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There are numerous opportunities for sponsorship and co-sponsorship of technical sessions, awards, and other activities at the 2020 EAS. For more information, please contact the EAS Executive Secretary askeas@EAS.org
Welcome! On behalf of the EAS executive committee and governing board, we are delighted to see you here at EAS.

Welcome to the 58th Eastern Analytical Symposium and Exposition! The theme for EAS 2019, Enhancing Analytical Chemistry with Sustainable Solutions is so appropriate for today’s world. As EAS has continued to offer the latest technical developments in analytical chemistry it has sustained an analytical symposium for over half a century where scientists from all over the world can come together, interact and exchange ideas. We intend to continue and emphasize the need for global collaboration by becoming a sustainable green conference. We not only need to practice green chemistry solutions, but for our society to be sustainable we must work together in harmony towards solving the world’s problems. I hope you take the opportunity to enjoy the venue of our meeting and interact with the conferees, exhibitors, and the expert speakers participating in the symposium. Also while you are here attend the technical sessions, ask questions, discuss and peruse the exposition. The EAS committee has worked hard this past year to provide three days of exceptional program topics and special lectures. I am sure you will find many outstanding presentations that are of interest. The electronic poster presentations were very popular last year so, at your request, we have expanded the E-poster presentation sessions this year.

Our Keynote speaker, Dr. Susan Olesik, Dow Professor and Chair of the Chemistry and Biochemistry Department of The Ohio State University, is speaking on Monday afternoon about enhancing our sustainable practices in analytical chemistry. At Tuesday morning’s breakfast lecture Inspector David Bowers of the United States Postal Service, presents on the Amerithrax investigation and how this has a local connection. Wednesday start the day with the Women’s Chemists Committee breakfast lecture; Caroline McGregor, Merck & Co., discusses From Lab to Leadership: The Journey of an Analytical Chemist. Also on Wednesday, our plenary lecture, Spectroscopy through the Microscope: Chemical Analysis at Liquid/Solid Interfaces, is delivered by the 2019 EAS Awardee for Outstanding Achievements in the Fields of Analytical Chemistry, Distinguished Professor Joel Harris of the University of Utah. Immediately following the lecture, please join us for refreshments.

The conference center allows easy access to visit the exposition throughout the day so please take some time to visit both our long-time exhibitors as well as those new to EAS. The exhibitors display their most recent state-of-the-art instrumentation, products and services for all three days of the symposium. You can browse the exposition to learn about the newest of technologies that may solve your practical solutions for your workplace. We continue with our highly successful Technology Tour which allows you to interact with the participating exhibitors.

This is only a small portion of the highlights of our program and exposition. There are many more opportunities to benefit from EAS such as career development workshops and employment bureau. We also offer many different and new short courses to continue your education. It is not too late to take advantage of these excellent courses while you are here.

On behalf of the entire EAS committee, we thank you for attending EAS 2019. Enjoy the symposium!

Thomas A. Brettell
Thomas A. Brettell
2019 EAS President
Professor of Chemistry
Cedar Crest College
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Parking & Shuttle Services
Parking is available at the nearby Princeton Alliance Church at 20 Schalks Crossing Road, Plainsboro which is just 0.7 miles away. EAS Trolley shuttle service will be available every 10 min. from 7:00 AM to 6:30 PM daily to transport you from the overflow Church parking lot to & from the Conf. Center.

Train Station Shuttle Services
EAS Trolley shuttle service will be available every 20-30 min. from 7:00 AM to 6:30 PM daily (Mon-Wed) to transport you from the Princeton Junction Train Station to and from the Conference Center, which is 4.6 miles away.
### 2019 EAS Conferences-in-Miniature

**Oral Technical Program Schedule:** Monday - Wednesday: 8:30am – 11:30am / 1:00pm – 4:00pm  
**Poster Sessions Authors Available:** Monday & Tuesday: 11:00am – 12:00pm / 12:15pm – 1:15pm; Wed. 12:15pm – 1:15pm  
**Short Course Schedule:** Sunday – Wednesday: 8:30am – 5:00pm  
**Exposition Schedule:** Monday and Wednesday: 9:00am – 4:00pm; Tuesday: 9:00am – 5:30pm

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**BIOANALYSIS**

**Technical Sessions**  
- Challenges and Innovations in Analytical Assays for Cell and Gene Therapy Products (11/20 PM)

**Short Course**  
- Intact and Top-Down Protein Characterization and Quantitation by Mass Spectrometry: Approaches for Pharmaceutical Drug Discovery, Development, and Bioanalysis (11/20)

---

**CHEMOMETRICS**

**Technical Session**  
- Chemometrics in Forensic Science (11/19 AM)
- EAS Award for Outstanding Achievements in Chemometrics, Honoring Peter de Boves Harrington, Ohio University (11/19 PM)

**Short Courses**  
- Chemometrics Without Equations Part 1 & 2 (11/17-11/18)
- Introduction to Chemometrics Without Equations (11/17)
- Multivariate Image Analysis without Equations (11/18)

---

**COMPLIANCE & REGULATORY**

**Technical Sessions**  
- Evolving Analytical Technologies to Meet Regulatory Requirements (11/19 PM)

**Short Courses**  
- Lifecycle Management of Analytical Validation for Pharmaceutical Products (11/17)
- A Systematic Way to Prepare Your Laboratory for Pre-Approval Inspections and Compliance Audit (11/20)

---

**CONSERVATION SCIENCE**

**Technical Sessions**  
- Proteomics for Cultural Heritage (11/19 AM)
- Proteomics and Metabolomics for Cultural Heritage (11/19 PM)
- Genomics for Cultural Heritage (11/20 AM)
- Technical Analysis for Cultural Heritage (11/20 PM)

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**EDUCATION**

**Technical Sessions**  
- The Evolving Roles of Women in Science (11/20 AM)
- Chemistry: Analytical Opportunities (11/20 PM)

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**ENVIRONMENTAL & FOOD ANALYSIS**

**Technical Sessions**  
- Better Environment through Analytical Science & Technology (11/18 AM)
- Role of Analytical Chemistry in Greening Chemistry (11/18 PM)
- What’s for Dinner? Analysis of Food Products (11/19 PM)
- Application of Chromatography in Environmental & Pharmaceutical Science (11/20 AM)
- Applications of High Resolution Mass Spectrometry in Food Safety: Cannabis, Dietary Supplements, and Drinking Water (11/20 PM)

**Short Course**  
- Understanding the Cannabis Landscape from Seed to Testing (11/18)

---

**FORENSIC & MICROSCOPY ANALYSIS**

**Breakfast Lecture:** Nov. 19, 7:30am  
*It Started with Anthrax and Still Matters Because of Sayoc*  
Dr. David Bowers, United States Postal Service

**Technical Sessions**  
- Advances in Forensic Toxicology and Counterfeit Pharmaceutical Analysis (11/18 AM)
- Research from our Emerging Forensic Scientists (11/18 PM)
- Chemometrics in Forensic Science (11/19 AM)
- Forensic Analysis of Drugs & Explosives (11/19 PM)
- Forensic Microscopy “What is it? Who does it?” (11/20 PM)
- New York Microscopical Society Ernst Abbe Award; Honoring Fran Adar, HORIBA Scientific (11/20 AM)

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**GAS CHROMATOGRAPHY**

**Technical Sessions**  
- Industrial and Medical Innovation Involving Odor Analysis and GC Instrumentation (11/18 AM)
- American Microchemical Society Benedetti-Pichler Award, Honoring Vincent Remcho, Oregon State University (11/18 PM)
- Application of Chromatography in Environmental & Pharmaceutical Science (11/20 AM)

**Short Courses**  
- Getting the most from GC and GCMS (11/17)
- Headspace-Gas Chromatography Fundamentals, Method Development and Method Transfer (11/19)
- GC/MS Fundamentals for Operators (11/20)

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**GREEN CHEMISTRY**

**Keynote Lecture:** Nov. 18, 4:15pm  
*The Sustainable Analytical Chemist*  
Professor Susan Olesik, The Ohio State University

**Technical Sessions**  
- Role of Analytical Chemistry in Greening Chemistry (11/18 AM)

**Short Course**  
- Supercritical Fluid Chromatography (SFC): A Powerful and Greener Tool for Analytical and Preparative Separations (11/19)

---

**HIGH-PERFORMANCE THIN-LAYER CHROMATOGRAPHY**

**Technical Sessions**  
- Novel Concepts and Unique Applications of High-Performance Thin-Layer Chromatography (11/18 AM)
- HPTLC in Practice in North America (11/18 PM)

**Short Course**  
- HPTLC, Planar Chromatography beyond the Ordinary! (11/17)

---

**LABORATORY & DATA ANALYSIS**

**Technical Sessions**  
- A Career in Management (11/19 AM)
- Applying Data Science to Spectroscopy (11/20 AM)
- Automation for Effective Lab Operation and Enhanced Analytical Performance (11/20 PM)

**Short Courses**  
- Understanding the Cannabis Landscape from Seed to Testing (11/18)
LABORATORY & DATA ANALYSIS (continued)

- Quality-by-Design (QbD): A New Paradigm for the Analytical Laboratory: Parts 1 & 2 (11/19-11/20)
- A Systematic Way to Prepare Your Laboratory for Pre-Approval Inspections (PAIs) and Compliance Audit (11/20)

LIQUID CHROMATOGRAPHY

Technical Sessions
- EAS Award for Outstanding Achievements in Separation Sciences, Honoring Joseph Pesek, San Jose State University (11/18 AM)
- Multidimensional and Hypenated Techniques: From Development to Routine Analysis Part 1 (11/18 AM)
- Multidimensional and Hypenated Techniques: From Development to Routine Analysis Part 2 (11/18 PM)
- Technology Advancements in HPLC/UHPLC (11/19 AM)
- Method Lifecycle Management (11/19 PM)
- Chromatographic Method Optimization & Risk Assessment (11/19 PM)

Short Courses
- Faster HPLC Method Development and Optimization of Polar and Nonpolar Analyte Mixtures (11/17)
- Modern Size Exclusion Chromatography of Synthetic Polymers and Biopolymers (11/17)
- LC/MS Method Development for Small Molecules (11/18-11/19)
- Supercritical Fluid Chromatography (SFC): A Powerful and Greener Tool for Analytical and Preparative Separations (11/19)
- How to Develop Validated HPLC Methods: Rational Design with Practical Statistics and Troubleshooting (11/19-11/20)
- HPLC and UPLC Troubleshooting (11/20)

MASS SPECTROMETRY

Technical Sessions
- Novel Methodologies in Mass Spectrometry (11/18 AM)
- Mass Spectrometry Application: Proteomics and Small Molecule Analysis (11/18 PM)
- EAS Award for Outstanding Achievements in Mass Spectrometry, Honoring Jennifer Brodbelt, University of Texas-Austin (11/19 AM)
- Mass Spectrometry for Biopharmaceutical Discovery and Development (11/19 PM)
- Mass Spectrometry: From Product Development to Quantitative Proteomic on Drug Intervention Analysis (11/20 AM)
- Applications of High Resolution Mass Spectrometry in Food Safety: Cannabis, Dietary Supplements, and Drinking Water (11/20 PM)

Short Courses
- Getting the most from GC and GC/MS (11/17)
- Interpretation of Mass Spectra with Practical Solutions to Problems (11/18)
- LC/MS Method Development for Small Molecules (11/18-11/19)
- GC/MS Fundamentals for Operators (11/20)
- Intact and Top-Down Protein Characterization and Quantitation by Mass Spectrometry: Approaches for Pharmaceutical Drug Discovery, Development, and Bioanalysis (11/20)

NMR SPECTROSCOPY

Technical Sessions
- Innovative Applications of NMR Spectroscopy of Materials (11/18 AM)
- EAS Award for Outstanding Achievements in Magnetic Resonance, Honoring Lucio Frydman, Weizmann Institute (11/18 PM)
- NMR Spectroscopy Instrumentation and Application (11/19 AM)
- Pharmaceutical Solid-State NMR: Moving Beyond Carbon (11/19 PM)

Short Course
- Practical NMR Spectroscopy (11/20)

PHARMACEUTICAL ANALYSIS

Technical Sessions
- Advances in Forensic Toxicology and Counterfeit Pharmaceutical Analysis (11/18 AM)
- Challenges Working with Organic Impurities, Genotoxic Impurities and Elemental Impurities Found in Pharmaceutical Products (11/18 AM)
- Initiatives to Address Analytical Challenges in Biologic Development and Opioid Crisis (11/18 PM)
- Method Development and Data Evaluation in Pharmaceutical Analysis (11/19)
- Mass Spectrometry for Biopharmaceutical Discovery and Development (11/19 PM)
- Pharmaceutical Solid-State NMR: Moving Beyond Carbon (11/19 PM)
- Automation and Process Analytical Technology (PAT) in Pharmaceutical Related Applications (11/20 AM)
- Recent Innovation in Pharmaceutical Analysis (11/20 AM)
- Challenges and Innovations in Analytical Assays for Cell and Gene Therapy Products (11/20 PM)

Short Courses
- Lifecycle Management of Analytical Validation for Pharmaceutical Products (11/17)
- Polymers: An Introduction and Characterization Techniques (11/17)
- Lifecycle Approach to Analytical Methods: Incorporating QbD Concepts into Method Development, Validation, Verification and Transfer (11/19)
- Intact and Top-Down Protein Characterization and Quantitation by Mass Spectrometry: Approaches for Pharmaceutical Drug Discovery, Development, and Bioanalysis (11/20)

SPECTROSCOPY

Plenary Lecture, November 20, 11:45AM
Spectroscopy through the Microscope: Chemical Analysis at Liquid/Solid Interfaces
Professor Joel Harris, University of Utah

Technical Sessions
- New York/New Jersey Section of the Society for Applied Spectroscopy Gold Medal Award, Honoring John Lombardi, The City College of New York (11/19 AM)
- Applications of Lasers in Analytical Chemistry (11/19 PM)
- Looking at the Spectrum to Solve Your Problems! (11/19 PM)
- EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry, Looking at the Spectrum to Solve Your Problems! (11/20 AM)
- Applying Data Science to Spectroscopy (11/20 AM)
- Electrochemistry Sensors & Detectors (11/20 AM)
- EAS Young Investigator Award, Honoring Ishan Barman, Johns Hopkins University (11/20 PM)
- Vibrational Spectroscopy Applications and Instrumentations (11/20 PM)

Short Courses
- Raman Microscopy Imaging (11/19)
- Practical NMR Spectroscopy (11/20)

SURFACE SCIENCE

Technical Session
- Analytical Techniques for Surface and Interfacial Characterization (11/18 PM)

For Poster Sessions – see pages 5-19 for full listing of posters
Monday-Wednesday
2019 Technical Program

Monday Morning, November 18, 2019

EAS Award for Outstanding Achievements in Separation Sciences
Honoring Joseph Pesek, San Jose State University
Sponsored by Agilent Technologies
Chair: Kylen Whitaker, The Procter & Gamble Co.

8:30  Presentation of the EAS Award for Outstanding Achievements in Separation Sciences
8:35  1 Separating both Polar and Nonpolar Compounds Using Aqueous Normal Phase Chromatography: A more Versatile Approach than Mixed-Mode Chromatography, Joseph Pesek, Maria Matyska-Pesek, San Jose State University
9:10  2 The Utility of Silica Hydride Stationary Phases for the Separation of Positional Isomers of Emerging Drugs, Ira Lurie, Carly Ploumen, Ioan Marginean, The George Washington University
9:50  Break
10:10  3 Chromatographic Approaches and Challenges for OTC Cough-Cold Products, Kylen Whitaker, Mary Frank, The Procter & Gamble Co.
10:50  4 The Challenge of Tween Analysis in Protein Formulations, Gregory Webster, Jean C. Chang, Allison L. thebridge, AbbVie Inc.

Novel Concepts and Unique Applications of High-Performance Thin-Layer Chromatography (HPTLC)
Chair: Maged Sharaf, The International Association for the Advancement of High-Performance Thin Layer Chromatography

8:30  5 High-Performance Thin-Layer Chromatography (HPTLC) Today and in the Future, Bernd Spangenberg, University of Applied Sciences Offenburg
9:10  6 Recent Contributions of HPTLC to the Analysis of Complex Samples Covering Wide Ranges of Polarity, The Cases of Biofuels, Petroleum and Lipidomic Analysis, Vicente Cebolla, Luis Membrado, Spanish National Research Council, Carmen Jame, ARID, Jesús Vela, University of Zaragoza
9:50  Break
10:10  7 The Capabilities of Effect-Directed Analysis with HPTLC in Environmental Analysis, Stefan Weiß, Association for Long Distance Water Supply of the State of Baden-Wuerttemberg, Germany
10:50  8 Comprehensive HPTLC Fingerprinting - A New Approach to Quality, Eike Reich, The International Association for the Advancement of HPTLC, Débora Frommenwiler, CAMAG, Salvador Cafigueral, University of Barcelona

Multidimensional and Hyphenated Techniques: From Development to Routine Analysis, Part I, sponsored by the Chromatography Forum of the Delaware Valley
Chair: Mary Ellen McNally, FMC Corporation

8:30  9 Methods for the Analysis of Polar and Ionic Chemical Classes by Hydrophilic Interaction Liquid Chromatography Coupled to High-Resolution Mass Spectrometry, Sergio Nanita, DuPont Nutrition & Biosciences
9:10  10 LC/MS/MS Analysis of Folate in Food, Cynthia Srigley, United States Food & Drug Administration
9:50  Break
10:10  11 Beyond Conventional 2D-LC: Multiple Dimensions of Chromatography with Quadruple Parallel Mass Spectrometry, LCxMSy, Wm. Craig Byrdwell, United States Department of Agriculture
10:50  12 Hyphenated Techniques for Real Life Problems in the Agriculture Industry, Xiaoyan Wang, Mary Ellen McNally, FMC Corporation

Better Environment through Analytical Science and Technology
Chair: James Stuart, University of Connecticut

8:30  13 Types of Microplastics Present in the Long Island Estuary by Microscopic Fourier Transform-Infrared Spectroscopy, James Stuart, Caroline Anastasia, Christopher Perkins, Michael Willig, University of Connecticut
9:00  14 Chromatographic and Spectroscopic Strategies for the Analysis of High-Molecular Weight Polycyclic Aromatic Hydrocarbons, Anthony Santana, Andres Campiglia, University of Central Florida
9:30  15 A Holding Time Evaluation Study for the Analysis of PFAS in Aqueous Samples, Charles Neslund, Eurofins Lancaster Laboratories Environmental, LLC
10:00  Break
10:10  16 Analysis of the Lake Trout (Salvelinus Namaycush) Through Evolutionary Proteomics, Emmalyn Dupree, Thomas Holse, Costel Darie, Clarkson University, Bernard Crimmins, AEACS, LLC
10:40  17 Speeding Up US EPA Methods Using a GC Oven Insert, Linx Waclaski, Chris Rattray, Cathy Hetrick, Restek Corporation
11:10  18 Electrochemistry and Ion Chromatography Combined for In-Situ Environmental Analysis, Don Nuzzio, Analytical Instrument Systems Inc.

Advances in Forensic Toxicology and Counterfeit
Pharmaceutical Analysis, organized by the Chinese American Chromatography Association
Chair: Yi He, John Jay College of Criminal Justice

8:30  19 Cracking Down on Counterfeit Drugs – Evaluation of Field Portable Instrumentation for Rapid Analysis, Sara Kern, Adam C. Lanzarotta, JaCinta S. Batson, Michael D. Thatcher, Martin M. Kimani, Jonathan J. Litzau, United States Food & Drug Administration
9:10 20 Use of LCMS in a High-Throughput Clinical Toxicology Laboratory, Gary Milman, National Spine and Pain Centers

9:50 Break

10:10 21 Cannabis Exposure during Pregnancy: Analytical Methods and Toxicological Findings, Marta Concheiro-Guisan, John Jay College of Criminal Justice

10:50 22 Hair Testing in Forensic Toxicology. Hair Today Gone Tomorrow?, Karen S. Scott, Arcadia University

Novel Methodologies in Mass Spectrometry
Chair: Yu He, Merck & Co.

8:30 23 Absolute Quantification Using Electrochemical Mass Spectrometry, Hao Chen, New Jersey Institute of Technology

9:00 24 Robust LC-MS Determination of Deuterium Isotopologues Using a Single Quadrupole MS Instrumentation, Cong Bi, Yan Zha, Wei Ding, Yueer Shi, Bristol-Myers Squibb


10:00 Break

10:10 26 Mass Activated Droplet Sorting (MADS) for High-Throughput Screening in Protein Engineering, Shuwen Sun, Merck & Co.

10:40 27 Analysis of Perfluorinated Alkyl Acids (PFAAs) in Surface Water by Solid Phase Extraction Followed by Ultra High-Performance Liquid Chromatography/Tandem Mass Spectrometry, Son Nguyen, Jacob Cortigiano, Anthony Provatas, James Stuart, Trevor McBrine, University of Connecticut

11:10 28 Utilizing Optical and Mass Spectrometries for Simultaneous Elemental and Molecular Chemical Imaging, Jacob Shelley, Montwaun Young, Jessica Hellinger, Sunil Badal, Rensselaer Polytechnic Institute

Innovative Applications of NMR Spectroscopy of Materials
Chair: Cecil Dybowski, University of Delaware

8:30 29 High-Resolution Solid State NMR of Quadrupole Nuclei at Fields up to 36T, Zhehong Gan, National High Magnetic Field Laboratory

9:10 30 Understanding Polymeric Materials from Molecular to Micron Scales with Multi-Modal NMR, Louis Madsen, Virginia Polytechnic Institute

9:50 Break

10:10 31 Characterizing the Surface of Semiconductor Nanoparticles by Sensitivity-Enhanced Solid-State NMR Spectroscopy, Aaron Rossi, Iowa State University, Michael Hanrahan, Yunhua Chen, Ames Laboratory

10:50 32 Solid-State NMR Investigations of Active Pharmaceutical Ingredients and Multi-Component Crystals Formed by Mechanochemical Syntheses, Sean Holmes, Robert Schurko, Austin Peach, Cameron Vojvodin, Louae Abdulla, University of Windsor

Challenges Working with Organic Impurities (OI), Genotoxic Impurities (GTI) and Elemental Impurities (EI) Found in Pharmaceutical Products
Chairs: Kim Huynh-Ba, Pharmalytik, LLC, Shari Sellers, Merck & Co.

8:30 33 Assay and Impurities: Setting Specifications for Drug Substance and Drug Product, Christopher Riley, Riley and Rabel Consulting, Ema E.K. Kikovska-Stojanovska, Alakloid Skopie, Adrian Clark, Novartis


9:50 Break

10:10 35 Detection and Prevention of N-Nitroso Compounds in Pharmaceuticals, Robert Johnson, AMAG Pharmaceuticals

10:50 36 Elemental Impurities: The Lhasa Database, Nancy Lewen

Industrial and Medical Innovation Involving Odor Analysis and GC Instrumentation
Chair: Michelle Gallagher, The Dow Chemical Company

8:30 37 The Chemical Analysis of Odor: from GCO to SO, Terry Acree, Cornell University

9:10 38 Using Odor Profiles to Diagnose Hidden Cancer, George Preti, Young Lee, Charles Wysocki, Monell Chemical Senses Center, Christopher Gehayias, Jennifer Essler, Jody Piltz-Seymour, Janos Tanyi, Cynthia M. Otto, A. T. Charlie Johnson, University of Pennsylvania

9:50 Break

10:10 39 Very Low Odor Threshold Compounds Responsible for Costly Industrial Problems, Russell Bazemore, Chris Christenson, Katherine Bazemore, Mitch White, Volatile Analysis Corporation

10:50 40 Reducing the Burden on Olfactory Sensory Panels: Analysis of Trace VOCs and Off-odor Compounds in Finished Product Materials by TDS-GCxGC/FID/TOFMS, W. Christopher Siegler, Lucy Downey, Marla Gilbert, Shayne Green, Bill Winniford, The Dow Chemical Company

PAT: EYES in the Process Line, Part 1, sponsored by Delaware Valley Section of SAS
Chair: Jim Rydzak, Specere Consulting

8:30 41 Raman Spectroscopy Analytical Method Development for Lab-to-Process Transferability, Karen Esmonde-White, Ian Lewis, Sean Gilliam, David Strachan, Kaiser Optical Systems

9:10 42 In-Line Spectroscopy: Keeping Pace with Growth in Continuous Flow Chemistry, Norman Wright, Mettler-Toledo Autochem

9:50 Break

10:10 43 Prediction of Dissolution Shelf-Life of Packaged Pharmaceutical Tablets Using Accelerated Stability

2019 EAS Final Program
Technical Program
Monday, November 18: E-Poster Session 1; 11:00am - 12:00pm

45 The Development of GC/MS Methods for the Detection and Quantification of Volatile HPHC Components in E-Liquids, Madison Moote, Avomeen Analytical Services

46 High-Throughput Comprehensive Coverage of Hydrophilic and Hydrophobic Metabolites in Beer Utilizing a Dual Separation/High Resolution Accurate Mass Spec, Theresa Riley, Ioanna Ntai, Martin Samonig, Stephanie Samra, Amanda Souza, Thermo Fisher Scientific

47 UHPLC/UV Coupled to a Single Quadrupole Mass Detector for Confirmation and Quantitation of a Genotoxic Impurity in a Drug Sample, Theresa Riley, Sylvia Grosse, Mauro de Pra, Frank Steiner, Thermo Fisher Scientific Germinger

48 Analysis of Phenolic Acids in Green Tea Leaves and Infusion by GC-MS, Xiaofei Lu, Yuegang Zuo, University of Massachusetts Dartmouth

49 Field Validation of a Novel Barcoded Advanced Tracers Technology: Innovative Materials Designs toward Automated Analysis, Sehoon Chang, Hoosiwng Ow, Gawain Thomas, Reni Shi, Wei Wang, Hsieh Chen, Martin Poitzsch, Hussain Shateeb, Amr Abdel-Fattah, Aramco Services Company

50 Sample Loadability on Coated and Immobilized Polysaccharide-Based Chiral Stationary Phases, Melissa Wilcox, Gay Lowden, Edward Franklin, Regis Technologies

51 Adsorption of As(V) and As(III) on Calcined Substrates with Variable Charge Surfaces, Enju Wang, Xingyao Yao, Fernando Milian, St. John’s University

52 Leaching of Valuable Metals from Lithium-Ion Batteries (LIBs) Using Green Organic Acids, Legi Lin, New Jersey Institute of Technology

53 Counterfeit Drug Screening Using Portable Raman Spectrometer, Brittany Handzo, Bristol Myers Squibb

54 Performance of Nitrogen as a Carrier Gas in Capillary Gas Chromatography Using a Thin Film Column, Brittany Handzo, Nicholas H. Snow, Seton Hall University

55 Evaluation of a Green Technique for Determining Residual Moisture Content in Lyophilized Lipid-Based Formulations, Douglas Vieira, Andrea Penwell, Soraya Carr, Arthvan Sharma, IMV

56 Characterization of Colloidal, Mechanical and Electrochemical Properties of Nanobubbles in Water, Xiaonan Shi, Taha Marhaba, Wen Zhang, New Jersey Institute of Technology

57 Quality of Cranberry-Derived Ingredient: One HPTLC Method for Identification and Detection of Adulterants, Eike Reich, Debora Frommenwiler, CAMAG, Maria Monagas, United States Pharmacopeia Convention

58 The Use of Ultra-High-Pressure Liquid Chromatography in High-Throughput Pharmacopeial Monograph Validation, Glenn Kresge, Rowan University

Monday, November 18: E-Poster Session 2; 12:15pm - 1:15pm

59 A Simple Way to Perform Faster Quantitative Analysis of LC-MS/MS Data with a New Generation LabSolutions InSight Software, Jonathan Ho, Pryor Pryor, Peter Ratsef, Christopher Gilles, Shimadzu Scientific Instruments

60 A Multi-Detector Set-up Comprising of UV/Vis Detection, Charged Aerosol Detection and Single Quadrupole MS Detection for Comprehensive Quantitative Sample Analysis, Paul Gamache, Stephan Meding, Katherine Lovejoy, Martin Samonig, Frank Steiner, Thermo Fisher Scientific

61 Proteomic Analysis of the Blood from Lake Trout (Salvelinus namaycush), Shelby Alwine, Emmalyn Dupree, Bernard Crimmins, Thomas Holsen, Costel Darie, Clarkson University

62 Proteomic Analysis of the Heart Tissue from Lake Trout (Salvelinus namaycush), Zaen Manzoor, Emmalyn Dupree, Thomas Holsen, Costel Darie, Clarkson University, Bernard Crimmins AEACS, LLC

63 A Quick Approach to Screen Oligomers from Extractables Using Liquid Chromatography Quadrupole Time-of-Flight Mass Spectrometry (LC/Q-TOF), Owen Perlowski, Pall Corporation

64 Synthesis of Functionalized Coumarins for the Fluorescent Detection of Fluoride in Drinking Water, Melanie Padaslina, Naveed Khan, Samuel Foster, Christopher Piccolo, Subash Jonnalagadda, James Grinas, Rowan University

65 Stop-Flow Methods to Monitor Broadening in Size-Exclusion Chromatography with Superficially Porous Particles, Joseph Naese, Rowan University

66 Continuous Gradient Temperature Raman Spectroscopy of Fish Oils Provides Rapid, Graphical Product Authentication, Walter Schmidt, United States Department of Agriculture

67 Enhancements to Instrumentation for the Analysis of High Molecular Weight Polycyclic Aromatic Hydrocarbons in Environmental Samples, Anthony Santana, Ahmed Comas, Stacy Wise, Andres Campiglia, University of Central Florida, Walter Wilson, National Institute of Standards and Technology

Monday, November 18: E-Poster Session 2; 12:15pm - 1:15pm

68 Confocal Raman and Microscopy Characterization of Waterborne Coatings, Dana Garcia, Jeffrey Schneider, Wenjun Wu, Arkema Inc.

69 Chemical and Structural Characterization of Vitis Vinifera Var. Perfette Cuitin, Daniel Arrieta-Baeza, Mayra Beatriz Gómez-Patiño, Israel Arzate-Vazquez, IPN-CNMN, Dolores Reyes-Duarte, UAM-Cuajimalpa

70 How to Determine Protein Stability of BPTI Using GROMACS?, Robert Craig, Queen College-CUNY

71 Quantitative Analysis of Residual Solvents in Hemp Oil by Full Evaporation Headspace Gas Chromatography/Mass Spectrometry, Laurel Vernarelli, GERSTEL, Inc.

72 HPLC-UV Method Development for Baseline Resolution of 17 Cannabinoids, Melissa Wilcox, Gay Lowden, Edward Franklin, Regis Technologies

73 Absolute Quantitiation of Peptides by Coulometric Mass Spectrometry (CMS) Using Derivatization Strategy, Joel Praneeth, Hao Chen, New Jersey Institute of Technology

74 Absolute Quantitation of Oxidizable Peptides by Coulometric Mass Spectrometry, Pengyi Zhao, Hao Chen, New Jersey Institute of Technology, Richard Zare, Stanford University
2019 EAS Final Program

Technical Program

Monday Afternoon, November 18, 2019

EAS Award for Outstanding Achievements in Magnetic Resonance
Honoring Lucio Frydman, Weizmann Institute of Science
Sponsored by Bruker BioSpin and New Era Enterprises
Chair: Warren S. Warren, Duke University

1:00 91 Presentation of the EAS Award for Outstanding Achievements in Magnetic Resonance 1:05
Spreading the Hype: Sensitivity-Enhanced Biomolecular NMR via Hyperpolarized Water, Lucio Frydman, Weizmann Institute of Science


2:00 93 NMR of Glycans On and Off Cells, Daron Freedberg, Marcos Battistel, Bingwu Yu, Hugo Azurmendi, United States Food & Drug Administration

3:20 94 Diagnosing Rechargeable Batteries with Inside-Out MRI, Alexej Jerschow, New York University

American Microchemical Society Benedetti-Pichler Award
Honoring Vincent Remcho, Oregon State University
Chair: Robert Vetrecin, American Microchemical Society

1:00 95 Good Memories in Chromatography, Harold McNair, Virginia Tech

1:30 96 Re-Examining Classical Assumptions in Gas Chromatography, Nicholas Snow, Sean McCann, Hetal Rana, Brittany Handzo, Seton Hall University

2:00 97 Nanocarbon Based Small and Large Scale Separation, Somnath Mitra, New Jersey Institute of Technology

2:30 Break

2:40 98 Quantitative HPLC: Considerations for Accuracy and Precision, Henrik Rasmussen, Eric Borsje, Amy Dai, Ayse Beyaz, Vertex Pharmaceuticals

3:10 99 Dynamics and Interactions: How Separations Science Brings Us Together, Vincent Remcho, Oregon State University

3:40 100 A Stationary Phase for HPLC Based on the Modification of Silica Particles with p-phenylenediamine, Luis Colón, Joseph R. Ezzo, University at Buffalo-SUNY

HPTLC in Practice in North America
Chair: Bernd Spangenberg, Journal of Planar Chromatography

1:00 101 High-Performance Thin-Layer Chromatography (HPTLC) in the Quality Control of Botanical Supplements: Identification and Beyond, Melissa Daoust, Traditional Medicinals

1:30 102 Non-Botanical Applications of HPTLC, Martha Jennens, Eurofins Food Integrity & Innovation

2:00 103 HPTLC Identification and Quantification of Cannabinoids in Cannabis Samples of Different Chem-
Chair: Marcelo Filgueira, DuPont Experimental Station

**Chromatography Forum of the Delaware Valley**

Development to Routine Analysis, Part II, sponsored by the Multidimensional and Hyphenated Techniques: From LCxLC (and Back), Tadeusz Gorecki, Hei-Yin Chow, Alshymaa A. Aly, University of Waterloo

Break

HPTLC in Screening for Undeclared Ingredients, Anton Bzhelyansky, United States Pharmacopeial Convention

Break

The International HPTLC Association, Maged Sharaf, The International HPTLC Association

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**Multidimensional and Hyphenated Techniques: From Development to Routine Analysis, Part II, sponsored by the Chromatography Forum of the Delaware Valley**

Chair: Marcelo Filgueira, DuPont Experimental Station

1:00 107 Multidimensional Cross-Pollination: From GCxGC to LCxLC (and Back), Tadeusz Gorecki, Hei-Yin Chow, Alshymaa A. Aly, University of Waterloo

1:40 108 High-Throughput LC-MS/MS Methodology for Neurotransmitter Analysis, James Grinias, Rowan University

2:20 Break

2:40 109 Recycling Chromatography for the Identification of Nearly Co-Eluting Impurities in Drug Samples, Fabrice Gritti, Waters Corp.

3:20 110 Ordered Carbon Materials for Chromatography and Extraction, Susan Olesik, Rebekah Gibson, Brian Fitch, The Ohio State University

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**Role of Analytical Chemistry in Greening Chemistry, sponsored by ACS Division of Analytical Chemistry**

Chair: Satinder Ahuja, Ahuja Consulting

1:00 111 Role of Analytics in Greening Chemistry, Satinder Ahuja, Ahuja Consulting, Larry Cahoon, University of North Carolina

1:40 112 Rise of Green Core-Shell Silica Encapsulated Iron-Oxide Based Nanomaterials & Their Promising Catalytic Capability, Sriparna Dutta, Green Chemistry Network Centre

2:20 Break

2:40 113 Natural Tissue Concentrations and Uptake of the Polyfluorinated Compound GenX, by the Eastern Oyster Crassostrea Virginica in Southeastern North Carolina, Melissa Lenentine, Aswani Volety, Rebecca Werner, Ai Ning Loh, University of North Carolina, Uma Volety, Hoggard High School

3:20 114 Green Chemistry and Water Treatment: From Vision to Action, Rakesh Kumar Sharma, University of Delhi, Satinder Ahuja, Ahuja Consulting

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**The Research from our Emerging Forensic Scientists, sponsored by New Jersey Association of Forensic Scientists**

Chair: Monica Joshi, West Chester University of PA

1:00 115 Determination of the Optimal Method for the Detection of Vaginal Fluid, Melissa Rogers, Lawrence University, Jeffrey Beckstead, ChemImage Corp.

2:20 Break

2:40 116 LC/MS Method Development for the Identification and Quantification of Illicit Drugs Introduced into Correctional Facilities, Erica Maney, Logan T. Miller, Sean M. Fischer, Stephanie J. Wetzel, Duquesnes University, Jeffrey Beckstead, ChemImage Corp.

3:20 118 Stability of U-47700 in Solvents and Whole Blood, Melanie Murphy, Karen S. Scott, Arcadia University

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**Mass Spectrometry Application: Proteomics and Small Molecule Analysis**

Chair: Costel Darie, Clarkson University

1:00 119 Investigation and Characterization of the Jumping Translocation Breakpoint (JTB) Protein Using Mass Spectrometry Based Proteomics, Madhuri Jayathirtha, Devika Channaveerappa, Kangning Li, Costel Darie, Clarkson University

1:30 120 Analytical Strategy for Bacterial Metabolites Identification by MS Technologies, Yu Wang, Rutgers University, Zhigang Hao, Colgate-Palmolive

2:00 121 Plasmas as Ionization and Fragmentation Tools for Small Molecule and Biopolymer Detection, Identification with Mass Spectrometry, Jacob Shelley, Courtney Walton, Judy Wu, Matthew van der Wiel, Rensselaer Polytechnic Institute

2:30 Break

2:40 122 Effects to the Human Proteome due to Legacy Chemical Exposure in the Great Lakes, Costel Darie, Emmalyn Dupree, Thomas Holsen, Clarkson University, Bernard Crimmins, AEACS, LLC, James Pagano, SUNY-Oswego, Brooke Thompson, Krista Christensen, Michelle Raymond, Jonathan Meiman, Wisconsin Department of Health

3:10 123 Mass Spectrometry-Based Proteomics Investigation of Molecular Changes in Rats during Induced Obstructive Sleep Apnea, Devika Channaveerappa, Jacob Lux, Costel Darie, Clarkson University, Brian K. Panama

3:40 124 Mass Spectrometry Based Proteomic Investigation of Induced Obstructive Sleep Apnea (OSA) in Rat Atria, Sydney Straatman, Devika Channaveerappa, Costel Darie, Clarkson University, Brian Panama, Masonic Medical Research Laboratory

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**Initiatives to Address Analytical Challenges in Biologic Development and Opioid Crisis**

Chairs: Karen Lucas, Johnson & Johnson, Kim Huynh-Ba, Pharmalytik, LLC

1:00 125 Method Development and Specification Setting Strategies for Biologics, Mark Alasandro, Nalpropion Pharmaceuticals

1:30 126 Impact of Uncertain Analytical Variability on the CMC, Nanda Subbarao, Biologics Consulting
2:00 127 Regulatory Perspectives of Setting Specifications and Forced Degradation Studies for Biologic Products, Ashutosh Rao, United States Food & Drug Administration

2:30 Break


Analytical Techniques for Surface and Interfacial Characterization
Chair: Michael Clark, The Dow Chemical Company

1:00 130 Surface and Interface Analysis of Electronic Materials by Time-of-Flight Secondary Ion Mass Spectrometry (TOF-SIMS), Conor Thomas, IBM Systems

1:40 131 Applications of XPS: From Historical Documents to Batteries, Karen Gaskell, Aldo A. Ponce, University of Maryland-College Park

2:20 Break

2:40 132 Applications of Low Energy Ion Scattering Spectrometry in Chemical, Material and Mechanical Engineering, Henry Luftman, Lehigh University

3:20 133 Applications of SPM Methods in Polymer Industry – Overview of Recent Advances, Johnpeter Ngunjiri, Gregory Meyers, Ibrahim Eryazici, Tara Cary, Ian Robertson, Eric Wasserman, The Dow Chemical Company

PAT: EYES in the Process Line, Part 2, sponsored by Delaware Valley Section of SAS
Chair: Jim Rydzak, Specere Consulting

1:00 134 Use of PAT for Real-Time Monitoring and In-Process Control of Biomanufacturing, George Zhou, Merck & Co.

1:40 135 Process Monitoring of Isomers and Impurities Using Molecular Rotational Resonance Spectroscopy, Justin Neill, Alexander Mikhonin, Matt Muckle, BrightSpec

2:20 Break

2:40 136 Non-Destructive Mechanical Strength Assessment of Multilayered Tablets Using Terahertz Spectroscopy, Shikhar Mohan, James Drennen, Carl Anderson, Duquesne University

3:20 137 PAT Approaches to Process Monitoring and Control in Biotech Continuous Manufacturing, Loe Cameron, Pall Corp.
10:10 146 Fiber Optic Light Micro-Spectrophotometry and Confocal Raman Micro-Spectrometry (with SERS) Applied to the Analyses of Traces of Forensic Import, Thomas Kubic, John Jay College of Criminal Justice

10:50 147 Surface Enhanced Raman Spectroscopy in Art and Archaeology, Marco Leona, Metropolitan Museum of Art

Chemometrics in Forensic Science
Chair: Brooke Kammrath, University of New Haven

8:30 148 The Potential of Hyperspectral Imaging in Forensic Science, Donald Dahlberg, Lebanon Valley College

9:10 149 Targeted Anomaly Detection in Hyperspectral Imaging for Forensic Applications - Finding a Needle in a Haystack, Neal Gallagher, Eigenvector Research

9:50 Break

10:10 150 A Regression-Based Algorithm to Maximize the Confidence in Mass Spectral Identifications, Glen P. Jackson, Samantha A. Mehnert, Brandon D. Lowe, Emily Ruiz, J. Tyler Davidson, West Virginia University

10:50 151 Classification with Regression: The Ridge and the Lasso, Stephen Morgan, Dayla C. Rich, Nilmini H. Ratnasena, University of South Carolina

Proteomics for Cultural Heritage, organized by the New York Conservation Foundation
Chair: Caroline Solazzo, Museum Conservation Institute

8:30 152 Methods for Proteomics and Proteomics Studies of Museum Collections at the Museum Conservation Institute, Caroline Solazzo, Timothy Cleland, Caitlin Colleary, Boyoung Lee, Museum Conservation Institute

9:10 153 Proteomics in the Technical Analysis of Historic African Art: Collaborations, Challenges, and Course Corrections, Caroline Mallinckrodt, Kathryn B. Gabrielli, Virginia Museum of Fine Art, Ainslie C. Harrison, Virginia Commonwealth University,

9:50 Break

10:10 154 Protein Identification on a Routine Basis in a Museum Laboratory, Except for “the One Problem,” Dan Kirby, Conservation Scientist

10:50 155 Species Identification of Silks by Protein Mass Spectrometry, Boyoung Lee, Smithsonian Institutions - Museum Conservation Institute, Elisbete Pires, Mark Pollard, James McCullagh, University of Oxford

Method Development and Data Evaluation in Pharmaceutical Analysis
Chair: Suzanne Schreyer, Rigaku Analytical Devices

8:30 156 Integrating and Automating the Use of PDA and MS Data in LC and LC/MS Method Development, Richard Verseput, S-Matrix Corporation

9:00 157 Peak Tailing Investigation of Organic Acids in Reverse Phase Liquid Chromatography, Yiyang Zhou, Qinggang Wang, Bristol-Myers Squibb Company

9:30 158 Universal Protein and Peptide Quantification Using FID for (U)HPLC, Tommy Saunders, Andrew Jones, Activated Research Comp

10:00 Break

10:10 159 Continued Performance Verification of Analytical Procedures Using Control Charts, Margaret Maziarcz, Waters

10:40 160 Enhancing Data Analyses by Leveraging Allotrope Standard Data Format, Justin Van Duine, Pfizer

11:10 161 Automated Development of Stability-Indicating Methods for Forced Degradation Studies, Arnold Züldhésyi, Gyan Sagar, Molnár-Institute for Applied Chromatography, Michael Lopez, Reaction Analytics

Technology Advancements in HPLC/UHPLC
Chair: Justin Pennington, Merck & Co.

8:30 162 Are Two Columns Better Than One?: Answers from the Hydrophobic Subtraction Model and Other Databases, Joe Foley, Drexel University

9:00 163 Superficially Porous Particles with C30 Stationary Phase for High Resolution Separations, Stephanie Schuster, Conner McHale, Andrew Harron, Advanced Materials Technology, Inc.

9:30 164 Recent Advances in Liquid Separations Employing Carbon Particles, Cory Muraco, MilliporeSigma

10:00 Break

10:10 165 The Importance of Superficially Porous Particles in Modernizing HPLC Methods, Richard Henry, Consulting, Andrew Harron, Advanced Materials Technology, Thomas Waeghe, Mac-Mod Analytical

10:40 166 Applications of Fused-Core®, Superficially Porous Particles (SPP) in Environmental Analysis, Andrew Harron, Advanced Materials Technology

11:10 167 Use of Bio-Inert CVD Coatings in HPLC Components to Achieve the Inertness of PEEK and the Robustness of Stainless Steel, Jesse Bischof, SilcoTek Corporation

NMR Spectroscopy Instrumentation and Application
Chair: Gary Martin, Seton Hall University

8:30 168 Application of Benchtop NMR to Reaction Monitoring, Helene Kuhn, Magritek Inc.

9:00 169 Nonuniform Sampling Strategies to Improve Natural Abundance Correlations in 1,1-ADEQUATE Experiments, Mark Rosjinkin, D. Levi Craft, David Rovnak, Bucknell University, Ikenna Ndukw, Mikhail Reibarkh, Merck & Co., R. Thomas Williamson, University of North Carolina-Wilmington, Gary Martin, Seton Hall University

9:30 170 What can NMR Analysis Reveal about Acyl Glucuronides and their Relative Stability to Inform on Potential DILI Risk?, Alexei Buevich, Merck and Co., Inc.

10:00 Break

10:10 171 Accelerating Peptide Structural Characterization by Novel NMR-Based Conformational Analysis Approach, Qi Gao, Merck & Co.

10:40 172 PEA-15 C-Terminal Tail Allosterically Modulates Death-Effect Domain Conformation and Facilitates Protein-Protein Interactions, Yufeng Wei,
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<td>8:30</td>
<td>Making the Transition from the Bench to Laboratory Leadership, <strong>Christie Bowden</strong>, Arkema</td>
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<td>9:00</td>
<td>Immunoaffinity Capillary Electrophoresis as a Tool to Understand the Role of Food-Derived Opioid Peptides in the Central Nervous System, <strong>Norberto Guzman</strong>, Princeton Biochemicals</td>
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<td>9:30</td>
<td>Thermal Analysis on Food, <strong>Yanxi Zhang</strong>, Netzsch Instruments North America</td>
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<td>10:00</td>
<td>Break</td>
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<td>10:10</td>
<td>A Faster and More Efficient Method for Sugars, <strong>Merlin Bicking</strong>, ACCTA, Inc.</td>
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<td>10:40</td>
<td>Nutritional Sugar Analysis in Complex Food and Beverage Matrices, <strong>Laine Compton</strong>, Metrohm USA</td>
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<td>11:10</td>
<td>Classification of Extra Virgin Olive Oil (EVOO) Varieties; Rapid Quantification of Blend Ratios and Detection of Adulteration Using A-TEEM Spectroscopy, <strong>Karoly Csartnerday</strong>, Honiba Instruments</td>
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**Tuesday, November 19: E-Poster Session 1; 11:00am - 12:00pm**

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<td>Open-Source Chromatographic Data Acquisition for Portable Liquid Chromatography, <strong>Samuel Foster</strong>, Rowan University</td>
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<td>185</td>
<td>Solution-Cathode Glow Discharge Mass Spectrometry and Optical Emission Spectroscopy as a Tool for Bioreactor Monitoring, <strong>Jessica Hellinger</strong>, Garett MacLean, Malina Helling, Montwaun Young, Jacob Shelley, Rensselaer Polytechnic Institute</td>
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<td>186</td>
<td>The Role of Zinc-Bacteriochlorophyll a’ in the Primary Photochemistry of Chloroccacidobacterium thermophilum, <strong>Philip Charles</strong>, Vidmantas Kalendra, K. V. Lakshmi, Rensselaer Polytechnic Institute, Zhili He, Vasily Khurashov, John Golbeck, Donald Bryant, The</td>
<td>Pennsylvania State University, Mohammad Khatima, Art van der Est, Brock University</td>
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<td>187</td>
<td>Development of a Flexible Algorithm for Substance Identification Using Mass Spectrometry, <strong>Samantha Mehner</strong>, Brandon Lowe, Emily Ruiz, J. Davidson, Glen Jackson, West Virginia University</td>
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<td>188</td>
<td>Accurate Nanoscale Chemical Imaging of Arbitrary 2D and 3D Materials, <strong>Seth Kenkel</strong>, Rohit Bhargava, University of Illinois Urbana-Champaign</td>
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<td>189</td>
<td>Understanding and Optimizing Coherent Hyperpolarization Dynamics in SABRE, <strong>Jacob Lindale</strong>, Duke University</td>
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<td>Sensitized Dicumyl Peroxide Homolysis and Downstream Reactions a Comparison of Solution and Surface Phases, <strong>Sarah Belh</strong>, Goutam Ghosh, Niluksha Walalawela, Stas Lekhtman, Alexander Greer, Brooklyn College, City University of New York</td>
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<td>191</td>
<td>Mechanism of Ion Formation by Droplet Assisted Ionization, <strong>Michael Apsokardu</strong>, University of Delaware</td>
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**Tuesday, November 19: E-Poster Session 2; 1:00pm - 2:00pm**

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<td>A New Concept of End-Capping for Reversed Phase Silica Material: Conversion of Silanol Groups to Siloxane Bond by Heating, <strong>Norikazu Nagae</strong>, ChromaNik Technologies Inc.</td>
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<td>193</td>
<td>Loss on Drying Method via Halogen Moisture Analyzer: An Orthogonal Technique for Monitoring Volatile Matters for In-Process Control during API Manufacturing, <strong>Sayyeda Zeeni Razvi</strong>, Archana Kumar, Jacob Pellett, Genentech Inc., Isabelle Kamm, Roche, Tina Nguyen</td>
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<td>194</td>
<td>Quantification by Gas Chromatography/Mass Spectrometry of the Crustacean Hormone, Methyl Farnesoate, in Green Crabs (Carcinus maenas), <strong>Marat Vasiienko</strong>, James Stuart, Hans Laufer, Michael Willig, University of Connecticut, Alan Young, James Elliott, Salem State University</td>
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<td>195</td>
<td>Microwave Digestion and Trace Metals Analysis of Cannabis and Hemp Products, <strong>Samuel Heckle</strong>, Robert Lockerman, CEM Corporation</td>
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<td>Analysis of Acylglycerols in Edible Oils by Gas Chromatography Using a Unique Stationary Phase, <strong>Corby Hilliard</strong>, Restek Corporation</td>
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<td>Method Development for the Separation of Major Cannabinoids and Terpenes Using a six Column Selectivity Screening Approach, <strong>Geoffrey Faden</strong>, MAC-MOD Analytical</td>
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<td>Novel HPLC-Based Method for the Determination of Trace Peroxides in Organic Solvents, <strong>Hua-Chia Tai</strong>, Bristol-Myers Squibb</td>
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<td>Control Strategy Development for Continuous API Process, <strong>Jun Chen</strong>, GlaxoSmithKline</td>
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<td>201</td>
<td>Improved Separation Performance by Using Tandem-Column LC on Regular Single Pump U/HPLC Instrument, <strong>Zhiyang Liu</strong>, Joe Foley, Drexel University</td>
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208 Analysis of the Musa Paradisiaca cutin, Using UHPLC-ESI, FT/IR and Confocal Microscopy Techniques, Daniel Arrieta-Baez, Mayra Beatriz Gómez-Patiño, Juan Vicente Mendez-Mendez, IPN-CNMM, José Campos-Terán, UAM-Cuajimalpa

209 Challenges of Assaying Residual Inorganic Ions in BMS-1 Samples using Ion Chromatography, Weiqing Helen Fu, Qinggang Wang, Bristol-Myers Squibb

210 Qualification of Hand Held / Portable Instrumentation for Use in Good Manufacturing Practice (Gmp) Laboratories, Joseph Stoltz, Pfizer, Inc.

211 Assessing Utility of Laser Induced Breakdown Spectroscopy for Dalbergia Speciation, Caelin Celani, University of Delaware

212 Journey to a Stability Indicating Method: Detours, Roadblocks, and Shortcuts Along the Way, Elizabeth Vuill, Kevin Ileka, Jieming Li, Jonathan Shackman, Peter Tattersall, Jia Zang, Bristol-Myers Squibb

213 Complementary Dual LC as Alternative to Multi Heart-Cut LC for Samples of Medium Complexity Resulting in Improved Precision, Sensitivity and Productivity, Paul Gamache, Frank Steiner, Maria Grübner, Mauro De Pra, Thermo Fisher Scientific

214 API Characterization Using a Portable HPLC, Aakankschit Dasgupta, Eutech Scientific Services, Inc., Gene Hall, Rutgers University

215 Comparison of Flow Generation Strategies within Microfluidic Devices, Joshua Davis, Rowan University

216 High Performance Thin-Layer Chromatography in the Quality Control of Cosmetic Products: A Versatile Tool, Wilmer Perera, Maged Sharaf, CAMAG Scientific, Inc.

217 Terpene Profiling of Fragranced Consumer Products by GC-FID and GC-MS Headspace Analyses, Manjistha Dasgupta, Eutech Scientific Services, Inc., Gene Hall, Rutgers University

218 Comparison of Flow Generation Strategies within Microfluidic Devices, Joshua Davis, Rowan University

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226 High Performance Thin-Layer Chromatography in the Quality Control of Cosmetic Products: A Versatile Tool, Wilmer Perera, Maged Sharaf, CAMAG Scientific, Inc.

Tuesday, November 19: E-Poster Session 2: 12:15pm-1:15pm

203 Aluminum Quantification in Food Color Lakes Using X-Ray Fluorescence Spectrometry, Haochen Dai, University of Massachusetts-Amherst

204 Terpene Profiling of Fragranced Consumer Products by GC-FID and GC-MS Headspace Analyses, Manjistha Dasgupta, Eutech Scientific Services, Inc., Gene Hall, Rutgers University

205 Comparison of Flow Generation Strategies within Microfluidic Devices, Joshua Davis, Rowan University

206 High Performance Thin-Layer Chromatography in the Quality Control of Cosmetic Products: A Versatile Tool, Wilmer Perera, Maged Sharaf, CAMAG Scientific, Inc.

Tuesday Afternoon, November 19, 2019

EAS Award for Outstanding Achievements in Chemometrics Honoring Peter de Boves Harrington, Ohio University Sponsored by Eigenvector Research Chair: Paul Gumperline, Eastern Carolina University

1:00 Presentation of the EAS Award for Outstanding Achievements in Chemometrics
1:05 230 Chemometrics for the Masses: How to Painlessly Improve Your Science, Peter de Boves Harrington, Ohio University

1:40 232 Alphabet Soup: PCA, ICA and PPA in Multivariate Analysis, Peter Wentzell, Stephen Driscoll, Chelsi Wicks, Dalhousie University

2:20 Break
2:40 232 Harnessing Spectral Model Regression Vectors to Unravel Chemical, Physical, and Instrumental Matrix Effects, John Kalivas, Tony Lemos, Idaho State University

3:20 233 Chemometrics and Ambient Mass Spectrometry: The Perfect Couple?, Mengliang Zhang, Isabella Barnett, Frank C. Bailey, Middle Tennessee University

Forensic Analysis of Drugs & Explosives Chair: Dave Trimble, Northrup Grumman Corp

1:00 234 High-Throughput Screening of Explosive Residues Using a Robust Thermal Extraction Ionization Source (TEIS), Pierre Nequin, SCIEX

1:30 235 Detecting Low-Dose Fentanyl in Acetaminophen with Field Portable Instrumentation, Sara Davis.
2019 EAS Final Program

Technical Program

Mass Spectrometry for Biopharmaceutical Discovery and Development, sponsored by Cambridge Isotope Laboratories
Chair: Xi Qiu, Agilent Technologies

1:00 240 Early-Stage Mass Spectrometric Characterization of Biologics in Pre-Clinical Development, Harsha Gunawardena, Janssen

1:40 241 Spent Media Analysis Platform for Cell Culture Process Development, Douglas Scheesley, Yeqing Tao, Diana Ritz, GlaxoSmithKline

2:20 Break

2:40 242 LC/MS-Based Workflows for Targeted Protein Quantitation in Biopharmaceutical R&D: Automation, Micro and Nano Flow Chromatography, and Integrated Data Analytics, Daniel Spellman, Merck & Co.


Applications of Lasers in Analytical Chemistry
Chair: Lydia Breckenridge, Bristol-Myers Squibb

1:00 244 Laser-Induced Breakdown Spectroscopy (LIBS) for Forensic Applications of Paint Analysis and Gunshot Residue (GSR), Rosemarie Chinni, Amber Malloy, Megan Olsson, Alexandra Aloia, Madison Keiser, Alvernia University, Nicholar Laraia, Marianne Staretz, Cedar Crest College

1:40 245 Applications of Laser Ablation-Inductively Coupled Plasma-Mass Spectrometry (LA-ICP-MS) in the Pharmaceutical Atomic Spectroscopy Laboratory, Lydia Breckenridge, Sharia Wood, Bristol-Myers Squibb

2:20 Break


Proteomics and Metabolomics for Cultural Heritage, organized by the New York Conservation Foundation
Chair: Julie Arslanoglu, The Metropolitan Museum of Art

1:00 248 The Evolution of Protein and Polysaccharide Analysis at the Metropolitan Museum of Art: How did We get Here and Where are We Going?, Julie Arslanoglu, The Metropolitan Museum of Art

1:40 249 Separating the Three Species of Swietenia spp. in Rhode Island Furniture Using Direct Analysis in Real Time - Time-of-Flight Mass Spectrometry, Randy S. Wilkinson, Fallon & Wilkinson, Edward Sisco, National Institute of Standards & Technology

2:20 Break

2:40 250 Chemotaxonomy Meets Metabolomics: The Molecular Xylem Identification (MoXI) Project, Katherine Espinoza, National Fish and Wildlife Forensic Lab

Evolving Analytical Technologies to Meet Regulatory Requirements
Chair: Leonel Santos

1:00 252 Simplification of QC Workflows for Regulatory Compliance, Neil Schaefer, Mettler Toledo

1:30 253 Testing Challenges for Elemental Impurities: A Comprehensive Look at the Toughest Elements, James King, Inorganic Ventures

2:00 254 Modernization of USP Monographs for Naphazoline Hydrochloride and Pheniramine Maleate Ophthalmic and Nasal Solutions, Margaret Maziarz, Paul Rainville, Sherri Naughton, Waters Corporation, Sujatha Ramakrishna, United States Pharmacopeial Convention

2:30 Break

2:40 255 Conductivity Measurement According to USP, Kerri-Ann Blake, Metrohm USA

3:10 256 Pharmaceutical Analysis by Titration as per USP, Hari Narayanan, Metrohm USA


Chromatographic Method Optimization & Risk Assessment
Chair: Mariann Neverovitch, Bristol-Myers Squibb

1:00 258 Scaling a USP Gradient Method on a Single Liquid Chromatographic (LC) System to Increase Sample
2019 EAS Final Program

Looking at the Spectrum to Solve Your Problems!
Chair: Shirley Fischer-Drowos, Widener University

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<th>Time</th>
<th>Paper</th>
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<th>Authors/Institutions</th>
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<tr>
<td>1:00</td>
<td>272</td>
<td>Authentication of Omega 3 Fish Oil Dietary Supplements</td>
<td>Debbie Peru</td>
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<td>1:30</td>
<td>273</td>
<td>Rose Bengal Photochemistry in Biomimetic Solvent Monitored Using Dynamic Multivariate Fluorescence Spectroscopy</td>
<td>Yinan Zhang, Sharon Neal</td>
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<tr>
<td>2:00</td>
<td>274</td>
<td>Speciation of Dalbergia (Rosewood) with Hand-held Laser Induced Breakdown Spectroscopy (LIBS)</td>
<td>Karl Booksh, Caelin Celani, University of Delaware</td>
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<td>2:30</td>
<td>Break</td>
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<tr>
<td>2:40</td>
<td>275</td>
<td>Laser Induced Breakdown Spectroscopy for On-Site Cuttings Analysis in the Oil Industry</td>
<td>Andrew Andrews, Victoria L. Skates, Ronald E. G. van Hal, Schlumberger-Doll Research</td>
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<tr>
<td>3:10</td>
<td>276</td>
<td>A Method to Directly Measure pH of Full Toothpaste</td>
<td>Chi-yuan Cheng, Zhigang Hao, Pan Long, Colgate-Palmolive Company</td>
</tr>
<tr>
<td>3:40</td>
<td>277</td>
<td>The Study of the Interaction of Hemoglobin and Curcumin in Nanoemulsion</td>
<td>Maurice Iwunze, Morgan University</td>
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Wednesday, Morning November 20, 2019

Women’s Chemists Committee
BREAKFAST LECTURE
Sponsored by North Jersey ACS
Wednesday, November 20, 7:30am; paper #278

From Lab to Leadership: The Journey of an Analytical Chemist
Dr. Caroline McGregor, Merck & Co.
All registered Symposium & Exposition Conference attendees are invited to attend the Breakfast Lecture. A light breakfast will be provided.

EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry, Sponsored by Bristol-Myers Squibb
Honoring Joel M. Harris, University of Utah
Chair: Mary Wirth, Purdue University

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<tr>
<td>8:30</td>
<td>279</td>
<td>Closed Bipolar Electrochemistry - A Versatile Strategy for Coupling Electron Transfer to Optical Phenomena</td>
<td>Paul Bohn, Christiana Oh, Arielle Lopez, Vignesh Sundaesan, University of Notre Dame</td>
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<tr>
<td>9:10</td>
<td>280</td>
<td>Chemical Sensors Based on 2D Transition Metal Dichalcogenide Platforms: Opportunities and Pitfalls</td>
<td>Frank Bright, University of Buffalo</td>
</tr>
<tr>
<td>10:10</td>
<td>281</td>
<td>High Capacity Neural Recording: When Does a New Measurement “Change How People Think”?</td>
<td>Timothy Harris, Howard Hughes Medical Institute</td>
</tr>
<tr>
<td>10:50</td>
<td>282</td>
<td>Polymer Brush Layers for Protein Separations</td>
<td>Mary Wirth, Edwin Alzate, Aaron Chen, Charles Bupp, Cameron Schwartz, Purdue University</td>
</tr>
</tbody>
</table>
11:40 Presentation of the EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry

11:45 283 Plenary Lecture: Spectroscopy through the Microscope: Chemical Analysis at Liquid/Solid Interfaces, Joel M. Harris, University of Utah

Plenary Lecture
Wednesday, November 20, 11:45am; paper #283

Spectroscopy through the Microscope: Chemical Analysis at Liquid/Solid Interfaces
Professor Joel M. Harris, University of Utah
All registered Conferees, Attendees and Exhibitors are invited to attend the Plenary Lecture.
Light refreshments will be provided immediately after the lecture.

New York Microscopical Society Ernst Abbe Award Honoring: Fran Adar, HORIBA Scientific
Chairs: John Reffner, John Jay College of Criminal Justice, Brooke Kammrath, University of New Haven

8:30 284 The Golden Period of Raman Spectroscopy, Andrew Whitley, Fran Adar, Li Yan, HORIBA Scientific
9:10 285 Raman Spectroscopy of Crystalline Materials, David Tuschei, HORIBA Scientific
9:50 Break
10:10 286 The Symbiotic Relationship between Application Development and Raman Instrument Innovation, Bridget O’Donnell, HORIBA Scientific
10:50 287 My Path from Physics to the Application of the Raman Microscope: From Studying the Mysteries of the Universe to Solving Analytical Problems - Why Work for an Analytical Instruments Company Anyway?, Fran Adar, HORIBA Scientific

The Evolving Roles of Women in Science, organized by North Jersey ACS
Chair: Lauren M. Castelli, Heat Makes Sense

8:30 288 Career Adventures: Aha Moments and the Joy of Navigating Two-Way Streets, Adrienne Tytiak, Science and Technology Advisor
9:10 289 Our Past and Our Bright Future, Susan Olesik, The Ohio State University
9:50 Break
10:10 290 An Industrial Chemist’s Career: Expectations, Experiences, Opportunities and Surprises, Mary Ellen McNally, FMC Corporation
10:50 291 Intrinsic Values: A Career Odyssey, Susan Baker, Janssen R&D

Applying Data Science to Spectroscopy, organized by The Coblentz Society
Chair: Brandye Smith-Goettler, Merck & Co.

8:30 292 On-the-Go Spectroscopy and Sensor Data Fusion for Soil Health Assessment, Kristen Veeum, United States Department of Agriculture
9:10 293 Data Science and Spectroscopy: A Case Study in Fresh Food Industry, Yagiz Sutcu, TeakOrigin
9:50 Break

10:10 294 Using Domain Knowledge to Extract the Most from Spectroscopic Data: A Look Back, Charles Miller, Camo Analytics

10:50 295 Vibrational Spectroscopic Imaging for Diagnosis of Bone Disorders, Rohith Reddy, Rupali Mankar, Chalapathi Gajjela, Licheng Zhang, David Mayerich, University of Houston, Carlos E. Bueso-Ramos, MD Anderson Cancer Center

Mass Spectrometry: From Product Development to Quantitative Proteomic on Drug Intervention Analysis
Chair: Carolina Cabral, Prolong Pharmaceuticals

9:10 297 Applications of High-Resolution LC/MS/MS in Cancer Research and Therapy Development, Vitor Faca, Cornell University
9:50 Break
10:10 298 Evaluating Nutrient Restriction as an Approach to Augment Chemotherapy in Colorectal Cancer, Amanda Hummon, The Ohio State University, Monica Schroll, University of Notre Dame
10:50 299 In-Sample Calibration Curves Using Multiple Isotologue Reaction Monitoring Technique in LC-MSMS Bioanalysis, Huidong Gu, Yue Zhao, Marissa DeMichele, Naiyu Zheng, Yan J. Zhang, Renuka Pilutla, Jianing Zeng, Bristol-Myers Squibb

Genomics for Cultural Heritage, organized by the New York Conservation Foundation
Chair: Pamela Crabtree, New York University

8:30 300 Methods in Obtaining, Presenting, and Interpreting Genomic Data, Logan Kistler, Smithsonian National Museum of Natural History
9:10 301 Genomics in Studying the Science, Art & History of Sacred Crocodiles, Evon Hekkala, Fordham University, Salima Ikram, American Museum in Cairo
9:50 Break
10:10 302 Genetic Diversity in Georgia and Its Implications for the Human Settlement of the Highland Caucasus, Theodore Schurr, University of Pennsylvania, Aram Yardumian, Bryn Athyn College
10:50 303 The Role of Ancient DNA in the Study of the Domestication of the Horse, Pamela Crabtree, New York University

Electrochemistry Sensors & Detectors
Chairs: Peter Bratin, ECI Technology

8:30 304 Nanostructured Iridium and Zirconium Mixed Oxide Electrocatalysts for the Oxygen Evolution Reaction, Rachel Selinsky, Jae Won Oh, Edward Zhang, Wenhan Niu, Bruce Koel, Princeton University
9:00 305 Naked-Eye Electrochemical Sensor for the Detection of E.coli, Kwok-Fan Chow, University of Massachusetts-Lowell
9:30 306 Neurotransmitter Metabolite Detection with Carbon Electrodes and Fast Scan Cyclic Voltammetry,
Recent Innovation in Pharmaceutical Analysis  
Chair: Yongchao Su, Merck & Co.

- 8:30  309 Designing Complex Formulations with Advanced Pharmaceutical Characterizations, Jie Ren, Yongchao Su, Gerard Klinzing, Lei Zhu, Merck & Co., Chengbin Huang, University of Wisconsin-Madison
- 9:00  310 Chemical Medicine Assay and Impurities by Ion Chromatography, Laine Compton, Metrohm USA
- 9:30  311 Accurate Moisture Determination in Lyophilized Products, Kerri-Ann Blake, Metrohm USA
- 10:00 Break
- 10:40  313 The Factors that Determine the Degradation Path of the Active Pharmaceutical Ingredients in the Formulation and Stability Risk Mitigation, Prasad Panzade, Apotex Inc.
- 11:10  314 Development of an In-Vitro Dissolution Method Using Simulated Saliva for the Assessment of Coating Integrity of Multi-Particulate Formulations for Taste-Masking, Vincent Cicale, Bristol-Myers Squibb

Application of Chromatography in Environmental & Pharmaceutical Science  
Chair: Anthony Provatas, University of Connecticut

- 8:30  319 Application of GC/SCD for Sulfur Speciation and Quantitation in Hydrocarbon Matrices, Andrew Formadel, Ryo Takechi, Allison Mason, Nicole Lock, Shimadzu Scientific Instruments
- 9:00  320 Molecular-Ion Detection and Fragmentation Mechanisms of a Common Extractable 1,4,7-Trioxacyclotridecane-8,13-Dione by GC/HRMS in Electron Ionization and Chemical Ionization Modes, Chongming Liu, Dujuan Lu, Danny Hower, Xiaoteng Gong, SGS North America Inc.
- 9:30  321 Analysis of Pharmaceuticals and Personal Care Products (PPCPs) in Drinking Water at Low Part Per Trillion Levels by Online SPE-UHPLC-MS/MS, Jamie Foss, PerkinElmer

Automation and Process Analytical Technology (PAT) in Pharmaceutical Related Applications  
Chair: David J. Schenk, Merck & Co.

- 8:30  315 Applications of Automation Across Discovery and Scale-Up, Jason Hein, University of British Columbia
- 9:10  316 Multi-Scale PAT Capabilities to Enhance Small Molecule Development, Zachary Dance, Joseph P. Smith, Kerstin Zawatzky, Jon Jurica, Zhihao Lin, Merck & Co.
- 9:50 Break
- 10:50  318 Capitalizing on Lab Automation Capabilities by Workflow and System Integration for Bioanalytical Sciences, Zheng Ouyang, Joan Kelsey, Sean Crawford, Jon Peterson, Bristol-Myers Squibb

New Jersey Institute of Technology  

- Nanoparticles, a Case Study by SECM-AFM, Qingquan Ma, New Jersey Institute of Technology
- Shape-Controlled Dissolution of Silver Nanoparticles, a Case Study by SECM-AFM, Qingquan Ma, New Jersey Institute of Technology

Break

- 11:10 Withdrawn by the author.

Wednesday, November 20: E-Poster Session: 12:15pm - 1:15pm

- 12:15  325 Modern Applications of Infrared Spectroscopy, Jeff D’Agostino, Andrew Davies, Todd Baker, Will Campbell, Aisha Mohamed, Specac Inc.
- 12:35  327 Automating the Accurate Transfer of Viscous Samples for the Completely Automated Extraction of Mycotoxins from Edible Oils, Fred Foster, John Stuff, Laurel Vernarelli, Jaqueline Whitecavage, GERSTEL, Inc.
- 12:45  328 Validation of Solvent Dispense using an Automated Liquid Handler Platform, Sharon Matamoros, Katie Grinias, Kenneth Wells, GlaxoSmithKline
- 12:55  329 Determination of Perfluorinated Compounds in Dry Bloodspots Using Rapid Liquid-Liquid Extraction Followed by UPLC-MS/MS Analysis, Son Nguyen, Trevor McBriene, Eric Noi, Patrick Kaplita, Anthony Provatas, James Stuart, University of Connecticut
- 13:05  330 Sensitive and Selective Quantification of Microcystin Toxins in Drinking Water by UHPLC-MS/MS, Edward Faden, MAC-MOD Analytical
- 13:15  331 Incorporating Pharmacokinetic Research into Analytical Chemistry Curriculum, Yuegang Zuo, University of Massachusetts-Dartmouth
- 13:25  332 Identifying Key Small Molecules in Different Stages of Chocolate Processing and their Antioxidant Properties, Naike Ye, Glenn Roy, Francesco Caruso, Miriam Rossi, Vassar College
Wednesday Afternoon, November 20, 2019

EAS Young Investigator Award, Light Scattering & Human Health: Quo Vadis?
Honoring Ishan Barman, Johns Hopkins University
Sponsored by The Dow Chemical Company
Chair: Manoharan Ramasamy, Merck & Co.

1:00  347  Raman Hyperspectroscopy for Biomedical Diagnostics and Forensic Purposes, Igor Lednev, University of Albany-SUNY

1:40  348  Light Scattering in Pharmaceutical Manufacturing Innovation, Manoharan Ramasamy, Merck & Co.

2:20  Break

2:40  349  Optical Scatter Imaging for Label-Free Measurements of Subcellular Dynamics, Nadu Boustany, Rutgers University, Mohammad Naser, UCSF

3:20  Presentation of the EAS Young Investigator Award

3:25  350  Decoding Molecular Pathology of Cancer with Raman Spectroscopy, Ishan Barman, Johns Hopkins University

Process Analytical Technology - Modeling Applications to Support Continuous Manufacturing, organized by The Coblentz Society
Chair: Brandye Smith-Goettler, Merck & Co.

1:00  351  Tracer Selection and Detection for RTD Experimentation in Continuous Manufacturing, William Blincoe, Sebastian Escotet, Juan Rosas, Bruce T. Thompson, Merck & Co.

1:40  352  Data Fusion Methods for Improved Process Monitoring, Stephen W. Hoag, Ahmed Ibrahim, University of Maryland-Baltimore

2:20  Break

2:40  353  Process Analytical Technology (PAT) in Continuous Bioprocessing, Edita Botonjic-Sehic, Pall Corp.


Applications of High Resolution Mass Spectrometry in Food Safety: Cannabis, Dietary Supplements, and Drinking Water
Chair: Gene Hall, Rutgers University

1:00  355  Characterization of Dietary Supplements Using Untargeted High Resolution Mass Spectrometry with Ion Mobility, Gene Hall, Rutgers University


2:20  Break

2:40  357  Global Reconnaissance of Micropolutants in Wastewater and Surface Water by Target and Non-Target Analysis, Luisa Angeles, Diana S. Aga, University at Buffalo

3:20  358  Applications of High-Resolution LC-MSE in the Characterization of Different Cannabis Sativa L. Strains, Margie Diaz, Breakwater Treatment & Wellness

Technical Analysis for Cultural Heritage, sponsored by ACS Division of Analytical Chemistry, organized by the New York Conservation Foundation;
Chair: John Scott, New York Conservation Foundation

1:00  359  Genomic Studies and the Curation of Heritage Materials, Pamela Crabtree, New York University

1:40  360  A Whirlwind Tour of Analytical Chemistry in Restoration and Conservation of Cultural Heritage, John Scott, New York Conservation Foundation

2:20  Break

2:40  361  Optically Stimulated Luminescence (OSL) Dating of a Probable Native American Cairn and Wall Site in Eastern Pennsylvania, Norman Muller, retired

Chair: Mary Ellen McNally, FMC Corporation

Chemistry: Analytical Opportunities

1:00  363  Molecular Dynamics Simulations of Peptide Building Blocks, Subhasish Chatterjee, Emma Breber, Emily Kornblum, Barnard College of Columbia University
1:30  364  How Glass Types and Usage Directly Impact Analytical Outcomes, Sustainability and Safety, Robert Fitzgerald, DWK Life Sciences
2:00  365  Identification of Paint Pigment Mixtures using the EPR Mobile Universal Surface Explorer, Joseph Hornak, Rochester Institute of Technology
2:30  366  Increasing Laboratory Productivity Using Microwave Digestion with an Inexpensive Disposable Glass Liner, Samuel Heckle, Robert Lockerman, CEM Corporation

Automation for Effective Lab Operation and Enhanced Analytical Performance

Chair: Dave Russell, The Chemours Company

1:00  367  A New Mobile Software Tool for Remote Technical Service and Training Using Immersive Technology and Machine Learning, Helen Zhang, Distat Co.
1:30  368  Development and Optimization of TPW Sample Preparation Method Parameters for World Class Supply, Antonio Oliveira, Merck & Co.
2:00  369  Integrating Analytical Equipment with Automated Platforms for Pharmaceutical Research and Development, Kaitlin Grinias, GlaxoSmithKline
2:30  Break
2:40  370  Proactive and Reactive: Automated System Cleaning and Quality Control Protocol for Open-Access UHPLC-MS, Sharon Tentarelli, AstraZeneca
3:10  371  High-Throughput Automated Reaction Screening with Desorption Electrospray Ionization Mass Spectrometry, Michael Wiekinski, Merck & Co., R. Graham Cooks Purdue University
3:40  372  A Rapid, Simple, and Efficient Automated Method for the Extraction of Additives from Plastics, Candice Olsson, CEM Corporation

Challenges and Innovations in Analytical Assays for Cell and Gene Therapy Products

Chair: Robert Dodge, Novartis

1:00  373  Development of Potency Assays for Gene Editing and Gene Therapy Products: Success & Challenges, Zhu Z. Piro, Robert Shimizu, Yos Boughal, Jigeesh Dholakia, Tin Mao, Ben Lam, Sangamo Therapeutics
1:40  374  Quantitation of Empty and DNA-Containing Adeno-Associated Virus Capsids, Jeffrey K. Glenn, Lisa Lundberg, Spark Therapeutics
2:20  Break

2:40  375  Application and Validation of qPCR Methods in a GMP Setting for Cell & Gene Therapies, Antoine Suteau, Novartis

Forensic Microscopy “What is it? Who does it?,” Sponsored by the American Microchemical Society

Chair: Thomas Kubic, John Jay College of Criminal Justice

1:00  377  Forensic Implications of a New Polymer Bullet, Peter Diaczuk, John Jay College of Criminal Justice, Xiao Shan Law, PRI
1:40  378  A Microspectral Analysis of Synthetic Wig Fibers, Jaclyn Beshlian, Thomas Kubic, John Jay College of Criminal Justice
2:20  Break
2:40  379  Microscopy and Microanalysis of Glitter Capsules, Michelle Miranda, Farmingdale State College - SUNY
3:20  380  The Use of Forensic Trace Evidence to Establish that a Long-Suspected Jackson Pollock Painting was Painted at the Pollock-Krasner Home and Studio Site, Nicholas Petracco, Petracco Consulting, Nicholas D.K. Petracco, John Jay College of Criminal Justice

Vibrational Spectroscopy Applications and Instrumentations

Chair: Satinder Ahuja, Ahuja Consulting

1:00  381  Improvements in IR Microspectroscopy: Simultaneous Coupling of Submicron IR and Raman to Investigate Forensic, Pharmaceutical and Cultural Artifacts, Curtis Marcott, Light Light Solutions, Mustafa Kansiz, Eoghan Dillon, Craig Prater, Frank Weston, Jay Anderson, Photothermal Spectroscopy Corp
1:30  382  High Resolution Spectroscopy in Plasma and Flame - The Efficient Way to Reliable Results, Oliver Buettel, Sigi Sun, Analytik Jena
2:00  383  A SERS and Mobile Raman Platform for Combating Food Fraud, Adam Hopkins, Metrohm USA
2:30  Break
2:40  384  Use of Raman Microscopy to Identify Extractables and Leachables from Pharmaceutical Containers, Fran Adar, Sergey Mamedov, HORIBA Scientific
3:40  386  Ultrafast Chemical Imaging via Widefield Mid-Infrared Photothermal Microscopy, Yeran Bai, Delong Zhang, Ji-Xin Cheng, Boston University, Ali Shakoouri, Purdue University
KEYNOTE, PLENARY, & BREAKFAST LECTURES

Join us to hear these experts:

**Keynote Speaker**  
*Sponsored by Kuraray America*  

Monday, November 18, 4:15pm  
Amphitheatre

**Professor Susan Olesik**  
The Ohio State University  
*Title: The Sustainable Analytical Chemist*  
Reception immediately following

**Tuesday Breakfast Lecture***  
*Sponsored by New Jersey Association of Forensic Scientists*  

Tuesday, November 19, 7:30am  
Einstein Room

**Dr. David Bowers**  
United States Postal Service  
*Title: It Started with Anthrax and Still Matters Because of Sayoc*  
Light breakfast provided

**Wednesday Breakfast Lecture***  
*Organized by the Women’s Chemists Committee,  
Sponsored by North Jersey ACS*  

Wednesday, November 20, 7:30am  
Einstein Room

**Dr. Caroline McGregor**  
Merck & Co.  
*Title: From Lab to Leadership: The Journey of an Analytical Chemist*  
Light breakfast provided

**Plenary Lecture**  
*Wednesday, November 20, 11:45am*  

Wednesday, November 20, 11:45am  
Amphitheatre

**Professor Joel M. Harris**  
University of Utah  
*Title: Spectroscopy through the Microscope: Chemical Analysis at Liquid/Solid Interfaces*  
Light refreshments immediately following

*Full Conferee or Full-Time Student Conferee registration required to attend the Breakfast Lectures*
Highlights in the Exposition Area

In 2019, the exposition will be held in five rooms, located on the lower level and first floor of the Crowne Plaza Conference Center. The Wilson Room, Madison Room, Lakeside Terrace Ballroom, Waterfront Room and Bridgeview Room will contain exhibitors who will be delighted to show you the latest in analytical instrumentation, supplies, and services. The exposition area is also an excellent place to network and meet up with colleagues.

MIXER IN THE EXPO AREA

Tuesday, November 19, 2019
4:00 to 5:30 PM

EAS invites all registered attendees to join us at our annual Exposition Mixer. Sample passed hors d’oeuvres, appetizers and refreshments while learning about the newest developments in analytical instrumentation, supplies, technologies, and services. The Exposition Mixer is a wonderful opportunity to connect with technology and a fun way to end the day at EAS.

This Mixer is open to all registered attendees.
Thanks to our Sponsors, MilliporeSigma, Shimadzu Scientific Instruments, and Thermo Fisher Scientific for making these events possible!

2019 EAS Technology Tour

Your Technology Tour Passport contains the names, booth / table locations, and logos of the Technology Tour sponsors. If you visit 10 of the 21 participating companies and get your Passport marked, you are eligible to redeem it for a special EAS-logoed item at the EAS Souvenir booth located in the Bridgeview Room. If you visit all 21 of the participating companies, in addition to the special gift, you will be eligible to enter a daily drawing to win a $50 gift card.

Exhibitors participating in the 2019 Technology Tour are:

Activated Research Company
AMETEK Brookfield
Analytik Jena
Camag Scientific Inc.
Cornerstone Scientific
Dissolution Technologies
DWK Life Sciences
GERSTEL Inc.
Mac-Mod Analytical
Mettler Toledo
MilliporeSigma

Omicron Scientific Inc.
PerkinElmer
Restek
SCIEX
Shimadzu Scientific Instruments
TA Instruments
Thermo Fisher Scientific
Thomson Instrument Company
Wyatt Technology
YMC America Inc.
On Wednesday, November 20, 2019, Professor Joel M. Harris, University of Utah, will receive the EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry.

Joel M. Harris is Distinguished Professor of Chemistry at the University of Utah, where he also holds an adjunct appointment in the Department of Bioengineering. Harris earned a B.S. from Duke University in 1972 with Charles Lochmüller and his Ph.D. from Purdue University with Fred Lytle in 1976, following which he joined the faculty of the University of Utah. Harris’s research has focused on analytical chemistry and spectroscopic studies of low concentrations of molecules in liquids and at liquid-solid interfaces. He and his students have advanced new concepts in photothermal spectroscopy, methods to analyze multidimensional spectroscopic data, Raman spectroscopy of transient species and interfaces, and quantitative analysis of interfacial molecular populations by imaging and counting individual fluorescent molecules. They have applied these methods to investigate the kinetics and energetics of excited-states and reactive-intermediates, and molecular transport, adsorption, and binding kinetics that govern separations and analysis at liquid-solid interfaces.

Harris is Fellow of the American Association for the Advancement of Science. He is also Fellow and Honorary Member of the Society for Applied Spectroscopy. For 12 years, Harris served as Editor-in-Chief of Applied Spectroscopy. He is the recipient of an Alfred P. Sloan Fellowship, the Coblentz Award in Molecular Spectroscopy, the University of Utah Distinguished Research Award, the ACS Division of Analytical Chemistry Award in Chemical Instrumentation, the SAS New York Section Gold Medal Award in Spectroscopy, the Pittsburgh Analytical Chemistry Award, the University of Utah Robert W. Parry Teaching Award, the University of Utah Distinguished Teaching Award, the Distinguished Service Award of the Society for Applied Spectroscopy, the Benedetti-Pichler Award in Microchemistry, the Bemom-Michelson Award of the Coblentz Society, the Utah Governor’s Medal in Science and Technology, and the ACS Award in Analytical Chemistry.

On Monday, November 18, 2019, Professor Lucio Frydman, Weizmann Institute, will receive the EAS Award for Outstanding Achievements in Magnetic Resonance.

Born in Argentina, Professor Lucio Frydman earned his B.S. in chemistry (1986) and Ph.D. in physical chemistry (1990) from the University of Buenos Aires. He undertook postdoctoral studies at the Lawrence Berkeley Laboratory, University of California, with Alex Pines; then joined the faculty of the University of Illinois at Chicago’s Department of Chemistry in 1992, where he became a Full Professor in 1999. In 2001, he moved to the Weizmann Institute, where he currently heads the Department of Chemical and Biological Physics as well as the Kimmel Institute of Magnetic Resonance and the Clore Institute for High Field Spectroscopy and Imaging. Since 2012 he is also Chief Scientist in Chemistry and Biology and the US National High Magnetic Field Lab.

Prof. Frydman’s research focuses on magnetic resonance spectroscopy (NMR) and imaging (MRI). During the course of his career Frydman has developed numerous sophisticated theoretical frameworks and practical techniques that enable NMR determinations of the structures of materials, pharmaceuticals, and biomolecules with unprecedented resolution, speed and sensitivity, using solution and solid state multidimensional NMR. Prof. Frydman’s methods and proposals are also finding a growing impact in the MRI arena, particularly in analyses of metabolic and functional processes in animals and humans under thermal and hyperpolarized conditions. Among Frydman’s recognitions are the Dreyfus, Sloan, Beckman, Laskin, Varian and Kolthoff prizes, as well as a US-NSF Career Fellowship and the Outstanding Immigrant Prize from Israel’s Ministries of Science and Absorption. In 2009 he was the recipient of a Helen L. and Martin S. Kimmel Award for Innovative Investigation, and of an ERC Advanced Grant Award. Prof. Frydman has chaired leading scientific conferences in his field, and is the editor-in-chief of the Journal of Magnetic Resonance.

On Monday, November 18, 2019, Professor Joseph J. Pesek, San Jose State University, will receive the EAS Award for Outstanding Achievements in Separation Science.

Joseph J. Pesek received his B.S. degree in chemistry from the University of Illinois, Urbana-Champaign in 1966 and Ph.D. degree in analytical chemistry from the UCLA in 1970. His first academic appointment was at Northern Illinois University in 1971 and then he moved to San Jose State University in 1978. He served two terms as the chair of the Chemistry Department and was Associate Dean for Graduate Studies and Research from 2000-2003. He has been a visiting research professor at Ecole Polytechnique, in Paris, Universite d’Aix-Marseilles, Monash University in Melbourne, Australia and the University of Queensland Department of Pharmacy in Brisbane Australia. He was named a Camille and Henry Dreyfus Scholar in 1991 and again in 2001 and was the President’s Scholar at San Jose State in 1993.

Dr. Pesek has received 60 research and educational grants totaling over $6.7 M since he began his academic career. His research interests include the synthesis and characterization of separation materials for chromatography and the development of methods and protocols for applications in biological, medicinal, clinical, forensic, pharmaceutical and food analysis. These activities have resulted in 240 publications in peer-reviewed scientific journals and 3 patents related to the separation materials (HPLC stationary phases) developed. The unique feature of the HPLC column technology covered by the patents is a modifiable silica hydride surface that can be used to create chromatographic phases capable of retaining both hydrophilic and hydrophobic compounds. These materials (referred to as Type C silica) are commercially available through Microsolv Technology Corp of Leland, NC.

On Tuesday, November 19, 2019, Professor Jennifer S. Brodbelt, University of Texas-Austin, will receive the EAS Award for Outstanding Achievements in Mass Spectrometry.

Dr. Jennifer S. Brodbelt is the Norman Hackerman Chaired Professor of Chemistry at the University of Texas at Austin. She earned her B.S. degree in chemistry at the University of Virginia and her doctorate in chemistry at Purdue University under the supervision of Prof. Graham Cooks. After a post-doctoral position at the University of California at Santa Barbara with Prof. Mike Bowers, she began her academic career at the University of Texas. Her research interests focus on the development and application of photodissociation mass spectrometry for characterization of the structures and modifications of biological molecules, including peptides, proteins, nucleic acids, oligosaccharides, and lipids. She has served as the Director of Graduate Education in the Department of Chemistry for over 20 years. She serves as an Associate Editor for the Journal of the American Society for Mass Spectrometry and recently completed her service as President of the American Society for Mass Spectrometry.
EAS Award for Outstanding Achievements in Chemometrics, sponsored by Eigenvector Research

On Tuesday, November 19, 2019, Professor Peter de Boves Harrington, Ohio University, will receive the EAS Award for Outstanding Achievements in Chemometrics.

Peter de Boves Harrington graduated from Randolph-Macon College in 1980 with a Baccalaureate of Science in Chemistry. After which, he worked as a flavor chemist for Nabisco from 1980-1982. He has always maintained his interest in the analysis of foods and beverages. At Nabisco he had two mentors, Bill Soffly who directed Pete towards chemometrics and Lucy Gursky who encouraged Pete to pursue a PhD, which he did when the research center moved from Wilton, CT to Fairlawn, N.J. In 1988, Pete graduated from the University of North Carolina-Chapel Hill. His PhD dissertation is titled Applications of Pattern Recognition and Artificial Intelligence to Some Problems in Analytical Chemistry under the guidance of Tom Isenthour. Tom was also Bruce Kowalski’s PhD mentor, so Pete and Bruce are academic brothers.

From 1987-1989, Pete created the DOS-based software platforms Resolve and Presager for identifying bacteria from their pyrolysis-mass spectra while working for Kent Voorhees at the Colorado School of Mines. Pete joined the faculty of Ohio University in 1989 as an Assistant Professor. In 1992, he founded the Center for Intelligent Chemical Instrumentation. He has over 200 publications and has made over 300 scientific presentations including many plenary and keynote speeches around the world. In 2016, Pete won the Ohio University College of Arts & Sciences Outstanding Faculty Research Award and the 2019 Eastern Analytical Symposium Award for Outstanding Achievement in Chemometrics (the reason that you are reading this biography. Pete is the Director of the Ohio University Center for Intelligent Chemical Instrumentation and is a Fellow of the American Academy of Forensic Sciences and the North American Academy of Sciences. Currently, Pete’s research focuses on the development and coupling of artificial intelligence to chemotyping by spectrometric measurements of botanical medicines and foods.

EAS Young Investigator Award, sponsored by The Dow Chemical Company

On Wednesday, November 20, 2019, Professor Ishan Barman, Johns Hopkins University, will receive the EAS Young Investigator Award.

Ishan Barman is an Assistant Professor in the Department of Mechanical Engineering at the Johns Hopkins University with joint appointments in the Departments of Oncology, and Radiology and Radiological Science. He is also a senior investigator of the NIH funded Laser Biomedical Research Center. He graduated from Indian Institute of Technology, Kharagpur, and then moved to MIT for his Ph.D., where he investigated transcutaneous blood analyte detection using Raman spectroscopy. His doctoral research established many of the experimental and computational methods that are now common to in vivo spectroscopic investigations, notably tissue turbidity correction, integration of nonimaging optical elements, and non-linear chemometric analysis. Following a postdoctoral stint at the G. R. Harrison Spectroscopy Laboratory at MIT, Dr. Barman established his independent group at the Johns Hopkins University in 2014.

His laboratory’s research is focused on the development of cutting-edge and transformative biophotonics technologies with the goal of disease detection at early, manageable stages, monitoring therapeutic effects and treatment outcomes, and guiding interventions. Specifically, his work features spectroscopic imaging, which combines the molecular basis of spectroscopy with the imaging capabilities of microscopy and bridges the chemical and morphologic domains.

The optical tools generated from these investigations have been successfully adopted in diverse biomedical environments including in automated recognition of biopsy specimen, real-time diagnosis of middle ear pathology, and as a customized monoclonal antibody identification platform. More recently, Dr. Barman’s group has leveraged the molecular specificity and multiplexing capability of nanostructured plasmonic probes to develop serum assays for asymptomatic surveillance of cancer survivors and speedy assessment of treatment benefit.

His work has been extensively published in scientific journals and prominently featured in leading scientific and popular media outlets. He has received numerous awards for his research contributions, notably the NIH Director’s New Innovator Award, Maryland Outstanding Young Engineer Award, American Society for Lasers in Surgery and Medicine (ASLMS) Dr. Horace Furumoto Innovations Young Investigator Award, and the Tomas Hirschfeld Award by the Federation of Analytical Chemistry and Spectroscopy Societies.

New York/New Jersey Society for Applied Spectroscopy Gold Medal Award

On Tuesday, November 19, 2019, Professor John Lombardi, The City College of New York, will receive the New York Society for Applied Spectroscopy Gold Medal Award.

John Lombardi received his A.B. in chemistry from Cornell University and M.A. & PhD from Harvard University. From 1967-1972 he was assistant professor at University of Illinois; 1972-1973 visiting scientist at University of Leiden, The Netherlands; 1973-1975, visiting scientist, Massachusetts Institute of Technology.

He has been at City College, CUNY, New York since 1975 and is currently professor in the chemistry department. His research interests span a number of topics: electronic structure and spectra of diatomic and polyatomic molecules using high resolution spectroscopic techniques; theoretical studies in the quantum mechanics momentum representation; use of lasers in optical spectroscopy light scattering and surface enhanced Raman scattering.

Prof. Lombardi has authored 255 publications with over 9000 citations. John has had a critical impact on the theoretical fundamental understanding of surface enhanced Raman spectroscopy and its applications. In collaboration with co-workers at Metropolitan Museum of Art and John Jay College of Criminal Justice, John applied surface enhanced Raman spectroscopy to Cultural Heritage problems, as well as forensic problems including opioid identification, trace evidence identification.


American Microchemical Society Benedetti Pichler Award

On Monday, November 18, 2019, Professor Vincent Remcho, Oregon State University, will receive the American Microchemical Society Benedetti Pichler Award.

Vince Remcho is Oregon State University’s Patricia Valian Reser Faculty Scholar and Honors College Eminent Professor in Chemistry and the Materials Science program, with adjunct appointments in Biochemistry & Biophysics and Industrial & Manufacturing Engineering. His research group works at the interface of science and engineering to design, build and optimize instruments and reactors for biochemical, environmental, and nanomanufacturing problem solving.

His group studies transport processes in porous matrices, develops microdevices for clinical analysis and detection of adulterated pharmaceuticals, designs sorbents for separations, and builds microsystems for nanomanufacturing synthesis. His work has been funded by NSF, NIH, US DoE, AFRL, ARL and ONR, and by the W.M. Keck Foundation, the Bill and Melinda Gates Foundation, and the M.J. Murdock Charitable Trust.

Remcho is a Fellow of AAAS (2014), Oregon Scientist of the Year (2015), a Keck Foundation Science and Engineering Program Awardee, a Milton Harris Award recipient (2010), and a College of Chemistry and Sciences Teaching Award recipient. He has over 100 publications in PLoS One, J. Phys Chem, Analytical
Remcho received his B.S. (Biochemistry) and Ph.D. (Chemistry, with Harold M. McNair) from Virginia Tech. He was a DOE/AWU-NW postdoctoral fellow at the University of Utah and the Pacific Northwest National Laboratory working with J. Calvin Giddings and Nathan E. Ballou.

**New York Microscopical Society Ernst Abbe Award**

On Wednesday, November 20, 2019, Dr. Fran Adar, HORIBA Scientific, will receive the New York Microscopical Society Ernst Abbe Award.

Fran Adar, received her BS (1966), MS (1968) and Ph.D. (1972) in Physics from the University of Pennsylvania and her Post-doctoral Fellow and Assistant Professor – Johnson Foundation, Department of Biophysics, University of Pennsylvania (1972-1978). She joined Jobin Yvon/HORIBA Scientific in 1978 and is working as a Raman Applications Scientist/Manager/Principle Scientist.

Taking advantage of education and experience in Physics and Biophysics, Dr. Adar has been able to develop the applications of the Raman Microscope, an instrument developed in the early 1970’s and commercialized in the middle of the decade. Applications have been in areas as widespread as semiconductors, ceramics, contaminant identification, polymer morphology, catalysts, metal oxides, pharmaceuticals, and bioclinical diagnoses. She has received awards from the local Microbeam Society (Irene Dion Payne), the Federation of Analytical Chemistry and Spectroscopy Societies (Charles Mann Award), from the Coblentz Society (William-Wright Award), and has delivered an address at the prestigious Waters Symposium at the Pittsburg Conference on the history of the development of Raman instrumentation. In 2012 she was invited to be a fellow of the Society for Applied Spectroscopy, and honorary lifetime membership in the Coblentz Society in 2015. Since 2007 Dr. Adar has been writing a column for Spectroscopy whose goals are to point out where Raman spectroscopy and microscopy are having an impact on evolving technologies, and to guide new users into the field. Dr. Adar continues to work with new and experienced Raman users developing applications, and pushing instrumentation developments to accommodate new applications enabled by evolving technologies.

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**2019 EAS Student Awards**

**Sponsored by Merck & Co., Inc.**

EAS continues to actively support a Student Awards program to recognize students involved in research in the broad field of analytical chemistry. In the spring of each year, we encourage professors to identify undergraduate Juniors in college and graduate students who demonstrate special talent in research. Nomination criteria include excellent grades, appraisals of how the students handle their investigations, their approach and how they resolve problems and publicly disseminate their work. The following outstanding students have been chosen from a very worthy field of candidates:

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<td>Samuel Foster</td>
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<td>Rowan University</td>
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<td>Nominated by Prof. James Grinias</td>
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<th>GRADUATE STUDENTS</th>
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<td>Jacob Lindale</td>
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<td>Duke University</td>
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<tr>
<td>Nominated by Prof. Warren S. Warren</td>
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<tr>
<td>Michael Apsokardu</td>
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<tr>
<td>University of Delaware</td>
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<td>Nominated by Prof. Murray Johnston</td>
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<td>Samantha Mehnert</td>
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<td>West Virginia University</td>
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<td>Nominated by Prof. Glen Jackson</td>
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<td>Jessica Hellinger</td>
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<tr>
<td>Rensselaer Polytechnic Institute</td>
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<td>Sarah Belh</td>
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<td>CUNY – Brooklyn College</td>
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<td>Nominated by Prof. Alexander Greer</td>
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<td>Seth Kenkel</td>
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<td>University of Illinois at Urbana-Champaign</td>
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<td>Nominated by Prof. Rohit Bhargava</td>
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The Governing Board of the 2019 EAS congratulates these awardees for their outstanding achievements

The Student Awardees’ posters will be presented on Tuesday, November 19, 2019 in the Poster Area on the Bridge to the Hotel from 11:00AM – 12:00PM

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**2019 EAS Final Program**

Chemistry, Talanta, Analytical Methods, Chemistry of Materials, Clinica Chimica Acta, the Journal of Chemical Education and others. Remcho holds 6 patents with 4 additional patents pending.

He served as Associate Dean (Research) and interim Dean in the College of Science, led the teams that established Women in Science and Summer Undergraduate Research Experiences in Science programs, and served as Lead for OSU’s Energy Research Partnership effort. He co-chaired the Microscale Separations and Bioanalysis Conference (MSB2019), and served on the editorial boards for Nanomaterials, Talanta and Electrophoresis.

Remcho received his B.S. (Biochemistry) and Ph.D. (Chemistry, with Harold M. McNair) from Virginia Tech. He was a DOE/AWU-NW postdoctoral fellow at the University of Utah and the Pacific Northwest National Laboratory working with J. Calvin Giddings and Nathan E. Ballou.
WORKSHOPS

Take advantage of these FREE workshops to improve your job seeking skills!

Monday, November 18, 2:00PM – 3:00PM
Preparing for an Uncertain Tomorrow:
Innovation Principles for Professional Development
Robert Meyer, Merck & Co.

With ever changing technologies, what should individuals be doing today to prepare professionally for an uncertain tomorrow? In this workshop, you will learn 12 innovation principles to prepare you for this uncertainty. Innovation principles are the behaviors we should practice to enhance our competitive advantage. Discover how diversity, inclusion, collaboration, empathy for customers, and intelligent risk taking are essential for creating an innovative culture. Learn how successes and failures can be equally valuable to high performing organizations. Motivating examples of successfully applied innovation principles will be highlighted. Additionally, a list of references for further study will be provided.

Tuesday, November 19, 1:00PM – 3:00PM
The Importance of an Impressive Social Profile,
Whether You are Looking for Your Next Career Move or Not
Suzanne M. Stingo, SMS Social Media Strategies

Whether you are looking for your next career move or looking to connect with more business counter-parts, LinkedIn is where your profile needs to shine! This workshop will help you get your profile be the BEST version of YOU it can be! Be an “All Star” on LinkedIn and learn how to use the platform in all stages of your career!

Wednesday, November 20, 1:00PM – 3:00PM
Effective Communication Skills for Professionals in Chemistry
Donald Truss, Executive Recruiter

Join us as Executive Recruiter Donald Truss guides you through the mysterious world of the interview decision making process. Come and learn the secrets to making the interviewer comfortable and capable of understanding you. Learn how the proper use of patience and timing will increase the probability of receiving an offer of employment. During this interactive session, we discuss how to understand what the interviewer is feeling during the interview, and how you can guide his or her feelings in a way that improves communication. Don’t miss this opportunity to get an insider’s view of the effective processes involved between interviewer and interviewee. Come with an open mind and be prepared to be surprised! Don’t miss this event where you can expand your network, make new friends, share knowledge with your peers, and hear highly relevant and beneficial insights and perspectives from an expert in the employment marketplace.

SPEED MENTORING

Organized by Coblentz Society; sponsored by New England SAS

Speed Mentoring is a fun, fast past session that enables a structured interaction with a dozen or more Analytical Chemists with different specialties from various industries, academia, and government labs that enable the mentees to get an understanding of what it’s like to work in those areas. Mentees and Mentors need to sign up for the speed session in advance. These interactions can be the basis of an ongoing mentoring relationship session if that is of interest and is a wonderful networking opportunity for job hunting or just getting a better understanding of life in the various industries, government labs or academic institutions.

STUDENT SEMINARS

EAS offers seminars essentially for high school students and teachers and college students.
Seminars are included with the college student registration.

Monday, November 18, 11:00AM – 1:00PM
Forensic Identification: Crime Scene Reconstruction and DNA Analysis
Carol Ritter and Janine Kishbaugh, Cedar Crest College

Tuesday, November 19, 10:00AM – 12:00PM
Chemists and High Tech Device Manufacturing
Vinh Nguyen and Peter Bratin, ECI Technology
2019 EAS EMPLOYMENT BUREAU

An Employment Bureau is available to provide ample opportunity for employees to meet prospective employers. The Employment Bureau is free to all registered attendees.

The Employment Bureau, located in Bridgeview Room on the lower level of the conference center, will operate from 9:00 AM until 4:00 PM on Monday and Tuesday. On Wednesday, the hours will be 9:00 AM to 1:00 PM. Job postings will be available for applicant review beginning at 11:00 AM on Monday morning. Interview booths will be available for Employers to schedule interviews. Job postings are continually updated during EAS and applicants are expected to visit the Job Posting bulletin boards on a regular basis.

Back by popular demand!

- All resumes must be submitted in a SEARCHABLE PDF file format. This is to make it easier and faster for employers to find prospective applicants.
- Employers will be given access to EAS’s secure portal to search and review resumes on-line.

Applicant Instructions

- In order for employers to find you faster you must supply the Employment Bureau with a copy of your resume in a searchable PDF file via Email to candidate_cvs@eas.org (paper copies will NOT be accepted). Your resume should be no longer than two (2) pages in length.
- Postings of current job openings will be available for your review in the Job Posting Area. Access to these postings is offered to all attendees registered for EAS.
- Interested employers will contact you directly via the email address or phone number listed on the resume.

Employer Instructions

- When you arrive at the Employment Bureau, check-in at the Employer Registration desk. Job postings may be submitted on your Company stationery (please include job title, description, location, and contact information) or by filling out the EAS Job Opening form. If advance submission of job openings is not possible, these may be submitted after you register with the Employment Bureau on site. Job postings can be emailed to job_postings@eas.org.
- Resumes of prospective applicants will be available for your review on-line through EAS’s secure portal. Each employer will receive their access code on-site through the Employment Bureau. Access to resumes will be restricted to employers with job openings registered with the Employment Bureau and the portal will close at the end of EAS on Wednesday, November 27. Note: No hard copies of resumes will be printed.

Please Note: Access to the secure portal with all the resumes will be closed down at 5:00 PM on Wednesday, November 27th.

DOWNLOAD the show’s official mobile app

Make sure and download the FREE ultimate show guide for Eastern Analytical Symposium and Exposition — the official mobile app. Available for iPhone, iPad and Android devices, you can now take advantage of features designed to help you get the most out of attending the event, all from the convenience of your own mobile device.

How to download the app:

- Visit the Google Play Store and search the keywords Eastern Analytical Symposium
- iTunes App Store keyword EAS & Expo

After downloading the app, you’ll need to login with your Last Name and 6 digit registration number.

The app contains the following, plus so much more:

- SCHEDULE a searchable directory of available sessions, plus your personal list of any sessions you registered for
- FLOORPLAN a viewable map to navigate the show floor with ease
- SPEAKERS a complete listing of all speakers at the event
- EXHIBITORS a searchable list of all exhibiting companies & a list of exhibiting companies you were automatically matched with during registration
Join us in the Wilson Room — Table #W17

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Special Exhibitor Events

During the 2019 Eastern Analytical Symposium, the following special exhibitor events will take place. For additional information on these events, please contact the relevant exhibiting company.

Agilent Technologies

Agilent Technologies will be showcasing a variety of instruments on Monday, Tuesday, & Wednesday in Room 108 on the first floor of the Conference Center. Visit the Agilent demo room to meet and get answers to your questions from experts. You’ll also have the opportunity to learn more about the latest product technology and how it can help your research.

PerkinElmer

PerkinElmer will be making the following presentations on Monday, Tuesday, & Wednesday in Room 110A, located on the first floor of the Conference Center

1. Meeting the Increasing Needs from the Pharmaceutical Industry to Materials Research with the Versatility of Fluorescence Spectroscopy. (Chris Lynch FAS, Molecular Spectroscopy)
2. Fast Analysis of Terpenes and Residual Solvents by Headspace GC/MS (Tom Mancuso, Gas Chromatography Mass Spectrometry)
3. Alternative Carrier Gases for EPA Volatile Methods (Tom Mancuso, Gas Chromatography Mass Spectrometry)

Vendor Seminars

On Tuesday morning, November 19, the following vendor seminars will take place in the Burr Room, located on the second floor of the Conference Center.

Thermo Fisher Scientific

Join Thermo Fisher Scientific on Tuesday, November 19th 8:30 am – 10:00 am in the Burr room for a complimentary breakfast and presentations:

Advanced Sample Preparation Combined with High Resolution Accurate Mass Detection. Powerful Combination for Testing Pharmaceutical Products
Louis Fleck, Manager of the Trace Organics Analytical Group, Intertek
To carry out E&L studies for a wide range of medical and pharmaceutical products, experts utilize a variety of mass spectrometry based hyphenated techniques. In this talk, learn how both GC-HRAM and LC-HRAM based instrumentation produce more reliable data the first time. Coupling advanced sample preparation capability with high resolution accurate mass detection ensures effective reduction of matrix related interferences resulting in high quality data packages, higher level of regulatory compliance and lower detection limits.

Addressing throughput with tandem LC system for Monoclonal Antibody Lead Selection Studies using Native Mass Spectrometry
Mark Netsch, Thermo Fisher Scientific; Dan Bach Kristensen, Symphogen
In some Biopharma companies, native MS has become the principal intact MS platform in biopharmaceutical development. At Symphogen, Native SEC MS has become an essential tool, as it provides multiple analytical answers in one analysis (ID test, glycoform distribution, aggregation level). Here we present how throughput and MS utilization can be effectively addressed using a tandem LC, two-column LC setup.

Agilent Technologies

From 10:30 am to noon in the Burr Room, Agilent Technologies will present:

Title: Unlock Agilent’s spectroscopy workflow solutions - From drug discovery and development to quality control
Speaker: Keegan McHose

Abstract: In the modern pharmaceutical environment, speed to decision is critical. This necessitates the use of fast and intuitive spectroscopy solutions that can be operated by both experts and non-experts alike. Agilent’s spectroscopy solutions allow users to get “samples to answers” confidently to solve everyday challenges with ease, flexibility and unprecedented speed.
2019 EASTERN ANALYTICAL SYMPOSIUM & EXPOSITION
[An IRS 501(c)(3) Non-Profit Educational Organization Managed by Volunteer Scientists]
Crowne Plaza Princeton - Conference Center, Plainsboro Township, NJ
November 18 - 20, 2019 Monday-Wednesday
EXPOSITION HOURS: 9 am - 4 pm Monday, Wednesday, Tuesday 9 am - 5:30 pm
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