-Liquid with LC-MS/MS*, Emma Leishman, Andrew Kolbert, Avomeen
2129	*Paving the Way for Real-Time Monitoring of Nitrite via SERS by Developing Signal and Substrate Processing Techniques and Low-Cost SERS Substrates,* Robert Chevalier, Brian Sheetz, James Hagan, Jason Dwyer, University of Rhode Island
2130	*High-Temperature Functional Analysis of Pulse Ingredients Using the Rapid Visco Analyser 4800*, Emily Moore, Charlie Kauffman, Darrel Nelson, David Honigs, Ashley Combs, PerkinElmer Inc.
2133	*A New Software Controlled Semi-Automated Positive Pressure Manifold to Simplify Solid Phase Extraction (SPE) Workflows,* Melvin Blaze, Kenneth Berthelette, Waters Corporation
2137	*Hand Sanitizer Label Claims and Impurity Analysis*, Thomas Mancuso, Lee Marotta, PerkinElmer Inc.
2139	*Development of Online Laboratory Teaching Strategies During a Pandemic*, Shirley Fischer-Drowos, Huy Dao, Widener University
2142	*Food Authenticity Analysis with Metabolomics Methods and High-Resolution Mass Spectrometry*, Artem Filipenko, Bruker
2143	*Multivariate Analysis of Fiber Optic Reflectance Spectra for Classification of Historical Textiles*, Caelin Celani, University of Delaware
2145	*Unlocking the Mystery of Pesticides CRM Stability for Food Analysis*, Cathy Hetrick, Joe Konschnik, Jason Fisher, Landon Wiest, Jana Rousova Hepner, Karen Risha, Restek Corp.
2146	*Analytical Metrology for Laboratory Managers*, Jerry Messman, Stranaska Scientific LLC
2147	*Synthesis and Characterization of Di-μ-Oxo Dimanganese Complexes: Development of Catalysts for Solar Water Oxidation*, Dan Xiao, Rensselaer Polytechnic Institute
2149	*Chemical and Biological Analysis in Support of Justice: Forensic Science R&D Programs at the National Institute of Justice*, Gregory Dutton, National Institute of Justice
2151	*Electrostatic Sampling of Powders for Solvent Free Mass Spectral Analysis: Green MS!*, Brian Musselman, IonSense, Inc.

Poster Session: Modern Chromatography: Method Development, Instrumentation, & Pharmaceutical Application	
2086	*UHPLC Method Modeling of Proteins*, Arnold Zöldhegyi, Molnár-Institute for Applied Chromatography
2092	*Portable and Compact HPLC for Point of Need Analysis of Cannabinoids in Hemp Flowers*, Sheldon Henderson, Paul Peaden, Axcend
2103	*Chiral Stationary Phase Comparison for the Enantioseparations of 20 Agrochemical Compounds,* Edward Franklin, Regis Technologies
2107	*Lessons from COVID-19: Performance Verification of an HPLC-UV Methods for Analysis of Hydrochloroquine Sulfate and Chloroquine Phosphate*, Margaret Maziarz, Paul Rainville, Nick Zampa, Sherri Naughton, Waters Corporation
2110	*Development of Harmonized HPTLC Methods for Determination of Polyphenolic Compounds of Tinctures of Ukrainian Market*, Kateryna Khokhlova, Oleksandr Zdoryk, Liliia Vyshnevska, National University of Pharmacy
2111	*USDA Compliant Testing of the Total THC Content in Hemp (<0.3% THC)*, Wilmer Perera, Ilona Trettin, Melanie Broszat, CAMAG Scientific, Inc.
2120	*Novel End Capping for Reversed Phase LC/MS Applications*, Scott Silver, Pyvot, Norikazu Nagae, ChromaNik Technologies Inc.
2122	*Evaluation of Six Core Shell Columns Based on both Separation Behavior and Physical Property*, Scott Silver, Pyvot, Norikazu Nagae, ChromaNik Technologies Inc.
2125	*Development of High-Performance Thin-Layer Chromatography (HPTLC) Methods for Characterizing Neem - Derived Botanicals*, Christian Elcorrobarrutia Ruiz, Bowie State University
2126	*Using Web-Based Modeling Software to Predict Retention Times of Inhalants of Abuse on 4 Unique GC Stationary Phases*, Cathy Hetrick, Linx Waclaski, Restek Corporation
2127	*New HPTLC Method for Quality Control of Elderberries and Elderflowers (Sambucus nigra L.)*, Eike Reich, The International Association for the Advancement of HPTLC, Roy Upton, American Herbal Pharmacopoeis, Maria Monagas, Anton Bzhelyansky, United States Pharmacopeia
2132	*Maximization of Peak Capacity for Peptide Mapping Using a Column Coupling Approach with Solid-Core Columns*, Geoff Faden, Mac-Mod Analytical
2134	*Performance of a Higher Pressure HPLC System for USP Monographs*, Paula Hong, Amanda Dlugasch, Tatyana Friedman, Waters Corporation
2141	*The LC-UV Analysis of 19 Cannabinoids of Interest in Commercially Available CBD Products*, Ravindra Rane, Justin Steimling, Ashlee Gerardi, Restek Corporation
2144	*LC-MS/MS Analysis of Glyphosate and Other Polar Contaminants in Food with a Novel Ion Exchange/HILIC Column*, Thi Do, Xiaoning Lu, Dan Li, Connor Flannery, Restek Corporation
2020	*Effect of Detection Mode and Draw-Out Lens Diameter on GC-MS Analysis of Essential Oils Using Hydrogen Carrier Gas*, Iain Carrick, Peak Scientific

Poster Session: Bioanalytical and Pharmaceutical Analysis - Tradition and Innovation	
2009	*Counter-ion Analysis by XRF to Enable Pharmaceutical Process Development*, Sharla Wood, Lydia Breckenridge, Bristol-Myers Squibb, Keegan Hoose, Lake Superior State University
2015	*Accelerated Forced Degradation of Therapeutic Peptides in Levitated Microdroplets*, Yuejie Zhao, Yong Liu, Merck & Co., Yangjie Li, Yanyang Hu, David Logsdon, R. Graham Cooks, Purdue University
2085	*Consistent Impurity Quantitation across Charged Aerosol Detector (CAD) Models by "Main Peak Overloading,"* Yiyang Zhou, Kathleen Kelly, Bristol-Myers Squibb
2088	*Development of Analytical Methods for Residual N-acetyl-cysteine (NAC) and Residual tris(2-carboxyethyl)phosphine (TCEP)*, Lee Oliver, GlaxoSmithKline
2097	*Highly Sensitive and Robust UPLC-MS/MS Quantification of Nitrosamine Impurities in Sartan and Ranitidine Drug Substances*, Isabelle VuTrieu, Mary Trudeau Lame, Lindsay Hatch, Waters Corporation
2100	*Determination of Trace Elements in Eye Drops Using ICP-MS*, Brady Frill, PerkinElmer
2105	*Bioactivation of a,ß-unsaturated Carboxylic Acids Through Acyl-Glucuronidation*, Teresa Mulder, Sudheer Bobba, Kevin Johnson, Jessica Grandner, Wei Wang, Chenghong Zhang, Jingwei Cai, Edna Choo, Cyrus Khojasteh, Genentech
2114	*Neurotransmitter Detection by Novel Multi-Array Electrode through Fast Scan Cyclic Voltammetry*, Harmain Rafi, American University
2128	*Analysis of SiO2 and TiO2 Containing Medication Using ICP-OES Following USP / Guidelines and Software Aided Compliance with 21 CFR Part 11*, Andrea Palpini, Ken Neubauer, Aaron Hineman, PerkinElmer

Poster Session: Novel Applications of Spectroscopy	
2002	*Role of Statistics in FT-IR Calibration Transfer between Instruments*, Dana Garcia, Mark Lavach, Arkema Inc.
2021	*Facet-Dependent Adsorption Properties of Polyhedral Nanocrystals of Cu2O Studied by Atomic Force Microscope Coupled with IR and Scanning Probe Electrochemistry*, Qingquan Ma, New Jersey Institute of Technology
2090	*Comparative Study of Degradation in the Carbon Black Back-coat Layer and Magnetic Layer in Audio Magnetic Tapes using Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy and Chemometrics*, Nilmini Ratnasena, University of South Carolina
2102	*Measuring Amino Acids and Protein in Soy by NIR: Is it Really Better than Measuring Protein?*, David Honigs, PerkinElmer
2104	*Soil Mineral Analysis by Particle Correlated Raman Spectroscopy (PCRS): Method Optimization*, Hannah Garvin, Nicholas Gogola, Savannah Brown, Virginia Maxwell, University of New Haven, John Reffner, New York Microscopical Society, Peter De Forest, John Jay College of Criminal Justice, Christopher Palenik, Microtrace, Peter Harrington, Ohio University, Deborah Huck-Jones, Malvern Panalytical Ltd.
2119	*Tracking Bioactive Compounds Produced by Genetically Engineered Yeast Cells Using In situ Raman Imaging*, Rui Chen, Mohammed Ibrahim Thermo Fisher Scientific, Nosa Agbonkonkon, Michael Leavell, Amyris
2131	*Kinetics of Oxidative Decarboxylation of Fluorinated Carboxylic Acids by 19F NMR and Raman Spectroscopies*, Alexander Marchione, Elizabeth Diaz, Chemours
2136	*Characterization of Recycled PET and PE Using FTIR Microscopy*, Rui Chen, Suja Sukumaran, Thermo Fisher Scientific
2138	*Structural Characterizations of Blueberry Pomace, Acorn and Sago Palm Polysaccharides by NMR*, Gary Strahan, Hoa Chau, Stefanie Simon, Arland Hotchkiss, Eastern Regional Research Center, Hariom Yadav, Wake Forest School of Medicine
2153	*The Sensitivity and Specificity of Raman and ROA Spectroscopy for Characterization of Carbohydrate Based Pharmaceuticals*, Yelena Pyatski, Juanita Rubio Sanchez, Rina Dukor, BioTools Inc.