2021 EAS PRELMINARY PROGRAM

Message from the President of the Governing Board

As we look forward to the 2021 Eastern Analytical Symposium and Exposition, our theme continues to resonate - "*Curiosity*, Chemistry and *Perseverance*". Science continues to meet the challenges of today and tomorrow. Our Technical Program is stellar(!), and our Exposition is filling quickly, as you will see in the following pages. We are all very excited to host one of the first in-person analytical chemistry meetings of the year, and we invite you to join us this November 15-17th in Princeton, NJ.

Our 2021 Program will feature our Keynote speaker, Dr. Roger Wiens, of Los Alamos National Laboratory on Monday afternoon. Remember Star Trek and "Space …. The Final Frontier!"? (Yes, I am old enough to remember.) Dr. Wiens will share the latest developments in the exploration of Space, specifically Mars, by the *Curiosity* and *Perseverance* Rovers. This will be immediately followed by the Conference Opening Mixer.

Our Breakfast Lecture on Tuesday morning highlights the global impact of Microplastics; join us to hear Dr. Bridget A. O'Donnell, HORIBA Instruments Inc., present *The Detection and Identification of Microplastics,* and Prof. Phoebe Stapleton, Environmental and Occupational Health Sciences Institute, Rutgers University, speak on *Toxicological Concerns of Microplastics*. And our Technical Powerhouse Panel Sessions throughout the week touch on Space, Cannabis Testing, and Advances in Pandemic Vaccine Development. There are a wide range of Short Courses being offered – take advantage of learning directly from world-renowned experts in their field. Finally, the EAS Award Sessions showcase truly exemplary scientists and their latest research developments. Past EAS Award recipients have gone on to earn international recognition, including the Nobel Prize. Don't miss an opportunity to hear this year's best!

This year marks the 60th Anniversary of EAS, and we have special events planned to commemorate this milestone. Several of our program sessions take a look at the past 60 years of major scientific disciplines, as well as a special presentation on the last 60 years of EAS. We will again feature the popular Technology Tour in the Exposition area, as well as the opportunity to tie-dye your Conference Souvenir! See the latest in state-of-the-art instrumentation and technology as you visit our Exhibitors. A very special thanks go out to our Bronze Level Sponsors, Thermo Fisher Scientific and Journal of the American Society for Mass Spectrometry; we sincerely appreciate your support!

I hope that you find time to enjoy the rest of the summer, with perhaps a bit less rain – although my grass has never looked greener. On behalf of the entire EAS Governing Board, we look forward to welcoming you in person this November for our 60th year!

Sue Evans Norris
2021 EAS President

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2021 EAS PRELIMINARY PROGRAM

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The EAS Preliminary Program
Published by the Eastern Analytical Symposium & Exposition, Inc.

Please note our email, address, & phone number are as follows:
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The Eastern Analytical Symposium & Exposition is sponsored by the Analytical Division, the North Jersey and the New York Sections of the American Chemical Society; the American Microchemical Society; the Chromatography Forum of Delaware Valley; the Coblentz Society; the New York Microscopical Society; the Delaware Valley, New England, & New York Sections of the Society for Applied Spectroscopy; the Association of Laboratory Managers; and the New Jersey Association of Forensic Scientists

Eastern Analytical Symposium & Exposition, Inc. reserves the right, without notice, to modify the material or schedules, as well as to amend the roster of presenters or instructors.

EAS General Information & Schedule

Technical Sessions

All oral & poster technical sessions are held in the Crowne Plaza Conference Center. Room assignments for the various sessions are located in the Final Program.

Schedule
Oral Technical Sessions

Sunday
No oral sessions
Monday - Tuesday
9:00am-11:30am; 1:30pm-3:30pm
Wednesday
9:00am-11:30am; 1:15pm-3:15pm

Lecture Schedule

Monday
4:00pm Keynote Lecture
Roger Wiens, Los Alamos National Laboratory

Tuesday
8:00am Breakfast Lecture
Bridget O'Donnell, HORIBA Instruments & Phoebe Stapleton, Rutgers University

Wednesday
11:30am Powerhouse Plenary Session

Schedule
Electronic Poster Sessions

Posters are displayed only on the designated day of the poster session
Monday & Tuesday Session 1
Poster Set-Up: 9:00am-10:00am
Posters on display: 10:00am-noon
Authors Available:11:30am-12:30pm
Posters Removed: 12:30pm
Monday & Tuesday Session 2
Poster Set-Up: 9:00am-10:00am
Displayed: 12:30pm-4:00pm
Authors Available: 12:30pm-1:30pm
Posters Removed: 4:00pm

Exposition Schedule

Sunday
Open for exhibitor set-up only
Monday & Wednesday
Hours: 9:00am to 4:00pm
Tuesday *
Hours: 9:00am to 5:00pm
**There will be special Mixer on Tuesday, Nov. 16 at 3:30pm for all attendees.*

EAS Short Courses

You must pick up your name badge & registration information prior to going to the short course
Sunday - Wednesday
8:30am to 5:00pm

Seminars for High School & College Students

Pre-registration is required.
Sunday
(High School Teachers only)
1:00pm to 4:00pm
Monday & Tuesday
10:00am to 12:30pm

Workshops

An EAS registration is required to attend the career development workshops. Pre-registration for each workshop is requested.
Thursday, September 9 (Zoom)
9:00am to 10:30am

Friday, October 15 (Zoom)
12:00pm to 1:30pm

Thursday, November 4 (Zoom)
4:00pm to 5:30pm

Tuesday, November 16 (Onsite)
11:45am to 1:15pm

Registration Hours

Sunday
Exhibitors – 8:00am to 5:00pm
All Others – 7:30am to 9:00am and 3:00pm to 5:00pm
Monday
8:00am to 4:30pm
Tuesday
7:30am – 4:30pm
Wednesday
8:00am – 3:30pm

Photography & Cell Phone Use

The use of cameras and cell phones is not permitted during program sessions. Cameras are permitted on the exhibit floor; however, permission from the exhibitors involved must be obtained before photographs may be taken.

Badges

Your badge is your admission to many of the activities at the 2021 EAS. Please make sure that you remember to bring it with you when you come to the meeting. There is a $25 fee for the processing of lost or misplaced badges. Badges are non-transferable

More Information

Contact Us:
EAS Hotline: 732-449-2280
EAS E-mail: askEAS@EAS.org
Eastern Analytical Symposium & Exposition Inc.
PO Box 185,
Spring Lake, NJ 07762

EAS has implemented the following COVID-19 requirements:

1. Proof of vaccination* against COVID-19 **OR** provide a negative COVID-19 test result (PCR or Rapid test taken within 72 hours of check-in at registration). A list of nearby test facilities will be provided for those who wish to test after arriving in Princeton.
2. All attendees must wear a mask** at all times while attending all EAS events (except for briefly removing during drinking and eating, and when delivering an oral presentation).

2021 EAS CONFERENCES-IN-MINIATURE

All Short Courses are full-day from 8:30am – 5:00pm

BIOANALYSIS & SENSING TECHNOLOGY

Technical Sessions

- **EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry, Honoring Kenneth Suslick, University of IL-Urbana-Champaign (11/16 PM)**
- Biopharmaceuticals & Essential Oils (11/16 PM)
- Proteomics & Metabolomics (11/17 AM)
- PAT in the Biopharmaceutical Industry (11/17 PM)
- Bioanalysis and Biotechnology (11/17 PM)

Short Courses

- Characterization of Biologics by Capillary Electrophoresis, Liquid Chromatography, and Mass Spectrometry (11/14)
- Practical Bioanalytical Method Validation by LC-MS (11/14)
- Intact and Top-Down Protein Characterization and Quantitation by Mass Spectrometry: Approaches for Pharmaceutical Drug Discovery, Development, and Bioanalysis (11/15)

60TH ANNIVERSARY OF EAS

Technical Sessions

- 60 Years of Spectroscopic Innovation: IR, NIR, Raman & Atomic (11/16 AM)
- 60 Years of Analytical Innovation: GC, LC, MS & NMR (11/16 PM)

CHEMOMETRICS & MULTIDISIPLINARY SCIENCES

Technical Sessions

- **EAS Award for Outstanding Achievements in Chemometrics, Honoring Scott Ramos, Infometrix, Inc. (11/16 AM)**
- 3D Printing & Analytical Chemistry (11/16 AM)
- Chemometric Applications: A Subset of Machine Learning (11/17 AM)
- Chemometrics and Related Applications (11/17 PM)

Short Course

- Chemometrics Without Equations Part 1 & 2 (11/14-11/15)

CHROMATOGRAPHY

Technical Sessions

- Improving Efficiency in Separation Technology (11/15 AM)
- High-Performance Thin Layer Chromatography (11/15 AM)
- Practical LC in a Regulatory Environment (11/15 PM)
- **EAS Award for Outstanding Achievements in Separation Science Honoring Mary Ellen McNally, FMC Corporation (11/16 PM)**
- Innovative Approaches to Liquid Chromatography in Drug Development (11/17 AM)
- Technology Advancements in HPLC/UHPLC (11/17 AM)

Short Courses

- HPLC and UHPLC for Practicing Scientists 1 and 2: Fundamentals, Method Development, and Troubleshooting (11/14-11/15)
- Practical Gas Chromatography (11/14-11/15)
- Characterization of Biologics by Capillary Electrophoresis, Liquid Chromatography, and Mass Spectrometry (11/14)
- Practical Bioanalytical Method Validation by LC-MS (11/14)
- Systematic Chromatography Maintenance and Troubleshooting (11/14)
- High-Performance Thin-Layer Chromatography an Alternative Approach to Quality: Standardization, Quantification and Automation (11/14)
- Learn Reversed Phase LC – What to Do When C18 Does or Doesn't Work (11/15)
- Practical LC-MS Method Development and Sample Prep (11/15-11/16)
- How to Develop Validated HPLC Methods: Rational Design with Practical Statistics and Troubleshooting (11/16)
- GC/MS Fundamentals for Operators (11/16)
- Supercritical Fluid Chromatography (SFC): A Powerful and Greener Tool for Analytical and Preparative Separations (11/16)
- Getting the most from GC and GC/MS (11/17)
- Headspace-Gas Chromatography Fundamentals, Method Development and Method Transfer (11/17)
- Uniting Analytical Technologies: TGA-IR-GCMS, LC-ICP-MS (11/17)

COVID-19 PANDEMIC

Powerhouse Plenary Session: Nov. 17, 11:30am
Advances in Vaccine Development to Fight Against a Global Pandemic

Technical Sessions

- Managing your Laboratory through the Pandemic (11/15 AM)
- Novel Surface Chemistry to Solve Analytical Challenges Related to COVID-19 (11/15 PM)
- Pharmaceutical Analytical Solutions to Meet Patient Needs in a Pandemic (11/15 PM)

EDUCATION

Technical Session

- Diversity in Analytical Chemistry (11/15 AM)

Short Courses

- Effective Communication for Multicultural Professionals (11/14)
- Intellectual Property Fundamentals for Scientists (11/15)
- R Programming for Analytical Chemistry (11/16)
- Safety in the Laboratory (11/17)

ENVIRONMENTAL ANALYSIS

Breakfast Lectures: Nov. 16, 8:00am
The Detection and Identification of Microplastics
Bridget O'Donnell, HORIBA Instruments Inc.

Toxicological Concerns of Microplastics
Phoebe Stapleton, Rutgers University

Technical Sessions

- Environmental Challenges in 2021 (11/15 AM)
- Emerging Environmental Contaminants (11/15 PM)
- Analytical Environmental Chemistry Addressing Climate Control and More (11/16 AM)
- Nanoparticles and Nanobubbles Detection and Applications

Short Course

- History, Environmental Issues, and Characterization of Microplastics (11/14)

FORENSIC ANALYSIS

Technical Sessions

- Forensic Analysis (11/15 PM)
- Forensic DNA Analysis: Technological Advances in Action (11/17 AM)
- NY Microscopical Society Ernst Abbe Award, Honoring Manu Prakash, Stanford University (11/17 PM)
- Research from our Emerging Forensic Scientists (11/17 PM)

LABORATORY & DATA ANALYSIS

Technical Sessions

- Managing your Laboratory throughout the Pandemic (11/15 AM)

Short Courses

- Analytical Sampling and Sample Preparation for Chromatography (11/15)
- Quality-by-Design (QbD) Fundamentals for Analytical Chemists: A Continuous Improvement Paradigm for the Analytical Laboratory (11/15)
- Atomic Spectroscopy in the Pharmaceutical Laboratory (11/15)
- Communicating Analytical Results in the Pharmaceutical Labs and Understand Human Errors in Maintaining Data Integrity (11/16)
- R Programming for Analytical Chemistry (11/16)
- Cannabis Lab Essentials: Understanding the Cannabis Landscape and the Critical Process of Test Method Development and Validation (11/16-11/17)

All Short Courses are full-day from 8:30am – 5:00pm

MASS SPECTROMETRY

Technical Sessions

- **EAS Young Investigator Award, Honoring Jacob Shelley, Rensselaer Polytechnic Institute (11/15 AM)**
- Applications of Mass Spectrometry for the Analysis of New Modalities (11/16 AM)
- New Innovations in ICP-MS, Catalytic Applications and RNA Formulations (11/16 AM)
- **EAS Award for Outstanding Achievements in Mass Spectrometry, Honoring Joseph Loo, University of California-Los Angeles (11/16 PM)**
- Characterization of Adulterated and Counterfeit Dietary Supplements by HRMS (11/16 PM)

Short Courses

- Basic Mass Spectrometry (11/14-11/5)
- Characterization of Biologics by Capillary Electrophoresis, Liquid Chromatography, and Mass Spectrometry (11/14)
- Practical Bioanalytical Method Validation by LC-MS (11/14)
- Intact and Top-Down Protein Characterization and Quantitation by Mass Spectrometry: Approaches for Pharmaceutical Drug Discovery,
- Development, and Bioanalysis (11/15)
- Practical LC-MS Method Development and Sample Preparation (11/15-11/16)
- An Introduction to High Resolution Mass Spectrometry for Qualitative and Quantitative Analysis (11/16)
- GC/MS Fundamentals for Operators (11/16)
- Getting the most from GC and GC/MS (11/17)
- Uniting Analytical Technologies – TGA-IR-GCMS, LC-ICP-MS (11/17)

NMR SPECTROSCOPY

Technical Sessions

- NMR Spectroscopy Instrumentation and Application (11/15 PM)
- NMR as an Versatile and Adaptive Tool in Pharmaceutical Characterizations of Chemical Modalities and Biologics (11/16 AM)
- **EAS Award for Outstanding Achievements in Magnetic Resonance, Honoring Song-I Han, University of California-Santa Barbara (11/17 AM)**

PHARMACEUTICAL ANALYSIS

Technical Sessions

- Pharmaceutical Characterization and Quantitation Using Advanced Separation and Spectroscopy (11/15 AM)
- Pharmaceutical Analytical Solutions to Meet Patient Needs in a Pandemic (11/15 PM)
- Ensuring Quality Measurements in Pharmaceutical Analysis (11/16 PM)
- Sample Preparation Technologies: Leading Edge Advances and Developments (11/17 AM)
- PAT: Continuous and Flow Chemistry Analysis (11/17 AM)
- PAT in the Biopharmaceutical Industry (11/17 PM)

PHARMACEUTICAL ANALYSIS *continued*

Short Courses

- Process Analytical Technology: Out of the Lab and into the Line (11/14)
- Analytical Sampling and Sample Preparation for Chromatography (11/15)
- Intact and Top-Down Protein Characterization and Quantitation by Mass Spectrometry: Approaches for Pharmaceutical Drug Discovery, Development, and Bioanalysis (11/15)
- Communicating Analytical Results in the Pharmaceutical Labs and Understand Human Errors in Maintaining Data Integrity (11/16)
- Protein Therapeutics Immunogenicity (11/16)
- Lifecycle Approach to Analytical Methods: Incorporating QbD Concepts into Method Development, Validation, Verification and Transfer (11/17)
- Sample Processing, Preparation, and Analysis the QuEChERSER Way (11/17)

POWERHOUSE PANEL DISCUSSIONS

Technical Sessions

- Cannabis Testing: Challenges in Developing Applications for Product Analysis, Quality Control and Development (11/15 AM)
- Space and Atmospheric Instruments and Analysis (11/15 PM)
- Advances in Vaccine Development to Fight against a Global Pandemic (11/17 PM)

SPACE SPECTROSCOPY ANALYSIS

Keynote Lecture: Nov. 15, 4:00pm
Exploring Mars with Curiosity and Perseverance
Dr. Roger Wiens, Los Alamos National Laboratory

Technical Session

- Space and Atmospheric Instruments and Analysis (11/15 PM)

SPECTROSCOPY

Technical Sessions

- New York/New Jersey Section of the Society for Applied Spectroscopy Gold Medal Award, Honoring Fran Adar (11/17 AM)
- Handheld Spectrometers I: Safety in Food and Pharmaceuticals (11/15 AM)
- Handheld Spectrometers II: Cultural Heritage, XRF and LIBS (11/15 PM)
- Applications of Atomic Spectroscopy: From ICP to XRF & Everything in Between (11/16 PM)
- Spectrometric Calibration and Applications (11/16 PM)
- Optical Technologies for Disease Screening and Diagnostics (11/17 AM)
- PAT: Continuous and Flow Chemistry Analysis (11/17 AM)
- PAT in the Biopharmaceutical Industry (11/17 PM)

Short Courses

- Atomic Spectroscopy in the Pharmaceutical Laboratory (11/15)
- Portable Spectroscopy (11/16)
- Problems with FT-IR Spectra and How to Avoid Them (11/17)
- Uniting Analytical Technologies – TGA-IR-GCMS, LC-ICP-MS (11/17)

2021 Registration Types & Rates	Before Oct. 15	After Oct. 15
Full Conferee	$250	$325
Exposition/Networking/Posters	$100	$100
Full-Time Student Conferee	$30	$30
High School Student with Seminar *(must register for a seminar)*	$0	$0
Wednesday Only Full Conferee *(available onsite only 11/17)*		$150
One-Day Short Course (must register as *Full Conferee* in order to take course)	$575	$775
One-Day Short Course - Student Rate (must be a *Full-Time Student* in order to take course at Student Rate)	$70	$775
Two-Day Short Course (must register as *Full Conferee* in order to take course)	$850	$1,175
Two-Day Short Course - Student Rate (must be a *Full-Time Student* in order to take course at Student Rate)	$140	$1,175

2021 Preliminary Technical Oral Program

Here is the preliminary list of oral invited and contributed sessions. The Poster Sessions are on the pages 16-19

MONDAY MORNING, NOVEMBER 15

Time	Title, Author(s)
EAS Young Investigator Award Honoring Jacob Shelley, Rensselaer Polytechnic Institute Chair: Gary M. Hieftje, Indiana University	
9:00am	Presentation of the EAS Young Investigator Award
9:05am	*Plasmas and Droplets and Mass Spectrometers, Oh My: New Analytical Uses for Century-Old Tools*, Jacob Shelley, Montwaun Young, Brian Molnar, Garett MacLean, Sunil Badal, Courtney Walton, Rensselaer Polytechnic Institute
9:30am	*Alternative Ionization Sources for Mass Spectrometry: Bridging the Gap Between the Sample and the Mass Spectrometer*, Steven Ray, Kelsey Williams, Khue Hguyen, Eric Jensen, Christopher Brais, State University of New York - Buffalo
10:00am	*Break*
10:30am	*Chemical Analysis and Diagnosis In-Vivo with the MasSpec Pen Technology*, Livia Eberlin, State University of Texas - Austin
11:00am	*Accelerated Droplet Chemistry: The Capture of Fleeting Intermediates and Analytical Applications*, Abraham Badu-Tawiah, The Ohio State University

POWERHOUSE SESSION Cannabis Testing: Challenges in Developing Applications for Product Analysis, Quality Control and Development Chair: Anthony Provatas, University of Connecticut	
9:00am	*Know Your Grow: Cannabis Phenotyping with Mass Spectrometry*, Robert Di Lorenzo, SCIEX
9:30am	*How Cannabis Regulations are often Counter-Productive to Ensuring Consumer Safety*, Susan Audino, S Audino & Associates
10:00am	Break
10:30am	*To Be Announced,* Jose Zavaleta, AltaSci Labs
11:00am	Panel Discussion

Handheld Spectrometers 1: Safety and Quality Control, *sponsored by Rigaku Analytical Devices, Inc.* Chair: Suzanne Schreyer, Rigaku Analytical Devices	
9:00am	*Use of the Progeny HH Raman for Identity and Polymorphic Form Testing of Lyndra Therapeutics Novel Extended Release Dosage Form*, Michelle O'Connor, Lyndra Therapeutics
9:30am	*Utilization of Portable Diffuse Reflectance and Raman Spectrometers to Characterize Pharmaceuticals for Public Health Programs*, Christopher Harmon, Matthew Eady, Ed Bethea, Steve Sortijas, David Jenkins, FHI360
10:00am	*Break*
10:30am	*Portable Sensor and Spectroscopic Devices for Evaluating Seafood Decomposition*, Betsy Jean Yakes, United States Food & Drug Administration
11:00am	*Safety and Security Dependence on Ion Mobility Spectrometry and other Portable Spectrometers*, Pauline Leary, Federal Resources

Improving Efficiency in Separation Technology, *sponsored by the Chromatography Forum of the Delaware Valley* Chair: Mary Ellen McNally, FMC Agricultural Solutions	
9:00am	*Simulations and Selected Applications of Sequential Elution Liquid Chromatography for Improved Resolution via Enhanced Peak Capacity and Reduced Separation Disorder*, Joe Foley, Lauren Kline, Zhiyang Liu, Drexel University
9:30am	*The Impact of Gas Chromatography in Odor Analysis on Household Care and Textiles Applications*, Marcelo Filgueira, IFF Health and Biosciences
10:00am	*Break*
10:30am	*Effective Applications of Supercritical Fluid Chromatography for Difficult Pharmaceutical Challenges*, Michael Hicks, Erik Regalado, Jimmy DaSilva, Paul Walsh, Yong Liu, Justin Pennington, Merck & Co., Liam Corcoran, MSD
11:00am	*Using Various Chromatographic and Mass Spectrometric Techniques to Obtain the Best Possible Information on High-Molecular Weight Analytes*, Peter Schoenmakers, Jessica Desport, Leon Niezen, Ron Peters, University of Amsterdam

2021 Preliminary Technical Oral Program

Monday Morning continued

Pharmaceutical Characterization and Quantitation Using Advanced Separation and Spectroscopy **Chair: Oscar Liu, Silver Spring Scientific LLC**	
9:00am	*High-Throughput and Wide Range Protein Concentration Determination of Monoclonal Antibodies*, Erin Wilson, Mohammad Zahid Khan, Byron DiPaolo, GlaxoSmithKline
9:30am	*Characterization of Zwitterionic HILIC Columns Based on Hybrid Organic/Inorganic Particles*, Thomas Walter, Kenneth Berthelette, Jessica Field, Nicole Lawrence, Amit Patel, Stephen Shiner, Kerri Smith, Waters Corp.
10:00am	*Break*
10:30am	*Dynamic Mixing Modulation (DMM), a Simple, Novel Approach for Addressing Mobile Phase Incompatibility in 2D-LC (RPLC-HILIC)*, CJ Venkatramani, Genentech
11:00am	*Complete Site-Specific Deuteration Analysis with Molecular Rotational Resonance Spectroscopy,* Reilly Sonstrom, Justin Neill, BrightSpec, Martin Holdren, Channing West, Haley Scolati, Brooks Pat, University of Virginia, Zoua Pa Vang, Albert Reyes, Samantha Sloane, Isabella Alansari, Mitchell Mills, Joseph Clark, Marquette University

Managing your Laboratory throughout the Pandemic **Chair: Dennis Swijter, Association of Laboratory Managers (ALMA)**	
9:00am	*Remote Working: Making the Best of It*, Veronica Godley, San Antonio Water System
9:30am	*Effective Performance Reviews*, Tammy Germini, Geisinger
10:00am	*Break*
10:30am	*Managing Changes*, Pascal Wambua, Pwani Oil Products
11:00am	*Our New Normal: How to Help our Staff Thrive while Working from Home*, Tracy Wieder, Uhealth Sylvester Comprehensive Cancer Center

Environmental Challenges in 2021 **Chair: Shelby Coleman, SUNY College of Environmental Science and Forestry**	
9:00am	*Population Health and Environmental Justice Based Prioritization of Electric Generating Unit Displacement in the Carbon Neutral Energy Transition*, Michael Petroni, SUNY College of Environmental Science and Forestry
9:30am	*COVID-19 Pandemic Environmental Impact: Risk Assessment Challenges*, Babasheb Sonawane, Georgetown University, Abdel Kadry, University of Maryland
10:00am	*Break*
10:30am	*Preliminary Treatments to Combat cHABs Using UV-C, Sonication, Ozone, and Aeration on cyanobacterial Cultures and Lake Water*, Dominique Derminio, Jason Dean, Eget Liber, Andrew Bishuk, Keuka College, Gregory Boyer, SUNY College of Environmental Science and Forestry
11:00am	*Assessing Systemic Exposure Following Inhalation Exposure in Rodents: A Tale of Alkylbenzenes*, Esra Mutlu, National Institute of Health

High Performance Thin Layer Chromatography (HPTLC) **Chair: Leonel Santos**	
9:00am	*A Validated High-Performance Thin-Layer Chromatography Method for Monitoring Glucose and Malto Oligosaccharides with Multiple Degree of Polymerization During Bioethanol Production from Corn Biomass*, Wilmer Perera, Mckenzie Britt, CAMAG Scientific, Inc.
9:30am	*HPTLC/MS Analysis of Banisteriopsis caapi and Psychotria viridis for the Purpose of Determining Variability Among Different Accessions of the Active Compounds with the Intention of Predicting the Quality and Potential Efficacy of the Ancient Amazonian Therapeutic Botanical Medicine Admixture, Ayahuasca*. Sidney Sudberg, Alkemist Labs
10:00am	*Break*
10:30am	*Identification of Elderberry (S. nigra) Using HPTLC, HPLC and UV-Vis and Detection of its Adulterants in the World of Dietary Supplements*, Brittany Brodziski, Erica Deprey, Adam Hoffman, Nature's Way
11:00am	*Separation of Tryptamine Based Hallucinogens Using HPTLC,* Kelsey Patterson, Jeanne Berk, Thomas Brettell, Cedar Crest College, Matthew Wood, Ocean County Sheriff's Department

MONDAY AFTERNOON, NOVEMBER 15

Time	Title, Author(s)
EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry **Honoring Kenneth Suslick, University of Illinois at Urbana-Champaign** **Chair: Jonathan Sweedler, University of Illinois at Urbana-Champaign**	
1:30pm	Presentation of the EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry
1:35pm	*The Optoelectronic Nose: An Adventure in Molecular Recognition*, Kenneth Suslick, University of Illinois at Urbana-Champaign
2:00pm	*Mechanisms for Selectivity in Chemiresistive Gas Sensors*, Timothy Swager, Massachusetts Institute of Technology
2:30pm	*New Ideas for Optical Detection in Droplet Microfluidic-Based Analysis*, Ryan Bailey, University of Michigan
3:00pm	*Mass Spectrometry-Based Chemical Characterization of the Cells in the Brain*, Jonathan Sweedler, University of Illinois at Urbana-Champaign

2021 Preliminary Technical Oral Program

Monday Afternoon continued

POWERHOUSE SESSION: Space and Atmospheric Instruments and Analysis Chair: James Rydzak, Specere Consulting	
1:30pm	*Miniaturization of Instruments for Planetary Exploration*, Nikzad Toomarian, NASA Jet Propulsion Lab
2:00pm	*Water on the Moon: MEMS Based NIR Spectrometers on the 2009 LCROSS Mission*, David Day, SCIAPS
2:30pm	*Visible to Infrared Imaging Spectroscopy for Earth Science and Discovery Through the Solar System*, Robert O. Green, Jet Propulsion Lab
3:00pm	Panel Discussion

Novel Surface Chemistry to Solve Analytical Challenges Related to COVID-19 Chair: Fabrice Gritti, Waters Corporation	
1:30pm	*Application of Polymeric Anion-Exchange and Polymeric Reversed-Phase Media for the Analysis of mRNA and Viral Vectors Relevant to Covid-19 Therapeutics*, Christopher Pohl, Thermo Fisher Scientific
2:00pm	*Critical Role of Mobile Phase pH in LC-MS of Oligonucleotides*, Guilherme Guimaraes, Michael Bartlett, University of Georgia
2:30pm	*Tailoring Surface Properties of Microextraction Devices for COVID-19 Diagnostics*, Jared Anderson, Derek Eitzmann, Marcelino Varona, Iowa State University
3:00pm	*A Polyphenylene-Like Stationary Phase for HPLC*, Luis Colón, Brandon Salazar, University at Buffalo-SUNY

Handheld Spectrometers II: Cultural Heritage, XRF and LIBS, *sponsored by Rigaku Analytical Devices, Inc.* Chair: Suzanne Schreyer, Rigaku Analytical Devices, Richard Crocombe, Crocombe Spectroscopic Consulting	
1:30pm	*Handheld LIBS and XRF; Friends or Foes?*, Stanislaw Piorek, Rigaku Analytical Devices
2:00pm	*Integration of Portable Spectroscopy into Undergraduate Teaching and Research*, Mary Kate Donais, Saint Anselm College
2:30pm	*Taking the Lab to the Field - The Trials and Tribulations of Performing in-Field XRF and LIBS Analysis*, Debbie Griggs, Rigaku Analytical Devices
3:00pm	*State-of-the-Art Portable XRF in the Archaeological Sciences*, Ellery Frahm, Yale University

Practical LC in a Regulatory Environment, *sponsored by the Chromatography Forum of the Delaware Valley* Chair: Erin Ennis Ballinger, FMC Corporation	
1:30pm	*Coloring within the Lines. Making Allowed Adjustments to Compendial Methods for Faster Analysis Using Superficially Porous Columns*, William Long, Carl Griffin, Agilent Technologies
2:00pm	*HPLC in the Ag Regulatory Environment*, Steve Hansen, FMC Corporation
2:30pm	*Dual-Column Switching with Backflushing to Increase Sample Throughput and Robustness in the UHPLC-MS/MS Analysis of Chemical Residues in Foods*, Steven Lehotay, Alan Lightfield, United States Department of Agriculture
3:00pm	*Compendial HPLC Harmonization: Latest Proposed Changes in Chapter <621> Chromatography*, Horacio Pappa, United States Pharmacopeia

Emerging Environmental Contaminants Chair: Satinder Ahuja, Ahuja Consulting	
1:30pm	*Analysis and Treatment of Contaminants of Emerging Concern in Municipal Wastewater*, Sukalyan Sengupta, University of Massachusetts-Dartmouth
2:00pm	*Successes and Challenges in Determining Absorbable Organic Fluorine as a Surrogate to Total PFASs in Water Samples*, Mei Sun, Yuling Han, Vivek Pulikkal, University of North Carolina-Charlotte
2:30pm	*Emerging Contaminants: Environmental Fate and Dynamics*, Satinder Brar, Rama Pulicharla, York University
3:00pm	*Remediation of Emerging Environmental Contaminants through Green Chemistry*, Rakesh Kumar Sharma, Delhi University, Satinder Ahuja, Ahuja Consulting

NMR Spectroscopy Instrumentation and Application Chair: Joseph Lubach, Genentech, Inc.	
1:30pm	*Molecular Packing in Drug-Rich Domains of Posaconazole and Flutamide Amorphous Solid Dispersions Using 19F Solid-State NMR Spectroscopy*, Pyae Phyo, Wei Xu, Yongchao Su, Merck & Co., Inc.
2:00pm	*Investigating the Mechanism of Substrate Binding in the Solar Water Oxidation Reaction of Photosystem II Using Two-Dimensional Hyperfine Sub-level Correlation Spectroscopy*, K. V. Lakshmi, Vidmantas Kalendra, Rensselaer Polytechnic Institute, Gourab Banerjee, Ipsita Ghosh, Ke Yang, Victor Batista, Gary Brudvig, Yale University
2:30pm	*Insights into the Mechanism and Energetics of Chiral Guest Discrimination by Bile Micelles*, David Rovnyak, Shelby Valent, Chad Sussman, Timothy Strein, Bucknell University
3:00pm	*Screening for Chemical Migration from Adhesive into the Drug Product,* Punna Rao Suryadevara, Venu Sunkavalli, Sushmeet Singh, Radha Krishna (RK) Tatini, Akorn Pharmaceuticals

2021 Preliminary Technical Oral Program

Monday Afternoon continued

Forensic Analysis **Chair: Dave Trimble, Northrop Grumman Corp**	
1:30pm	*Seeing is Believing: Hyperspectral Imaging in Pharmaceutical Forensics*, Ravi Kalyanaraman, Jeremy Peters, Shan Xiao, Bristol-Myers Squibb
2:00pm	*Application of Fentanyl Analog Screening Kit Toward the Evaluation of Portable GC-MS for Field Use,* Rebecca Chan – Chao, Koby Kizzire, Brooke Kammrath, University of New Haven, Pauline Leary, Federal Resources
2:30pm	*Forensic Discrimination of Copper Metal by Laser Induced Breakdown Spectroscopy (LIBS)*, Chase Notari, Brooke Kammrath, University of New Haven
3:00pm	*Improving the Molecular Indicators of Abrus Precatorius*, Christina Robb, The Connecticut Agricultural Experiment Station, Kirk Gaston, Forensic Chemistry Center

Pharmaceutical Analytical Solutions to Meet Patient Needs in a Pandemic **Chair: Kim Huynh-Ba, Pharmalytik, LLC**	
1:30pm	*Overview and Highlights of USP <1469> Nitrosamine Impurities,* Edmond Biba, United States Pharmacopeial Convention
2:00pm	*The Science Behind Hand Sanitizers: Analytical Challenges and Regulations*, Brenda Jensen, Compounding Consultants, LLC
2:30pm	*Determination of Crystallinity of Active Pharmaceutical Ingredients Using DSC and XRD*, Jing Qu, University of Delaware
3:00pm	*Investigating Stability of Solid-State Protein Formulations Using Solid-State NMR*, Yongchao Su, Merck & Co., Inc.

KEYNOTE LECTURE
Monday, November 15, 4:00pm
Exploring Mars with Curiosity and Perseverance
Dr. Roger Wiens, Los Alamos National Laboratory

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

TUESDAY MORNING, NOVEMBER 16

BREAKFAST LECTURE on MICROPLASTICS
Tuesday, November 16, 8:00am

Identification and Characterization of Microplastics and Nanoplastics Using Raman Spectroscopy
Dr. Bridget A. O'Donnell, HORIBA Scientific

Toxicological Concerns of Microplastics
Prof. Phoebe Stapleton, Environmental and Occupational Health Sciences Institute, Rutgers University

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

Time	Title, Author(s)
EAS Award for Outstanding Achievements in Separation Sciences **Honoring Mary Ellen McNally, FMC Corporation** **Chair: Thomas Brettell, Cedar Crest College**	
9:00am	*Challenges in the Analysis of Emerging Drugs in Crime Labs,* Thomas Brettell, Cedar Crest College
9:30am	*Why Understanding Fundamentals is Critical in Developing Sample Preparation Devices*, Janusz Pawliszyn, University of Waterloo
10:00am	*Break*
10:30am	*Enhanced Fluidity Liquid Chromatography, EFLC: Current Scope and Future Directions*, Susan Olesik, O'Donnell Sylvester, The Ohio State University
11:00am	Presentation of the EAS Award for Outstanding Achievements in Separation Sciences
11:05am	*Chromatography Providing Anti-Counterfeiting Solutions*, Mary Ellen McNally, FMC Corporation

2021 Preliminary Technical Oral Program

Tuesday Morning continued

Time	Title, Author(s)
EAS Award for Outstanding Achievements in Chemometrics Honoring Scott Ramos, Infometrix, Inc. Chair: Peter Wentzell, Dalhousie University	
9:00am	*Utilizing Chemometric Tools in Undergraduate Education*, Amber Hupp, College of the Holy Cross
9:30am	*Maximizing Returns by USING Data in Manufacturing*, Mary Beth Seasholtz, Leo Chiang, Ryan Crowley, Anna Zink, Dow Inc.
10:00am	*Break*
10:30am	*Factor Analysis Methods You Don't Know About, But Probably Should*, Peter Wentzell, Cannon Giglio, Dalhousie University, Mohsen Kompany-Zareh, Institute for Advanced Studies in Basic Sciences
11:00am	Presentation of the EAS Award for Outstanding Achievements in Chemometrics
11:05am	*Multivariate Lessons for the Analytical Chemist*, Scott Ramos, Infometrix, Inc.

60 Years of Spectroscopic Innovation: IR, NIR, Raman and Atomic Chair: David Schiering, RedWave Technology	
9:00am	*NIR A History of Success*, Franklin Barton, Light Light Solutions Instruments, Inc.
9:30am	*Mid-IR Spectroscopy - Still Useful after All These Years*, David Schiering, RedWave Technology
10:00am	*Break*
10:30am	*Raman Shifts from Instrument Driven Applications to Application Driven Instruments. A 60 Year History and Journey*, Andrew Whitley, Bridget O'Donnell, HORIBA Scientific
11:00am	*Analytical Atomic and Plasma Spectrometry: Highlights from 1959 (the Birth of EAS) to the Present*, Gary Hieftje, Indiana University

3D Printing & Analytical Chemistry Chair: Brooke Kammrath, University of New Haven	
9:00am	*SMALL Things can make a BIG Difference: How Particle Characterization can Improve the Quality of 3D Printed Parts*, Deborah Huck-Jones, Ben Pattison, Malvern Panalytical Ltd.
9:30am	*Additive Manufacturing in Forensic Science*, Corey Scott, United States Federal Bureau of Investigation
10:00am	*Break*
10:30am	*Implementing Processing Strategies and Unique Hot Isostatic Pressing Treatments to Control Grain Structure, Defect Content and Mechanical Properties of Additively Manufactured Metals*, Jake Benzing, Nik Hrabe, Enrico Lucon, Tim Quinn, National Institute of Standards & Technology, Magnus Ahlfors, Quintus Technologies
11:00am	Panel Discussion: 3D Printing & Analytical Chemistry

NMR as a Versatile and Adaptive Tool in Pharmaceutical Characterizations of Chemical Modalities and Biologics Chairs: Yongchao Su, Merck & Co., Kang Chen, United States Food & Drug Administration	
9:00am	*Atomic-Resolution Investigation of Pharmaceuticals and Biomacromolecules by Ultrafast Solid-State NMR Spectroscopy*, Ayyalusamy Ramamoorthy, University of Michigan
9:30am	*NMR Based Similarity Metrics for Higher Order Structure Assessment among U.S. Marketed Insulin Therapeutics*, Deyun Wang, United States Food & Drug Administration
10:00am	*Break*
10:30am	*Investigating Physical and Chemical Stabilities of APIs by Magnetic Resonance Techniques*, Shu-Yu Liao, Haihong Chen, Jean-Christophe Hus, Jianwei Li, Yiqing Lin, Rasika Phansalkar, Rupa Sawant, Laura Silvian, Kenny Tran, Bo Wang, Fengmei Zheng, Biogen, Kalina Ranguelova, Ivan Sergeyev, Jochem Struppe, Bruker
11:00am	*Understanding Structure and Spatial Distribution of Multi-component LNP Drug Delivery System using Advanced ssNMR and DNP*, Anuji Abraham, Bristol Myers Squibb

Application of Mass Spectrometry for Analysis of New Modalities, organized by the North Jersey Mass Spec Discussion Group Chair: Long Yuan, Biogen	
9:00am	*HRMS Applications in Pharma Industry: From Small Molecule to Large Biomolecules*, Wendy Zhong, Merck & Co.
9:30am	*High-Resolution Mass Spectrometry Assay for Monitoring M-Proteins in Multiple Myeloma*, Rasa Santockyte, Jianing Zeng, Bristol Myers Squibb
10:00am	*Break*
10:30am	*Protein LC-MS: Advanced Tools for Next-Generation Assays in Bioanalysis*, John Kellie, GlaxoSmithKline
11:00am	*Hybridization LC-MS/MS: An Alternative Bioanalytical Method for Antisense Oligonucleotide Quantitation in Plasma and Tissue Samples*, Pei Li, Biogen

2021 Preliminary Technical Oral Program

Tuesday Morning continued

New Innovations in ICP-MS, Catalytic Applications and RNA Formulations **Chair: Penny Moore**	
9:00am	*An Innovative Low Maintenance Nebulizer for ICP-MS*, Sergei Leikin, Texas Scientific Products
9:30am	*Multi-Quadrupole ICP-MS Analysis of the Elemental Composition in Raw Materials and Cell Culture Media*, Aaron Hineman, Brady Frill, Andrea Palpini, PerkinElmer Inc.
10:00am	*Break*
10:30am	*Simple Analytical Tools to Understand and Evaluate the Impact of Lewis Acidity on the Catalytic Activity of Metal Oxyhydroxides*, Venkata Swaroopa Datta Devulapalli, Melissandre Richard, Eric Borguet, Temple University, Tian-Yi Luo, Mattheus DeSouza, Nathaniel Rosi, University of Pittsburgh
11:00am	*Enabling Online Determination of the Size-Dependent RNA Content of Lipid Nanoparticle-Based RNA Formulations*, Xiujuan Jia, Merck & Co., Inc.

Analytical Environmental Chemistry Addressing Climate Control and More **Chair: Anthony Provatas, University of Connecticut**	
9:00am	*Analysis of the Elemental Composition of Fine Particulate Matter (PM2.5) Using ICP-MS*, Tomoko Vincent, Daniel Kutscher, Sabrina Antonio, Thermo Fisher Scientific
9:30am	*Solvent-Induced Degradation of Aqueous Per-Fluorocarbon Surfactants*, Jason Runyon, David Orescan, The Chemours Company
10:00am	*Break*
10:30am	*Analytical Chemistry is Providing Key Information about Climate, Past and Present, and is Enabling Progress in Modeling Future Climate*, Roland Hirsch, Retired
11:00am	*Noncovalent Binding of Ciprofloxacin with Sodium Dodecyl Sulfate and Perfluorooctanesulfonic Acid Molecular Pseudophase: Fluorescence and pH Studies*, Carol Ajjan, Abul Hussam, George Mason University

TUESDAY AFTERNOON, NOVEMBER 16

Time	Title, Author(s)
EAS Award for Outstanding Achievements in Mass Spectrometry **Honoring Joseph Loo, University of California-Los Angeles** ***Sponsored by Journal of the American Society for Mass Spectrometry*** **Chair: Ying Ge, University of Wisconsin-Madison**	
1:30pm	Presentation of the EAS Award for Outstanding Achievements in Mass Spectrometry
1:35pm	*Mass Spectrometry Au Naturel: A Tool for Structural Biology*, Joseph Loo, University of California-Los Angeles
2:00pm	*Using Mass Spectrometry to Probe Interactions at the Cell Surface*, Catherine E. Costello, Boston University School of Medicine
2:30pm	*Chemical Footprinting of Membrane Proteins*, Michael Gross, Washington University-St. Louis
3:00pm	*Top-Down MS of CEACAM-1 Glycoforms*, Jonathan Amster, University of Georgia

60 Years of Analytical Innovation: GC, LC, MS and NMR **Chair: Cecil Dybowski, University of Delaware**	
1:30pm	*Sixty Years of NMR Spectroscopy*, Cecil Dybowski, University of Delaware
2:00pm	*Sixty Years of Development in Mass Spectrometry*, Barbara Larsen, International Flavors & Fragrances (retired)
2:30pm	*Sixty Years of Gas Chromatography, EAS, and Harold McNair*, Nicholas Snow, Seton Hall University
3:00pm	*Sixty Years of Liquid Chromatography: Instrumentation and Columns*, Ron Majors, ChromPrep Consulting

Spectrometric Calibration and Applications **Chair: Shirley Fischer-Drowos, Widener University**	
1:30pm	*Automating Calibrations for Optical Spectroscopy*, Brian Rohrback, Infometrix, Inc.
2:00pm	*Field Analysis of Low-Dose Fentanyl Mixtures by Portable IR*, Kaitlin Farrell, Brooke W. Kammrath, Koby Kizzire, University of New Haven, Anthony DiDomenico, David W. Schiering, RedWave Technology, Pauline E. Leary, Federal Resources
2:30pm	*Targeted Raman Analysis of Nasal Sprays,* Sarah Shidler, Lucy Grainger, Tim Prusnick, Renishaw Inc.
3:00pm	*UVVIS Simplification in Regulated Environments*, Neil Schaefer, Mettler Toledo

Applications of Atomic Spectroscopy: From ICP to XRF and Everything in Between **Chair: Lydia Breckenridge, Bristol Myers Squibb**	
1:30pm	*Exciting Moments of Science in ICP-OES*, Erica Cahoon, PerkinElmer
2:00pm	*Pushing the Boundaries of Pharmaceutical XRF*, Sharla Wood, Lydia Breckenridge, Bristol Myers Squibb
2:30pm	*Looking for Laser-Induced Breakdown Spectroscopy Signatures of Cancers and Neurological in Biomedical Fluids: Progress and Challenges*, Noureddine Melikechi, University of Massachusetts-Lowell
3:00pm	*Exposure to Geogenic Arsenic by Ancient Andeans: Determination of Hair Arsenic in Mummies Using LA-ICP-MS*, Dulasiri Amarasiriwardena, Moheeb Ahmed, Hampshire College, Bernardo Arriaza, University of Tarapacá

2021 Preliminary Technical Oral Program

Tuesday Afternoon continued

Characterization of Counterfeit, Adulterated, or Misbranded Dietary Supplements by HRMS **Chair: Gene Hall, Rutgers University**	
1:30pm	*Characterization of Counterfeit, Adulterated, or Misbranded Dietary Supplements by Atmospheric Solids Analysis Probe (ASAP) Mass Spectrometry*, Gene Hall, Yizhen Chen, Alexi Ermakov, Rutgers University
2:00pm	*"What You Don't Know CAN Hurt You!" High Resolution Mass Spectrometry with DART and Ambient Ionization to Identify Counterfeit and Adulterated Products*, Robert Cody, JEOL
2:30pm	*Analysis of Active Pharmaceutical Ingredients Found in Botanical Dietary Supplements by LC-MS/MS and HRMS*, Alex Krynitsky, Symbiotic Research
3:00pm	*PDE-5 Inhibitor Analogs by LC-TIMS-MS/MS Reveal Structural Character,* Artem Filipenko, Bruker Daltonics

Nanoparticles and Nanobubbles Detection and Applications **Chair: Dana Garcia, Arkema, Inc.**	
1:30pm	*Analysis of Electromagnetic Adsorption of Novel Microwave Responsive Catalysts for Water Treatment*, Fangzhou Liu, Wen Zhang, New Jersey Institute of Technology
2:00pm	*Formation Detection and Stability Assessment of Nanobubble at Solid-Liquid Interface during Membrane Bubbling*, Shan Xue, Taha Marhaba, Wen Zhang, New Jersey Institute of Technology
2:30pm	*Ozone Nanobubble Generation and Detection in Water*, Yihan Zhang, Wen Zhang, New Jersey Institute of Technology
3:00pm	*Inductive Simulations: A Theoretical Analysis of Three Nanoparticle Systems*, Brittany Rapp, George Mason University

Ensuring Quality Measurements in Pharmaceutical Analysis **Chair: Isabelle Vu Trieu, Waters Corp.**	
1:30pm	*Assessment of 250-mL Volume Vessels for Use in Biorelevant Dissolution*, Angela Hu, Wei Chen, Xujin Lu, Bristol Myers Squibb
2:00pm	*Simultaneous Estimation of Acetaminophen, Chlorpheniramine Maleate, Methyl Paraben, Propyl Paraben, Sodium Benzoate and Their Related Impurities in Over-the-Counter Syrup Formulation*, Ashok Kumar Palakurthi, Thirupathi Dongala, Aurex Laboratories LLC
2:30pm	*The Importance of Titrations in Pharmaceutical Analysis: From the Basics to the Modern Method,* Kerri-Ann Blake, Metrohm USA
3:00pm	*Accurate Moisture Determination in Pharmaceutical Products*, Kerri-Ann Blake, Metrohm USA

Biopharmaceuticals & Essential Oils **Chair: Satinder Ahuja, Ahuja Consulting**	
1:30pm	*Application of Molecular Rotational Resonance for Rapid and Direct Authenticity Analyses of Essential Oils*, Alexander Mikhonin, Donald Cannon, Reilly Sonstrom, Justin Neill, BrightSpec, Inc.
2:00pm	*Effect of Detection Mode and Draw-Out Lens Diameter on GC-MS Analysis of Essential Oils Using Hydrogen Carrier Gas*, Sara Japoni, Ed Connor, Iain Carrick, Peak Scientific Inc., Carlos Fidelis, UNICAMP
2:30pm	*Software-Assisted Chromatographic Method Development for Characterization of Therapeutic Proteins,* Szabolcs Fekete, Waters Corporation
3:00pm	*Chemical Residual Analytical Method Development in Biopharmaceutical R&D*, Lee Oliver, Katie Carnes, Kaitie Grinias, GlaxoSmithKline

WEDNESDAY MORNING, NOVEMBER 17

POWERHOUSE PLENARY LECTURE
Advances in Vaccine Development to Fight against a Global Pandemic
Wednesday, November 17, 11:30am – 1:15pm
All registered Attendees are invited to attend.

Chair: Zhucheng (Susan) Yang, WuXi Biologics	
11:30am	*An Embarrassment of Riches: Developing Potency Assays for a Diverse Biologics Portfolio*, Scott Umlauf, AstraZeneca
11:55am	*Use of Novel and Platform Analytical Technologies for Rapid COVID-19 Vaccine Development*, David Cirelli, Justin Sperry, Pfizer
12:20pm	*Characterization of mRNA Based Vaccines*, Huijuan Li, Moderna
12:45pm	Panel Discussion

2021 Preliminary Technical Oral Program

Wednesday Morning continued

Time	Title, Author(s)
EAS Award for Outstanding Achievements in Magnetic Resonance **Honoring Songi Han, University of California - Santa Barbara** ***Sponsored by Bruker BioSpin and New Era Enterprises*** **Chair: Alexej Jerschow, New York University**	
9:00am	*Studies of Excited Protein Conformational States by Solution NMR*, Lewis Kay, University of Toronto
9:30am	*The Nitrogen-Vacancy Center in Diamond: A Magnifying Glass to See the Invisible*, Carlos Meriles, City College of New York
10:00am	*Break*
10:15am	*Electron Spin Control for Improving the Spatial Specificity and Sensitivity of NMR*, Claudia Avalos, New York University
10:45am	Presentation of the EAS Award for Outstanding Achievements in Magnetic Resonance
10:50am	*Enhancing the 'Vision' of NMR Spectroscopy by Dynamic Nuclear Polarization*, Songi Han, University of California - Santa Barbara

New York/New Jersey Sections of the Society for Applied Spectroscopy Gold Medal Award **Honoring: Fran Adar, HORIBA Scientific** **Chairs: Dana Garcia, Arkema, Inc., Deborah Peru, DP Spectroscopy and Training**	
9:00am	*Still Looking for Ways to Make Raman Spectroscopy Relevant*, Fran Adar, HORIBA Scientific
9:30am	*Extracting More Information from Spectra Using Two-Dimensional Correlation Analysis*, Isao Noda, University of Delaware
10:00am	*Break*
10:30am	*Forensic Sample Analysis Using Optical Microscopy and Raman Spectroscopy*, Mark Witkowski, United States Food & Drug Administration
11:00am	*Application of Raman Spectroscopy for Advanced Materials*, Sergey Mamedov, HORIBA Scientific

Innovative Approaches to Liquid Chromatography in Drug Development, *sponsored by Chinese American Chromatography Association* **Chair: Yi He, John Jay College of Criminal Justice**	
9:00am	*A Novel Multi-Segment Gradient Generic HPLC Method Strategy for New Chemical Entities*, Michael Dong, MWD Consulting
9:30am	*New Chromatographic Approaches to Small Molecule Pharmaceutical Analysis*, James Grinias, Samuel Foster, Sangeeta Kurre, Michelle Pham, Deklin Parker, John Boughton, Joshua Davis, Christopher Piccolo, Kyle Morrow, Dylan Winkens, Rowan University
10:00am	*Break*
10:15am	*Ultra-High-Throughput Analysis in Drug Discovery Using Acoustic Ejection Mass Spectrometry*, Wilson Shou, Bristol Myers Squibb
10:45am	*Micro Sampling Applications for THC: Multi-Dimensional LC/MS/MS Analysis of Dried Plasma Spots vs. LC/MS Screening of Breath Samples,* Jack Henion, Henion Enterprises, Changtong Hao, Advion, Peter Stambeck, Breath Explor, Olof Beck, Karolinska Institute

PAT: Continuous and Flow Chemistry Analysis **Chair: James Rydzak Specere Consulting**	
9:00am	*On-Line UHPLC as PAT for Continuous Process Development and Manufacturing*, Grace Russell, Snapdragon Chemistry
9:30am	*Road to Laboratory of the Future with Integration of PAT into Modular Flow Platform*, Frederic Buono, Boehringer-Ingelheim Pharmaceuticals
10:00am	*Break*
10:15am	*Deep Dive into Optimization of PAT for a Continuous Direct Compression Platform*, Elyse DiMaso, Dongsheng Bu, Kevin Macias, Bristol Myers Squibb
10:45am	*Sampling Optimization for Blend Monitoring of a Low Dose Formulation in a Tablet Press Feed Frame Using Spatially Resolved Near-Infrared Spectroscopy*, Andreas Roman, Rutgers University

Forensic DNA Analysis: Technological Advances in Action, organized by the New Jersey Association of Forensic Scientists **Chair: Tom Brettell, Cedar Crest College**	
9:00am	*The Use of Synthetic DNA in Forensic Science*, Jillian Conte, MicroGEM
9:30am	*Achieving Total Weights of Evidence by Relieving Reliances on Boundaries and Assumptions*, Catherine Grgicak, Desmond Lun, Rutgers University
10:00am	*Break*
10:15am	*A Forensic DNA Case Study - Past, Present, and Future?*, Amber Carr, Federal Bureau of Investigation Laboratory
10:45am	*The Role of Analytical Chemistry in Forensic DNA Analysis*, John Butler, National Institute of Standards and Technology

2021 Preliminary Technical Oral Program

Wednesday Morning continued

Proteomics & Metabolomics **Chair: Neil Jespersen**	
9:00am	*Proteomics Investigation of Ugandan Mothers for the Presence of Plasmodium and Viral Proteins in Breast Milk*, Panashe Mutsengi, Danielle Whitham, Costel C. Darie, Clarkson University, Thomas Egwang, Tonny Jimmy Owalla, Med Biotech Laboratories
9:30am	*Optimization of the In-Gel Trypsin Digestion for Proteomics Applications*, Hannah Yorkey, Danielle Whitham, Madhuri Jayathirtha, Costel Darie, Clarkson University
10:00am	Break
10:15am	*Investigation and Characterization of the Jumping Translocation Breakpoint (JTB) Protein Using Mass Spectrometry Based Proteomics*, Madhuri Jayathirtha, Danielle Whitham, Devika Channaveerappa, Costel Darie, Clarkson University
10:45am	*Proteomic Analysis of Human Breast Milk to Reveal Potential Protein Biomarkers for Breast Cancer*, Danielle Whitham, Roshanak Aslebagh, Devika Channaveerappa, Costel C. Darie, Clarkson University, Brian Pentecost, Kathleen F. Arcaro, University of Massachusetts-Amherst

Optical Technologies for Disease Screening and Diagnostics **Session Chair: Fay Nicolson, Dana-Farber Cancer Institute**	
9:00am	*SERS-Based Biosensing at the Point-of-Care*, Samuel Mabbott, Texas A&M University
9:30am	*Targeting the Oncogene HPV16 E7 with Affibody Molecules in Head and Neck Cancer*, Sheryl Roberts, Cien Huang, Tara Viray, Thomas Reiner, Kishore Naga Vara Pillarsetty, Memorial Sloan Kettering Cancer Center
10:00am	*Break*
10:15am	*Stimulated Raman Scattering (SRS) Imaging: The Next Frontier of Light Microscopy*, Wei Min, Columbia University
10:45am	*Phosphorescent Metalloporphyrins for Monitoring Skin Oxygenation during Hyaluronic Acid Induced Vascular Occlusion*, Haley Marks, Joshua Glahn, Juan Pedro Cascales, Xiaolei Li, Michael Wang-Evers, Emmanuel Roussakis, Conor Evans, Dieter Manstein, Massachusetts General Hospital Harvard Medical School

Chemometric Applications: A Subset of Machine Learning **Chair: Brandye Smith-Goettler, Merck & Co., Inc.**	
9:00am	*Realtime and Retrospective Applications of MVDA/Empirical Modelling*, Cheryl Morris, Merck & Co., Inc.
9:30am	*Visualizing UMAP for Data Compression and Classification*, Barry Wise, Eigenvector Research, Inc.
10:00am	*Break*
10:15am	ChemMLometrics. Perform. Repeat., Brian Rohrback, Infometrix, Inc.
10:45am	*Perspectives on the Interdisciplinary Nature of Chemometrics and the Future of its Identity as a Discipline*, Paul Gemperline, East Carolina University, Maryanne Cuellar, Kaiser Optical Systems, Paul Trevorrow, Wiley

WEDNESDAY AFTERNOON, NOVEMBER 17

Technology Advancements in HPLC/UHPLC **Chair: Bill Barber, Chromatography Forum of the DE Valley**	
1:15pm	*Racing Through Separations Unhindered: The Use of Monolithic UHPLC Columns for High-Throughput and Robust Analyses*, Cory Muraco, MilliporeSigma, Petra Lewits, Benjamin Peters, Merck KGaA
1:45pm	*Evaluating the Adsorbed Water Layer and Relative Retention of Polar Stationary Phases in Hydrophilic Interaction Chromatography (HILIC)*, Yong Guo, Fairleigh Dickinson University
2:15pm	*High-Throughput Chiral Screening Using HPLC and SFC with 3- and sub-2-µm Fully Porous Particles and 2.7-µm Superficially Porous Particles*, Edward Franklin, Melissa Wilcox, Scott Anderson, Regis Technologies, Inc.
2:45pm	*Streamlined Online/Offline Two-Dimensional Liquid Chromatography for Facile Selection of Stationary Phases and Mobile Phases in Both Dimensions*, Heather Wang, Miraslava Potapenko, Imad Haidar Ahmad, Erik Regalado, Merck & Co., Inc., Hayley Lhotka, University of Michigan

The Research from our Emerging Forensic Scientists, *sponsored by New Jersey Association of Forensic Scientists* **Chair: Monica Joshi, West Chester University of PA**	
1:15pm	*Development of a Rapid Drug Detection Method for Insects Using Paper Spray Ionization Mass Spectrometry (PSI-MS)*, Alexandria Plyler, Michael Van Stipdonk, Duquesne University
1:45pm	*Microscopic and Elemental Analysis of Archaeological and Modern Buried Hair Compared to Soil Composition: A Case Study of a Male Child and Adult Female from the Arch Street Project, PA*, Gabrielle DiEmma, Karen Scott, Arcadia University, Jillian Conte, MicroGem, Kimberlee Moran, Rutgers University
2:15pm	*Exploring Bodily Fluid Stain Identification Using Raman and IR Microspectroscopy*, Morgan Maddock, Megan Dunkle, Lawrence Quarino, Marianne Staretz, Cedar Crest College, Lisa Mertz, NY Office of Chief Medical Examiner
2:45pm	*Metabolic Profile Determination of 2F-Viminol – A Novel Synthetic Opioid (NSO) Identified in Forensic Investigations*, Aracelis Velez, Karen Scott, Arcadia University, Alex Krotulski, Center for Forensic Science Research and Education, Donna Papsun, NMS Labs

2021 Preliminary Technical Oral Program

Wednesday Afternoon continued

PAT in the Biopharmaceutical Industry **Chair: Edita Botonjic, Pall**	
1:15pm	*Non-Invasive, Continuous, Quantitative Detection of Powder Level, Mass Holdup and Moisture Fraction in Pharmaceutical GMP Vessels*, William Blincoe, Jasdeep Mandur, Anthony Tantuccio, Robert Meyer, Merck & Co., Inc., Michel Louge, Cornell University
1:45pm	Edita Botonjic, Pall
2:15pm	In-Situ Machine Learning and Chemical Imaging to Elucidate Enzyme Immobilization for Biocatalysis, Nicole Ralbovsky, Merck & Co.

New York Microscopical Society Ernst Abbe Award **Honoring: Professor Manu Prakash, Stanford University** **Chairs: John Reffner, John Jay College of Criminal Justice, Brooke Kammrath, University of New Haven**

Chemometrics and Related Applications **Chair: Dave Russell**	
1:15pm	*Comparison of Common Spatial Filtering Methods in Hyperspectral Imaging – Comparison of MAF, MNF, MDF and PCA with Implications for Global Anomaly Detection*, Neal Gallagher, Eigenvector Research, Inc.
1:45pm	*Evaluation of Classification Algorithms for Speciation of Dalbergia spp. Using Handheld Laser Induced Breakdown Spectroscopy (LIBS)*, Caelin Celani, Rachel McCormick, Amelia Speed, Karl Booksh, University of Delaware, William Johnston, Fairmont State University, James Jordan, United States Geological Survey

Sample Preparation Technologies: Leading Edge Advances and Developments **Chair: Mary Ellen McNally, FMC Corporation**	
1:15pm	*Microextraction Methodologies for the Analysis of Perfluoroalkyl Substances*, Emanuela Gionfriddo, Aghogho A. Olomukoro, Ronald V. Emmons, Nipunika H. Godage, The University of Toledo, Erasmus Cudjoe, PerkinElmer Inc.
1:45pm	*A New Rapid, Simple, and Efficient Extraction Method of PFAS from Soil*, Benedict Liu, Alicia Stell, Candice Cashman, CEM Corporation
2:15pm	*High-Throughput BioSPME Method for Determination of Plasma Protein Binding*, Martin Ross, Olga Shimelis, Hugh Cramer, Teresa Marsala, Yong Chen, Candace Price, MilliporeSigma
2:45pm	*Strategies for Modality Agnostic MALDI-MS Method Development*, Debopreeti Mukherjee, Timothy Nowak, Vladimir Shchurik, Gregory Pirrone, Benjamin Mann, Alexey Makarov, Merck & Co., Inc.

Bioanalysis & Biotechnology **Chair: Mariann Neverovitch, Bristol Myers Squibb**	
1:15pm	*Metal Ion Leaching of Stainless Steel, Titanium, MP35N and Hastelloy in Pure HPLC Solvents (Water, Methanol, and Acetonitrile) and its Potential Impact on HPLC Analysis*, Jesse Bischof, SilcoTek Corporation
1:45pm	*Direct Analysis of Native N-Linked Glycans by Infrared Matrix-Assisted Laser Desorption Electrospray Ionization (IR-MALDESI)*, Crystal Pace, Peggi M. Angel, Richard R. Drake, David Muddiman, North Carolina State University
2:15pm	*Microdroplet Ultrafast Reactions Speed Antibody Characterization*, Hao Chen, New Jersey Institute of Technology
2:45pm	*Simultaneous Monitoring Multiple Product Quality Attributes for Cell Culture Processes Using a LC/MS Based Multi-Attribute Method*, JC Chen, Chi Zhang, Yang Liu, Justin Shearer, GlaxoSmithKline

2021 Preliminary Technical Poster Program

Monday, November 15: E-Poster Session 1; 11:30am – 12:30pm
Title/Authors
Rapid Analysis of Wastewaters Following U.S. EPA 200.7, Andrea Palpini, PerkinElmer
Testing and Validation of Antacids for Class 1 and 2A Elemental Impurities Following ICH Q3D (R2) and USP <232>/<233>, Using ICP-MS, Brady Frill, PerkinElmer
Analysis of Metals in Disposable, Non-Medical Face Masks Using ICP-OES, Brady Frill, Ken Neubauer, PerkinElmer
Investigation into the Aging Mechanism of Bloodstains Post Deposition Using Steady-State Fluorescence Spectroscopy for Forensic Purposes, Alexis Weber, Anna Wojtowicz, Igor Lednev, University at Albany-SUNY
A Rapid Thermal Desorber for Process Analysis Using an Ion Mobility Spectrometer, Brian Musselman, IonSense, Hacene Boudries, Leidos
Determination of Pharmaceuticals in Water and Biofilm Samples from the Hudson River, Kate Good, Teeshavi Acosta, John Jay College-City University of New York
E-Waste Recycling and Disposal in Developing Countries: Environmental Risk Assessment Challenge, Abdel-Razak Kadry, University of Maryland, Babasaheb Sonawane, Georgetown University
Identification of Off-Odor Compounds in Paper Products Using Thin Film Solid Phase Microextraction (TF-SPME) and GC-MS/O, Nicole Kfoury, John Stuff, Jaqueline Whitecavage, GERSTEL, Inc.
Saturated Absorption Spectroscopy and Two-Photon Cavity Ring-Down Absorption Spectroscopy for Trace Gas Detection of Nitrous Oxide, Madeline Memovich, Kevin Lehmann, University of Virginia
Screening Counterfeit Pharmaceutical Drug Products Using LC/PDA/MS, Mark Wang, Brittany Handzo, Jeremy Peters, Scott Huffman, Ravi Kalyanaraman, Bristol Myers Squibb
Automation High-Throughput Experimentation for Acceleration of Formulation Development, Sharon Matamoros, Matthew Bahr, Amanda Dingley, Austin Philip, Kris Angamuthu, GlaxoSmithKline
MXene-Based Sensing Platform for Quantification of "Forever Chemicals," Alexis Alexander, Reem Khan, Silvana Andreescu, Clarkson University
Method Validation for the Detection of Per- and Polyfluoroalkyl Substances (PFAS) in Environmental Water Sources, Amanda Belunis, William LaCourse, University of Maryland
Validated Method for the Targeted and Untargeted Analysis of Oyster Tissue for Per- and Poly-Fluoroalkyl Compounds (PFASs) by UHPLC-MS/MS and UHPLC-QTOF Analysis, Grace Greene, Sarah Ayers, Anthony Provatas, James Stuart, Christopher Perkins, University of Connecticut
Targeted Analysis of Mycotoxins and Pesticides in Cannabis Sativa (Hemp) Utilizing Liquid Extraction and UPLC-MS/MS, Anthony Provatas, Sarah Ayers, Stephanie Kexel, Christopher Perkins, University of Connecticut
The Effect of Washing on the Transfer and Persistence of Fiber Evidence, Madison Carter, Brooke Kammrath, University of New Haven, John Reffner, John Jay College of Criminal Justice
Advances in Analytical Techniques: Unravelling Antibiotic-Metal Complexes in Wastewaters, Pratishtha Khurana, Rama Pulicharla, Satinder Brar, York University
Microplastics in Multi-Use Estuaries: Development of a Source - Receptor Monitoring Strategy, Christopher Perkins, Michael Willig, Anthony Provatas, University of Connecticut
Critical Review and Screening of Laboratory Supplies for PFAS Analysis in Water Samples, Thi Do, Landon Wiest, Shun-Hsin Liang, Mike Chang, Restek Corporation
The Analysis of Phytohormones by LC-MS, Ravikumar Patel, Christina Robb, Lindsay Triplett, Connecticut Agricultural Experimental Station

2019 Preliminary Technical Poster Program

Monday, November 15: E-Poster Session 2; 12:30pm – 1:30pm
Title/Authors
Development of Stability Indicating RP-UHPLC Method for the Simultaneous Determination of Chlorocresol and Betamthasone Dipropionate in Topical Formulations Using Box-Behnken Design, Siva Krishna Muchakayala, Douglas Pharma US Inc., Naresh Kumar Katari, Gandhi Institute of Technology and Management, Thirupathi Dongala, Aurex Laboratories LLC, Vishnu Murthy Marisetti, ScieGen Pharmaceuticals Inc.
Analytical Quality by Design Based Method Development for the Analysis of Valsartan and Nitrosamines Impurities Using UPLC-MS, Fadi Alkhateeb, Paul Rainville, Waters Corp.
Core Analytical Quality-by-Design Tools Supporting Analytical Procedure Lifecycle Management Stages 1-3, Richard Verseput, S-Matrix Corporation
Evaluation of Solid Phase Extraction Media for Extraterrestrial In-Situ Sample Preparation of Liquid Samples, Jerome Ferrance, J2F Engineering
Compact Chromatographic Instrumentation for the Analysis of Drugs of Abuse, Sangeeta Kurre, Alexis Zimmer, Mita Ray, Leah Notarfrancesco, Keyur Patel, Samuel Foster, Kyle Morrow, James Grinias, Rowan University
The Development of Open-Source Instrument Modules For Capillary LC-MS, Deklin Parker, Samuel Foster, James Grinias, Rowan University
Separation of Derivatized Organic Acids by Supercritical Fluid Chromatography, Yih Ling Saw, Faith Wroniuk, John Boughton, Paula Arellano Vasquez, James Grinias, Rowan University
On-Line Monitoring of Chemical Reactions Using Compact Capillary Liquid Chromatography, Samuel Foster, James Grinias, Rowan University
Investigating Polycyclic Aromatic Hydrocarbons as Biosignatures in the Martian Subsurface Using GC-MS, Christine Ward, Ardith Bravenec, Timothy Ward, Millsaps College
Method Screening Technology and Teamwork: Overcoming Method Issues During a Time Crunch, Heather Neu, Lyudmila Khalatyan, Evan Bekos, Vera Leschinskaya, Bristol Myers Squibb
A Platform Analytical Method for Intact Polysorbates in Protein-Containing Biopharmaceutical Products via HPLC-CAD, Sina Mortazavi, Katie Carnes, Kaitie Grinias, Joshua Fuller, Michelle Ward, Lee Oliver, Justin Shearer, Timothy Brown, Michael Morris, GlaxoSmithKline
Optimization of the In-Gel Trypsin Digestion for Proteomics Applications, Mary Donnelly, Hannah Yorkey, Danielle Witham, Costel Darie, Clarkson University
Evaluation of Retention Behavior and Stability of a Novel Trifunctional Biphenyl Phase, Scott Silver, Pyvot, Norikazu Nagae, Tomoyasu Tsukamoto, Ryuji Koyama, Chromanik Technologies Inc.
Comparison of Quadrupole Versus Time of Flight Mass Spectrometry in Detecting Various Bacterial Lipid Classes, Frank Nichols, Anthony Provatas, University of Connecticut
Porous Graphitic Carbon – Making Sense of this Unique Material for HPLC, Clinton Corman, Cory Muraco, Michael Ye, MilliporeSigma
GC Method Translation in Adsorption Gas Chromatography (PLOT Columns), Cathy Hetrick, Katarina Oden, Chris English, Jaap de Zeeuw, Restek Corporation
Low Pressure Gas Chromatography (LPGC) - The Fast Way to Speed Up Your Multiresidue Pesticide Analysis for Foods!, Mike Zezzo, Jana R. Hepner, Jaap de Zeeuw, Kristi Sellers, Joseph Konschnik, Restek Corporation
Rapid Recognition of Beer Specimen Based on Multivariate Analysis of Non-volatile Fingerprint, Thi Do, Ryan Micklitsch, Tom Kane, German Gomez-Rios, Joseph Konschnik, Restek Corporation
Interrogation of Fluoropolymers for Non-Polymer PFAS - Analytical Procedures and Challenges, Jordyn Kramer, Michael Davis, Robert Buck, Lam Leung, The Chemours Company
Surface Characterization and Methane activation on SnOx/Cu2O/Cu(111) Inverse Oxide/Metal Catalysts, Rina Rosales, Jindong Kang, Erwei Huang, Yi Tian, Ivan Orozco, Rui Shi, Jose A. Rodriguez, Stony Brook University, Ning Rui, Mausumi Mahapatra, Sanjaya D. Senanayake, Ping Liu, Brookhaven National Lab

2021 Preliminary Technical Poster Program

Tuesday, November 17: E-Poster Session; 11:30am – 12:30pm STUDENT AWARDEES
Title/Authors
Adapting and Chemically Modifying Nanopore Sensors for Glycan Sensing And Sequencing, James Hagan, Brian Sheetz, Jason Dwyer, The University of Rhode Island
Spectroscopic Determination of Inorganic Phosphate in Eutrophic Water Using Cerium-Based Metal-Organic Framework, Mohamed Hassan, Silvana Andreescu, Clarkson University
Application of Guided-Ion-Beam Tandem Mass Spectrometry and Near IR Emission Spectroscopy in Reaction Dynamic Investigation of Radical Cations of 8-Oxo-2'-deoxyguanosine and Guanosine with Singlet O_2, May Myat Moe, Jianbo Liu, Queens College of the City University of NY
Developing Novel Infrared Matrix-Assisted Laser Desorption Electrospray Ionization Mass Spectrometry Imaging Methods for the Analysis of Underivatized Biomolecules, Crystal Pace, David Muddiman, North Carolina State University, Jared Simmons, Ryan Kelly, Brigham Young University, Peggi Angel, Richard Drake, Medical University of South Carolina
Protein-Mediated Microdroplet Henry Reaction, Qi Wang, Hao Chen, New Jersey Institute of Technology, Jia Li, Fudan University, Richard N. Zare, Stanford University
Boronitride Based Energy Harvesting Devices, Maximillian Card, Clarkson University
Application of Mammalian Peptide Substrate Reporters for Protein Kinase B to Cell Signaling in an Evolutionarily Distant Organism Dictyostelium discoideum, Menggi Jonathan Fan, Michelle Kovarik, Trinity College
Breakdown of the Stokes-Einstein Equation in Reverse Micellar Solutions, Matthew Too, Markus Hoffmann, SUNY-Brockport

Tuesday, November 17: E-Poster Session 1; 11:30am – 12:30pm
Title/Authors
Remediation of Heavy Metals with Nanomaterials, Sriparna Dutta, Rakesh Kumar Sharma, University of Delhi
Structural and Electrochemical Heterogeneity Assessment of Ti3C2Tx MXene Materials by AFM-SECM, Qingquan Ma, MengQiang Zhao, Wen Zhang, John A. Reif, Jr., New Jersey Institute of Technology
Determining the Effects of Tetrathiomolybdate on the Copper Levels in Amyloid Aggregates of Cerebral Amyloid Angiopathy Using X-Ray Fluorescence Microscopy, Ashwin Ambi, Lisa Miller, Stony Brook University, Tiffany Victor, Brookhaven National Laboratory, Aleksandra Stanisavljevic3, William Van Nostrand, University of Rhode Island
Product Compliance and Brand Discrimination of Water-Based Personal Lubricants with a Handheld NIR Spectrometer, Matthew Eady, Chayanee Changpim, Morakot Sangworatham, David Jenkins, 1FHI 360
Comparing Color Measurement Tools for use in Art Conservation, Sarah Barack, Jessica Walthew, Cooper Hewitt Smithsonian Design Museum, Maia Curran, Columbia High School, Kate Wight Tyler, Natalya Swanson, Brooklyn Museum
Soil Mineral Analysis by Particle Correlated Raman Spectroscopy (PCRS): Optimized Dispersion and Double-Pass Raman Analysis, Gabrielle Messe, Savannah Brown, Hannah Garvin, Nicholas Gogola, Chase Notari, Virginia Maxwell, Brooke Kammrath, University of New Haven, John Reffner, Peter De Forest, John Jay College of Criminal Justice, Christopher Palenik, Microtrace LLC, Peter Harrington, Ohio University, Deborah Huck-Jones, Malvern Panalytical Ltd, Bridget O'Donnell, Andrew Whitley, HORIBA Scientific
Electrochemical Sensors for PFAS Detection Using MXenes, Alexis Alexander, Reem Khan, Silvana Andresscu, Clarkson University
Real-Time In-Line Monitoring Determination in a Fluid Bed Dryer: A Chemometric Near-Infrared (NIR) Application for High Rubber Graft (HRG) Acrylonitrile Butadiene Styrene (ABS) Resin, Yusuf Sulub, SABIC
Development of a Portable Sensor for the onsite Detection of Perfluoroalkyl Substances, Abd Ur Rehman, Silvana Andreescu, Clarkson University
Matrix Isolation Spectroscopy: The Exploration of Weakly-Bound Complex Formation in Space, Emily Hockey, Korina Vlahos, Leah G. Dodson, University of Maryland-College Park
Evaluation of Partial Least-Squares Regression with Multivariate Analytical Figures of Merit for Determination of 10 Pesticides in Milk, Farnoosh Koleini, Parvaneh Balsini, Hadi Parastar, East Carolina University
Flow Cytometric Analysis of Murine Pulmonary Macrophages with ACAT1 Inhibition, Emily Stevenson, Rutgers University

2021 Preliminary Technical Poster Program

Tuesday, November 17: E-Poster Session 2: 12:30pm – 1:30pm
Title/Authors
Magnetically Driven Precisely Engineered Iron Oxide Based Nanomaterials For Removal of Toxic Contaminants Present in Water Streams, Kanika Solanki, Rakesh K. Sharma, University of Delhi
Development of Immunosensing Platform for Detection of Serotonin: Monophasic Molybdenum Selenide-Reduced Graphene Oxide Nanocomposite Sheets, Chhaya Chaudhary, Suveen Kumar, Ramesh Chandra, University of Delhi
The Normal Phase and Reversed Phase Separations of ±-Catechin on Daicel Chiral Columns, Weston J. Umstead, John J. Ferraro, William L. Watts Jr., Chiral Technologies
Low-Cost Platform to Assay Bacterial Biofilm Formation in Flow, Dylan Winkens, Tajrian Khan, Christopher Piccolo, Hyder Alikhan, Joshua Davis, Samuel Foster, Lark Perez, James Grinias, Rowan University
Impact of Metal Ions from Stainless Steel Brewing Equipment on the Quality of a Light Lager, Jesse Bischof, SilcoTek Corporation
Surface-Enhanced Raman Spectroscopy, a Sensitive and Label-Free Technique for Drug Discovery: Ligand and RNA Specific Binding, Lamyaa Almehmadi, Vibhav Valsangkar, Ken Halvorsen, Qiang Zhang, Jia Sheng, Igor Lednev, University at Albany
Novel MXene Based Cytochrome C Biosensor for Superoxide Detection, Tyler Bechard, Clarkson University
Method Transfer and Method Validation of Belatacept as Prophylaxis of Organ Transplant Rejection: PK and Immunogenicity Assay and Subsequent Supports, Xiaohui Xu, Bristol-Myers Squibb
Automated Sample Cleanup for the Analysis of Residual Pesticides in Food Using In-Line Sample Preparation (ILSP) and LC-MS/MS, Jamie York, Sharon Lupo, Connor Flannery, Restek Corporation
Exploring the Lipid Raft Hypothesis Using a Lipidomic Approach, Samuel Krug, Praveen Kumar, Ludovic Muller, Maureen Kane, University of Maryland
Culture and Identification of Airborne Bacteria Using Mass Spectrometry at Clarkson University, Yashveen Rai, Sean Harrison, Steve Dunckel, Costel Darie, Clarkson University
Investigate the Impact of a Non-Ionic Surfactant on Pesticide Persistence on Fresh Produce Surface During Baking Soda Washing Using Surface-Enhanced Raman Spectroscopy, Xinyi Du, Lili He, University of Massachusetts-Amherst
Mass Spectrometric Based Approach for Lysosomal Storage Diseases Diagnostic in Newborns, Bailee Underwood, Costel Darie, Clarkson University, Laura Ion, Cristina Dimitriu University of Medicine and Pharmacy-Iasi, Michael Przybylski, Steinbeis Centre for Biopolymer Analysis and Biomedical Mass Spectrometry
Analysis of the Lake Trout Heart and Blood Proteome Using Evolutionary Proteomics, Shelby Alwine, Emmalyn Dupree, Thomas Holsen, Costel Darie, Clarkson University, Bernard Crimmins, AEACS
An Assessment of Bisphenol Compounds in Beer Cans: Quantitative Approaches for Determining Variation Related to Brand and Lining, Michael W. Willig, Christopher R. Perkins, Anthony A. Provatas, James D. Stuart, Sarah A. Ayers, Steven J. Presley, University of Connecticut
Overcoming the Challenges of Hand Sanitizer Analysis, Cathy Hetrick, Chris English, Restek Corporation, Tyler West, Bobby Polak, Michael Ratkovich, Brian Sloat, Mike Sandoval, Santé Laboratories
Rapid Detection System of Escherichia Coli (E. coli) Using Printed Paper-Based Assay, Aqsa Khan, Jafar Sannie, Silvana Andreescu, Clarkson University
PFAS Concentration in Food Containers and their Effect on Food and Diet: A Review of Findings, Noah Liguori-Bills, James Stuart, Anthony Provatas, The University of Connecticut
Unique Absorbance and Fluorescence Fingerprints of Dietary Supplements Revealed by A-TEEM Spectroscopy, Ashley Pokhai, Gene Hall, Rutgers University
MXene-ceria Nano-Hybrid: Synthesis, Characterization, and Application in Biosensor Development, Reem Khan, Kadija Legagneur, Silvana Andreescu, Clarkson University

SPECIAL LECTURES

Join us to hear these experts:

Keynote Speaker
Monday, November 15, 4:00pm

Dr. Roger Wiens
Los Alamos National Laboratory
Title: Exploring Mars with Curiosity and Perseverance

Breakfast Lecture on Microplastics
Tuesday, November 16, 8:00am

Dr. Bridget A. O'Donnell
HORIBA Instruments Inc.
Title: The Detection and Identification of Microplastics
and
Prof. Phoebe Stapleton
Environmental and Occupational Health Sciences Institute, Rutgers University
Title: Toxicological Concerns of Microplastics

Light breakfast provided

Plenary Lecture on Covid-19
Wednesday, November 17, 11:45am

Stay tuned for more details!

2021 EAS Short Course Schedule

Pricing for 2021 Short Courses is $575 one-day and $850 two-day **before Oct. 15th** and $775 one-day and $1,175 two-day **after Oct. 15th** in addition to the Full Conferee registration fee. Full-Time Student Conferees - registration rates for short courses are $70.00 for one-day and $140.00 for a two-day course before Oct. 15th; regular pricing after Oct. 15th in addition to the Full-Time Student Conferee registration fee Limited space available for students in each course so sign up early! Courses are subject to changes/cancellations.

For complete descriptions of all EAS Short Courses, ***click on the course name to link to the description.***

Two-Day Courses

Code	~ 2-Day Courses ~ Sunday, Nov. 14 – Monday, Nov. 15 8:30am - 5:00pm	Instructor(s)
E21-01	HPLC and UHPLC for Practicing Scientists 1 and 2: Fundamentals, Method Development, and Troubleshooting	Michael Dong, MWD Consulting
E21-02	Practical Gas Chromatography	Thomas Brettell, Cedar Crest College
E21-03	Basic Mass Spectrometry	Athula Attygalle, Stevens Institute of Technology
E21-04	Chemometrics without Equations Part 1 & 2	Donald Dahlberg, Lebanon Valley College Neal Gallagher, Eigenvector Research

Code	~ 2-Day Course ~ Monday, Nov. 15 – Tuesday, Nov. 16 8:30am - 5:00pm	Instructor(s)
E21-22	Practical LC-MS Method Development and Sample Preparation	Perry Wang, LC-MS Technical Expert

Code	~ 2-Day Courses ~ Tuesday, Nov. 16 – Wednesday, Nov. 17 8:30am - 5:00pm	Instructor(s)
E21-31	Cannabis Lab Essentials: Understanding the Cannabis Landscape and the Critical Process of Test Method Development and Validation	Susan Audino, S.A. Audino & Associates

One-Day Courses

Code	Sunday, November 14 8:30am - 5:00pm	Instructor(s)
E21-05	Chemometrics without Equation Part 1 ONLY	Donald Dahlberg, Lebanon Valley College Neal Gallagher, Eigenvector Research
E21-06	HPLC and UHPLC for Practicing Scientists Part 1 ONLY	Michael Dong, MWD Consulting
E21-07	Characterization of Biologics by Capillary Electrophoresis, Liquid Chromatography, and Mass Spectrometry	Li Tao, Bristol-Myers Squibb Ming Zeng, Bristol-Myers Squibb
E21-08	High-Performance Thin-Layer Chromatography an Alternative Approach to Quality: Standardization, Quantification and Automation	Eike Reich, HPTLC Association Wilmer Perera, CAMAG Scientific
E21-09	Practical Bioanalytical Method Validation by LC-MS	Perry Wang, LC-MS Technical Expert
E21-10	Process Analytical Technology: Out of the Lab & into the Line	James Rydzak, Specere Consulting
E21-11	Systematic Chromatography Maintenance and Troubleshooting	Merlin Bicking, ACCTA, Inc. Douglas Raynie, South Dakota State University
E21-12	History, Environmental Issues, and Characterization of Microplastics	Ashok Deshpande, NOAA
E21-13	Effective Communication for Multicultural Professionals	Dottie Li, TransPacific Communications

2021 EAS Short Course Schedule

One-Day Courses *continued*

*For complete descriptions of all EAS Short Courses, **click on the course name to link to the description**.*

Code	Monday, November 15 8:30am - 5:00pm	Instructor(s)
E21-14	Chemometrics without Equation Part 2 ONLY	Donald Dahlberg, Lebanon Valley College Neal Gallagher, Eigenvector Research
E21-15	HPLC and UHPLC for Practicing Scientists Part 2 ONLY	Michael Dong, MWD Consulting
E21-16	Learn Reversed Phase LC – What to Do When C18 Does or Doesn't Work	Merlin Bicking, ACCTA, Inc.
E21-17	Quality by Design (QbD) Fundamentals for Analytical Chemists: A Continuous Improvement Paradigm for the Analytical Laboratory	Zenaida Otero Gephardt, Otero Associates
E21-18	Intact and Top-Down Protein Characterization and Quantitation by Mass Spectrometry: Approaches for Pharmaceutical Drug Discovery, Development, & Bioanalysis	John Kellie, GlaxoSmithKline
E21-19	Analytical Sampling and Sample Preparation for Chromatography	Douglas Raynie, South Dakota State University
E21-20	Intellectual Property Fundamentals for Scientists	Matthew Klee, XO Associates
E21-21	Atomic Spectroscopy in the Pharmaceutical Laboratory	Lydia Breckenridge, Bristol Myers Squibb Sharla Wood, Bristol Myers Squibb

Code	Tuesday, November 16 8:30am - 5:00pm	Instructor(s)
E21-23	An Introduction to High Resolution Mass Spectrometry for Qualitative and Quantitative Analysis	Matthew Blatnik, Pfizer Graham West, Pfizer
E21-24	How to Develop Validated HPLC Methods: Rational Design with Practical Statistics and Troubleshooting	Brian Bidlingmeyer, Analytical Acumen Inc. Stanley Deming, Statistical Designs
E21-25	GC/MS Fundamentals for Operators	Matthew Klee, XO Associates
E21-26	Communicating Analytical Results in the Pharmaceutical Labs and Understand Human Errors in Maintaining Data Integrity	Kim Huynh-Ba, Pharmalytik
E21-27	Supercritical Fluid Chromatography: A Powerful and Greener Tool for Analytical and Preparative Separations	Yingru Zhang, Bristol Myers Squibb Michael Hicks, Merck & Co.
E21-28	Protein Therapeutics Immunogenicity	Robert Dodge, Novartis
E21-29	Portable Spectroscopy	Richard Crocombe, Crocombe Spectroscopic Consulting Pauline Leary, Federal Resources
E21-30	R Programming for Analytical Chemistry	David Gosser, City College of New York

Code	Wednesday, November 17 8:30am - 5:00pm	Instructor(s)
E21-32	Problems with FT-IR Spectra and How to Avoid Them	Ellen Miseo, TeakOrigin Jenni Briggs, Peak Technologies
E21-33	Getting the most from GC and GC/MS	Gregory Slack, PharmAssist Nicholas Snow, Seton Hall University
E21-34	Lifecycle Approach to Analytical Methods: Incorporating Quality by Design Concepts into Method Development, Validation, Verification and Transfer	Gregory Martin, Complectors Consulting
E21-35	Headspace-Gas Chromatography Fundamentals, Method Development and Method Transfer	Matthew Klee, XO Associates
E21-36	Safety in the Laboratory	James Kaufman, The Lab Safety Institute
E21-37	Uniting Analytical Technologies – TGA-IR-GCMS, LC-ICP-MS	Bill Hahn, PerkinElmer Brady Frill, PerkinElmer
E21-38	Sample Processing, Preparation, and Analysis the QuEChERSER Way	Steven Lehotay, US Department of Agriculture

EAS Awards Program
Wenying Jian, 2021 EAS Awards Chair

Each year the Eastern Analytical Symposium honors Analytical Chemists who have distinguished career achievements. The recipients of these awards advanced these fields by superior work in developing theory, techniques or instrumentation. This year scientists in six areas of endeavor, will be presented awards.

Professor Kenneth Suslick
University of Illinois
EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry

Professor Song-I Han
University of California-Santa Barbara
EAS Award for Outstanding Achievements in Magnetic Resonance

Dr. Mary Ellen McNally
FMC Corporation
EAS Award for Outstanding Achievements in Separation Science

Dr. L. Scott Ramos
Infometrix, Inc.
EAS Award for Outstanding Achievements in Chemometrics

Professor Joseph Loo
University of California-Los Angeles
EAS Award for Outstanding Achievements in Mass Spectroscopy

Professor Jacob Shelley
Rensselaer Polytechnic Institute
EAS Young Investigator Award

Two other awards will be presented at the Annual Symposium in November under the auspices of the EAS Sponsoring Organizations

Professor Manu Prakash
Stanford University
New York Microscopical Society Ernst Abbe Award

Dr. Fran Adar
Horiba Scientific
NY/NJ Section of the Society for Applied Spectroscopy Gold Medal Award

EAS Awards are selected by independent juries of experts in these respective fields from nominations received by the Award Committee from the scientific community at large. Each award consists of an honorarium, travel expenses to EAS, a plaque, and the opportunity for the Awardee to present their work at EAS at an Award Symposium in their honor. Visit our website for full biographies of Awardees. Persons wishing to make a nomination for any of the awards given by EAS should send complete documentation of the candidate (content of the nomination package detailed on the EAS website) electronically to: awards@eas.org. The deadline for all 2022 award nominations is September 1, 2021.

2021 EAS Student Awards

EAS continues to actively support a Student Awards program to recognize students involved in research in the broad field of analytical chemistry. We have expanded the Student Awards to include both graduate and undergraduate students. 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.

In 2021, three undergraduates and five graduate students have been selected based on these criteria to receive EAS Student Awards. The following outstanding students have been chosen from a very worthy field of candidates:

UNDERGRADUATE STUDENTS

Maximillian Card
Clarkson University
Nominated by Prof. Silvana Andreescu

Mengqi (Jonathan) Fan
Trinity College
Nominated by Prof. Michelle Kovarik

Matthew Too
State University of NY-Brockport
Nominated by Prof. Marcus Hoffman

GRADUATE STUDENTS

James Hagan
University of Rhode Island
Nominated by Prof. Jason Dwyer

Mohamed Hassan
Clarkson University
Nominated by Prof. Silvana Andreescu

May Myat Moe
City University of New York - Queens
Nominated by Prof. Jianbo Liu

Crystal Pace
North Carolina State University
Nominated by Prof. David Muddiman

Qi Wang
New Jersey Institute of Technology
Nominated by Prof. Hao Chen

The Governing Board of the 2021 EAS congratulates these awardees for their outstanding achievements.

The Student Awardees' posters will be presented on Tuesday, November 16, 2021 in the Poster Area on the Bridge to the hotel from 11:30pm – 12:30pm

WORKSHOPS

Register for EAS and take advantage of these FREE workshops offered September- November to improve your job seeking skills!

EAS is committed to your professional development. Our workshops are designed to provide a space where you can enhance knowledge and hone your professional skills. The schedule below shows workshops that are being offered online (Zoom) in live interactive sessions and those that are being offered in-person.
An EAS registration is required.

Thursday, September 9, 9:00am – 10:30am

Scientific Writing: From an Idea to an Article

Monica Joshi, West Chester University of Pennsylvania
Presented via Zoom

We all intend to write up an idea or a completed project. However, it is not the intention but the writing direction that determines if a research idea will ever culminate in a written project. In this workshop, we will discuss ways in which we can merge our intentions with our actions and direct a worthwhile idea towards an article published in a scientific platform.

Friday, October 15, 12:00pm – 1:30pm

Resume and Interview Hints Helpful for Obtaining Positions at Any Level

Roy Helmy -Executive Director at Merck & Co.
Gino Salituro - Principle Scientist and Hiring Manger at Merck & Co.
Presented via Zoom

Learn the secrets of locating positions. Understand the importance of how to read a job description so that you can submit an effective application. Format a resume appropriately tailored to a specific job description, generic resumes are not as effective. This workshop takes you from preparing the resume to accepting the offer by reviewing 1) writing a resume, 2) preparing for a phone screen, 3) what to expect in a typical candidate on-site interview experiences and questions, and 4) taking the time to review the offer and how to respond to the human resources and or hiring manager. This session is interactive. Come prepared with resumes, experiences to share, and questions.

Thursday, November 4, 4:00pm – 5:30pm

Building and Nurturing a Professional Network

Stephen Scypinski, Ph.D., Vice President, Pharmaceutical Technology, Daiichi-Sankyo Inc.
Presented via Zoom

In today's high-paced and Internet-centric environment, it is much easier to build and maintain a professional network than it was in the days of business card files and phone calls. Having an up to date network could be valuable in many situations. Who would you call if you were about to undergo a government inspection and needed an experienced opinion? Where do you turn if your position is being severed and you want to know who is hiring? Who would you contact regarding the reputation of a contractor or consultant you might want to business with? Learn how to build, expand, and nurture an up to date scientific professional network so essential for these and other circumstances. Professional social media such as LinkedIn present a multitude of opportunities for members to network and communicate with colleagues and friends in their industry.

Tuesday, November 16, 11:45am – 1:15pm

Beating the Applicant Tracking System

Lynne Williams, Ed.D. Candidate, Executive Director of the Great Careers Group & BENG
In-person at the Crowne Plaza Conference Center

As a job seeker, are you wondering why you are not getting any response to your online submissions? Uncover why human eyes may never see the resumes you submit online and discover what you need to do to optimize your resume to beat the dreaded ATS. Have your current resume available to mark up during the workshop.

The content of this presentation was published in chapter 8 of the book published by the ATD (Association of Talent Development) called Find Your Fit: A Practical Guide to Landing the Job You Love. Dick Bolles, author of What Color Is Your Parachute wrote the forward in this book and 15 other career coaches around the country also contributed chapters.

2021 EAS Exhibitors

Click on company name to visit their website.

ACS Analytical Division
ACS New York Section
Advanced Materials Technology
Advion X Interchim
Agilent Technologies
ALMA
CDS Analytical, LLC.
CEM Corporation
ChemImage
Chiral Technologies, Inc./DAICEL
Chromatography Forum of Delaware Valley
Dissolution Technologies
Distek
Electron Optics Instruments
ELGA LabWater
Galaxy Scientific, Inc.
GERSTEL, Inc.
GFS Chemicals
I. Miller Precision Optical, Inc.
JASCO
JEOL USA
LCGC & Spectroscopy
MAC-MOD Analytical
Martel Instruments LLC
Metrohm USA
Mestrelab Research
Mettler Toledo
MicroSolv
MilliporeSigma
Molnar Institute for Applied Chromatography
New York Microscopical Society
NJ Mass Spec Discussion Group
Peak Scientific
Perkin Elmer
REGIS Technologies
Restek
Renishaw
Rudolph Research Analytical
Sannova Analytical Inc.
Shimadzu Scientific Instruments
SOTAX
SPECTRO Analytical Instruments
S-Matrix
TA Instruments
Texas Scientific Products
The Coblentz Society
The NY/NJ Section of the SAS
Thermo Fisher Scientific (Bronze Sponsor)
USP
Wasson-ECE Instrumentation
Waters Corporation
Welch Materials, Inc.

Spaces are filling quickly! Be sure to reserve your space soon. For more information, please contact Janine Kishbaugh at exposition@eas.org or 610-509-2354.

2021 Exposition Highlights

Technology Tour

Your Technology Tour Passport contains the names, booth / table locations, and logos of the Technology Tour sponsors. If you visit half of the participating companies and get your Passport marked, you are eligible to redeem it for a special EAS-logoed item. If you visit all 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. Participating exhibitors will be announced in late summer.

Thermo Fisher Scientific Seminar

Tuesday, November 16th
11:45am to 12:45pm

Scott Peterman, PhD, Sr. Global Product Marketing Manager, will present a small molecule toolbox for addressing existing and emerging analytic challenges. Lunch will be provided.

Title: Small molecule toolbox for addressing existing and emerging analytic challenges
Presenter: Scott Peterman, PhD, Sr. Global Product Marketing Manager,
Chromatography and mass spectrometry, Thermo Fisher Scientific

Presentation abstract:
Small molecule research continues to evolve at a rapid pace to make our world cleaner, safer, and healthier. This requires laboratories to cover an extensive breadth of applications from discovery and characterization to verification and validation. To provide the analytical capabilities needed to cover the expansive scope of sample types, matrices, detection and quantification levels, Thermo Fisher Scientific provides a superior range of products to address these experimental challenges. This workshop will focus on the tools necessary to develop experimental methods and enact them for actionable data. This includes sample preparation technologies, chromatography solutions, mass spectrometry, and data processing software and how to utilizes these components to ensure maximum productivity and data confidence, which is critical for success.

Presenter Bio:
Scott Peterman received his PhD in analytical chemistry at Texas A&M University in 2001 under Prof. David H. Russell. He joined Thermo Fisher Scientific in 2001 as an application chemist working on high-end mass spectrometers. He moved to the proteomics marketing group to develop the targeted peptide quantitation program where he directed and managed the program supporting software development. From there he moved to the Biomarker Research Initiatives in Mass Spectrometry (BRIMS) laboratory to further develop translational and clinical research workflows. In 2018, Scott was promoted to Sr. Global Product Marketing Manager focusing on ion mobility and Tribrid mass spectrometers and in 2020 transitioned over to focus on the TSQ triple quadrupole mass spectrometer portfolio.

Exposition Mixer

Tuesday, November 16th
4:00pm to 5:30pm

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.

Thank you to our Bronze Level Sponsors

ThermoFisher SCIENTIFIC

ASMS Journal of the American Society for Mass Spectrometry

For more information about joining the Technology Tour, booking a seminar/demo room, or sponsorship/advertising opportunities, please contact Janine Kishbaugh at exposition@eas.org or 610-509-2354.

STUDENT SEMINARS

EAS offers three seminars essentially for high school students and teachers during the November meeting. Each seminar has outstanding presenters from academia and industry. The 2021 seminar registration is FREE for middle & high school students with their teachers; full-time college student registration fee of $30 includes the seminars. Students and teachers must pre-register to reserve a space. We encourage all students to attend the Exposition after the seminar & pick up an EAS souvenir.

What Does Cooking have to do with Chemistry?
Sunday, November 14, 2021
Registration Limited to TEACHERS ONLY
1:00 pm to 4:00 pm

The relevance of chemistry to everyday life is a hard concept to have high school students recognize, especially since introductory chemistry concentrates on theory. Chemistry can be easily illustrated by foods and cooking. Based on experience levels, this workshop will demonstrate and discuss some examples that can be done in the classroom and some that can be done in a high school chemistry lab. All use simple foods as samples and based on the availability of resources, this workshop may have demonstrations and interactive examples.

Not all Science Happens in the Lab,
Biodiversity Surveys with iNaturalist as a means to Learn Science as a Process and Basic Analytics
Monday, November 15, 2021
10:00 am to 12:00 pm

Over the last two decades citizen science has had dramatic impacted the collection of data, in particular for studies of natural history. This workshop will be presented by Dr. Shawn T. Dash, Hampton University who has utilized the platform ebird and iNaturalist to engaged students in CUREs and inquiry-based research projects. The objective of the seminar is to inspire teachers as well as students to the benefits of using iNaturalist as a device to ask original research questions, collect, manage, and analyze data. Advice and suggestions on getting students engaged with the nature world, using technology to photo document diversity, survey online data sets, organize data, and finally use those data to address research questions for independent study, science fairs, or other pursuits.

How to Make Cheese
Tuesday, November 16, 2021
10:00 am to 12:00 pm

This seminar will introduce students to the field of Food Science by making cheese. This field is a multi-disciplinary field involving chemistry, biochemistry, nutrition, microbiology and engineering to study the nature of foods and the changes that occur in them naturally and as a result of handling and processing. The chemical and physical processes of making cheese as well as the final product characteristics based on the compounds present will be described.

EAS CONTESTS

CONGRATULATIONS
to the 2021 EAS Pet Mascot Winner!

Elektra Neverovitch

Keep an eye out for her in future posts and at the November Symposium & Exposition.

We hope you will consider entering a design for our t-shirt contest. The Rules are as follows:

T-shirt contest details:

- ✓ 4 color maximum
- ✓ Must include 60th anniversary, mention of outer space, and/or EAS logo
- ✓ Should be on a white shirt for tie-dying at EAS in November
- ✓ Submit designs and questions to: shelby.zangari@eas.org.

Housing at the 2021 Eastern Analytical Symposium

EAS has a block of rooms reserved at The Crowne Plaza Princeton Hotel & Conference Center and the Holiday Inn Express Princeton Southeast – both are located on Scudders Mill Road in Plainsboro, NJ. These hotels are connected to the Conference Center where all EAS activities are held: Technical Program (Oral & Poster Sessions), Short Courses, Workshops, Seminars, Employment Bureau and Exposition.

In order to obtain a reservation at The Crowne Plaza Princeton hotel, you may use the web site or use the phone numbers provided below; be sure to use the Group Code to receive the discounted rate. You will need to provide a credit card number in order to guarantee your room. Please carefully read the information provided on the hotel's reservation website so that you are aware of any relevant cancellation penalties and dates. When you make your reservation, you will be provided with a confirmation; please retain it in case you need to modify your reservation.

Crowne Plaza Princeton

900 Scudders Mill Rd.
Plainsboro, NJ 08536
1-609-936-4200

2019 Room rate - $161.00 per night plus tax
(you must mention **Group Code: EAS**)
Click here for on-line reservations

Holiday Inn Express Princeton Southeast

870 Scudders Mill Rd
Plainsboro, NJ 08536
1-609-936-6600

2019 Room rate - $151.00 per night plus tax
(you must mention **Group Code: EAS**)
Click here for on-line reservations

Transportation & Directions

LOCATION:
EAS will be held at the **Crowne Plaza Princeton-Conference Center & Hotel, 900 Scudders Mill Rd, Plainsboro, NJ 08536** (phone: 609-936-4200), located in the community of Plainsboro, NJ, just minutes from downtown Princeton. This location is ideally situated between Philadelphia and New York City. It is easy to reach from within New Jersey and the Mid-Atlantic region using some of the following highways: the New Jersey Turnpike, the Garden State Parkway, I-95, I-195, I-295, and Routes 1, 33, 133, 130 & 206.

PARKING & LOCAL SHUTTLE SERVICE:
Parking space is available at the Conference Center and at the adjacent Crowne Plaza Hotel and Holiday Inn Express. Overflow parking is available at the nearby Princeton Alliance Church at 20 Schalks Crossing Road, Plainsboro, NJ. **EAS will provide shuttle service from the overflow parking lot to the conference center.**

RAIL SERVICE:
NJ Transit Trains from Newark International Airport via the Northeast Corridor line is an economical and convenient method of transportation from Newark Airport and other locations in NJ, NY and PA. The closest train station is **Princeton Junction**. It serves both NJ Transit (www.njtransit.com) and Amtrak (https://www.amtrak.com). NJT / SEPTA trains from Philadelphia and NJ Transit trains from NYC are frequent. Amtrak offers service to/from New York City, Metro Park in NJ, Providence, Boston, Philadelphia, Wilmington DE, Baltimore, and Washington DC.

Click here for more transportation options and for driving directions

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