# 2016 Preliminary Technical Oral Program

Here is the preliminary list of oral invited and contributed sessions. The Poster Sessions will be announced in mid-October. It is not too late to submit an abstract for a poster presentation! The deadline is September 12th. Visit our submission site for more details and to submit: www.EAS.org/asubmit

## MONDAY MORNING, NOVEMBER 14

| Time | Title, Author(s) |
|---|---|
| **EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry**<br>**Honoring Purnendu (Sandy) K. Dasgupta, University of Texas - Arlington**<br>***Sponsored by Bristol-Myers Squibb***<br>**Chair: Satinder Ahuja, Ahuja Consulting** | |
| 9:00 | *Multi-Dimensional Gas Chromatography: Do More Acronyms Really Give Better Analysis?* Nicholas H. Snow, Seton Hall University |
| 9:30 | *Advances in the Application of Vacuum Ultraviolet Spectroscopic Detection for Gas Chromatography*, Kevin A. Schug, Changling Qiu, Ling Bai, Jamie Schenk, The University of Texas-Arlington, Jonathan Smuts, Phillip Walsh, VUV Analytics, Harold M. McNair, Virginia Tech, Jack Cochran, Restek Corporation |
| 10:00 | Break |
| 10:20 | *Designing Flow-Based Unit Operations for Sample Prep*, Graham D. Marshall, David J. Holdych, Don C. Olson, Global FIA, |
| 11:50 | Presentation of the EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry |
| 11:55 | *Mr. Beer: Augustus has had it too Good!,* Purnendu K. Dasgupta, Ruchika P. Bhawal, Yin-Huan Li, University of Texas - Arlington |

| **EAS Award for Outstanding Achievements in Near-Infrared Spectroscopy**<br>**Honoring Samuel Coleman, ColeSpec Solutions**<br>**Chair: Franklin E. Barton II, LLS Instruments** | |
|---|---|
| 9:00 | *Early Days of Forage NIR*, Franklin E. Barton II, LLS Instruments |
| 9:30 | *Routine and Non-routine Use of NIR Spectroscopy in Forage Crop Analysis*, Craig Roberts, University of Missouri |
| 10:00 | Break |
| 10:20 | *Taking NIRS Outdoors*, Patrick Starks, USDA/ARS |
| 10:50 | Presentation of the EAS Award For Outstanding Achievements In Near Infrared Spectroscopy |
| 10:55 | *Utilizing NIR When the Analyte is Obscure*, Samuel Coleman, ColeSpec Solutions |

| **Chemical Imaging, *organized by The Coblentz Society***<br>**Chair: Michael Walsh, University of Illinois-Chicago** | |
|---|---|
| 9:00 | *Towards Practical IR Imaging for Rapid Digital Molecular Pathology*, Rohit Bhargava, University of Illinois - Urbana-Champaign |
| 9:30 | *Synchrotron Infrared Nano Spectroscopy (SINS) and 3D FTIR Tomography*, Michael C. Martin, Lawrence Berkeley National Laboratory |
| 10:00 | Break |
| 10:20 | *Nanoscale Infrared Spectroscopy and Chemical Imaging with AFM-IR*, Craig Prater, Anasys Instruments |
| 10:50 | *Building an Open Source Toolkit for Parallel and Out-of-Core Analysis of Large Hyperspectral Images*, David Mayerich, Rupali Mankar, Sebastian Berisha, University of Houston |

| **Quantitative NMR: Methods and Applications, *sponsored by Delaware Valley SAS***<br>**Chair: Steve Bai, University of Delaware** | |
|---|---|
| 9:00 | *NMR Based Screening Methods for Hit Finding in Medicinal Chemistry*, Hugh Eaton, Yan Hou, Mark Mccoy, Daniel Wyss, Payal Sheth, Todd Mayhood, Christopher Tan, Marc Labroli,Jing Su, Terry Roemer, Andrew Cooke, Craig Stump, Darrell Henze, John Sanders, Berengere Sauvagnat, Elliot Nickbarg, Yang Xianshu, Hua-Poo Su, Merck |
| 9:30 | *Quantitative NMR in Solids: Towards Uniform Enhancement in CP-MAS NMR Spectroscopy*, Guangjin Hou, University of Delaware |
| 10:00 | Break |
| 10:20 | *Absolute Concentration of Choline Derivatives in Biologically Relevant Media Using $^{14}$N-NMR*, István Pelczer, Julianne Goff, Princeton University |
| 10:50 | *Quantitative NMR Analysis Made Faster and More Accurate*, Michael Bernstein, Mestrelab Research |

| **Novel Approaches to *In-Vitro* Predictive Analysis**<br>**Chairs: Justin Pennington, Merck and David Sperry, Eli Lilly** | |
|---|---|
| 9:00 | *Watching Dissolution on the Sub-Micron Scale: Utilization of AFM Imaging in Liquids Using Biorelevant Media*, Amanda Mann, Matthew S. Lamm, Andre Hermans, Justin Pennington, Merck |
| 9:30 | *Predictive Capability of DDD Plus for In-Vitro Dissolution of Immediate Release Formulation*, Zongyun Huang, Xujin Lu, Limin Zhang, Lili Lo, Bristol-Myers Squibb |
| 10:00 | Break |
| 10:20 | TBA, *Yi Shi*, Abbvie |
| 10:50 | *Mechanistic Approach for Assessing the Impact of Buffer Properties and Volume on Dosage Form Performance in the Presence of an Absorption Compartment*, Deanna Mudie, Bend Research |

| **Recent Advances in the Analysis of Counterfeit and Substandard Consumer Products**<br>**Chair: Adam Lanzarota, United States Food & Drug Administration Forensic Chemistry Center** | |
|---|---|
| 9:00 | *Past, Present and Future Analytical Techniques for Counterfeit Drug Detection*, Ravi Kalyanaraman, Bristol-Myers Squibb |
| 9:40 | *Protecting Patients: A Case Study in Counterfeit Medicines,* Anthony Zook, Merck |
| 10:10 | *Break* |
| 10:20 | *No LC? No Problem! Quantitative Assay of Beta Lactam Antibiotics with a Paper Test Card*, Marya Lieberman, Nicholas M. Myers, Jalen Carpenter, Doaa Aldulaimi, Margaret Berta, Jamie M. Luther, University of Notre Dame, Mercy Maina, Phelix M. Were, Moi Teaching and Referral Hospital |
| 10:50 | *Authentication of Pharmaceutical Products with Spectroscopic Solutions,* Jeffry Denault, Robert Beal, Eli Lilly |

| **Industrial Applications of Polymer Analysis and Characterization**<br>***Sponsored by NJ-ACS Materials Topical Group***<br>**Chair: Sandra Ferris, Dow Chemical Company** | |
|---|---|
| 9:00 | *An Integrated Analytical Approach to Solving Complex Polymer Problems,* Scott Hanton, Menas Vratsanos, Dale Willcox, Intertek |
| 9:30 | *Characterization of Surfactants Used for Emulsion Polymerization Using Liquid Chromatography Mass Spectrometry (LC-MS)*, Christie Bowden, Arkema |
| 10:00 | Break |
| 10:20 | *Analysis for Low Level Polymeric Components Utilizing Pyrolysis-GC-MS,* Jocelyn White, Dow Chemical Company |
| 10:50 | *Applications of Coupled Rheology-FTIR to Polymer Analysis*, Dana Garcia, Sara Reynaud, Zeena Cherian, Mark Lavach, Chuck Crabb, Robert Barsotti, Florence Mehlmann, Francesca Devito, Fabian Meyer, Arkema |
| 11:20 | *Chemical Analysis in Packaging Development and Redesign*, Alan Sentman, Polymer Solutions |

| **Mass Spectrometric Solutions to Environmental & Pharmaceutical Problems**<br>**Chair: Dil Ramanathan, Kean University** | |
|---|---|
| 9:00 | *Environmental Chemistry Compound Identification Using High Resolution Mass Spectrometry Data Integrated to the EPA Chemistry Dashboard***,** Antony Williams, Jon Sobus, Mark Strynar, Elin Ulrich, Chris Grulke, Jennifer Smith, Jordan Foster, Michelle Krzyzanowski, Jeff Edwards, United States Environmental Protection Agency, Kamel Mansouri, Oak Ridge Institute for Science and Education |
| 9:20 | *Mechanistic Study of Gas Phase In-Source Hofmann Elimination of Doubly Quaternized Cinchona-Alkaloid Based Phase-Transfer Catalysts by (+)-ESI/Tandem Mass Spectrometry,* Huaming Sheng, Rong-Sheng Yang, Katrina W Lexa, Edward Sherer, Li_Kang Zhang, Bangping Xiang, Roy Helmy, Merck |
| 9:40 | *Mass Spectrometry Based Proteomics to Investigate and Characterize Human Jumping Translocation Breakpoint (hJTB) Protein,* Devika Channaveerappa, Kangning Li, Costel C. Darie, Clarkson University |
| 10:00 | Break |
| 10:20 | *Quantification of BMS Compound A, a Prodrug and its Breakdown Product B, as well as its 4 Metabolites in Dog Whole Blood, Dry Blood Spot and Dog Plasma to Support a Pharmacokinetic Study in Dogs*, Xiaohui Xu, Lisa Christopher, Bonnie Wang, Jim Shen, Bristol-Myers Squibb |
| 10:40 | *Analytical Challenges during the Formulation Development of an Unstable Active Pharmaceutical Ingredient,* Matthew Janson, Mohammad Al-Sayah, Connie Chan, Janan Jona, Nathaniel Segraves, Karthik Nagapudi, Genentech |
| 11:00 | *Complying with USP<232> and ICH Q3D: The Application of Automated Sample Preparation for ICP-MS Analysis in Pharmaceutical R&D,* Jonathan L. Sims, Perkin Elmer, Carol Moynihan, Sotax Corporation |
| 11:20 | *Determination of Antibacterial Activity in Medicinal Plants Using UHPLC-HRMS,* Gaganpreet K. Monga, Mirna E. Giron, Anima Ghosal, Dil Ramanathan, Kean University |

| **Development of Quality Methods for Over-The-Counter Products**<br>**Chair: Richard Nguyen, United States Pharmacopeia** | |
|---|---|
| 9:00 | *Determination of the Cause of Discoloration in Hard Gelatin Capsules Containing FD&C Blue #2 (Indigotine) Colorant Through Forced Degradation Studies Using BilcareOptima Mathematical Model,* Ajith S. Nair, Matthew Fiore, Bilcare Research |
| 9:20 | *A Robust Approach for Dealing with Problematic Sample Types and Matrices Encountered in the Modern Pharmaceutical Laboratory Whilst Using Ion Chromatography as an Analytical Tool,* Stuart J. Procter, Metrohm USA |
| 9:40 | *HPLC Methods Transfer across Multiple Chromatographic Systems: The Impact of Instrument Design*, Paula Hong, Patricia R. McConville, Waters |
| 10:00 | Break |
| 10:20 | *USP Method Modernization Using "Equivalent L/dp" and "Equivalent N" Allowed Changes with CORTECS C8 and CORTECS UPLC C8 Columns,* Jennifer M. Nguyen, Thomas Swann, Waters |
| 10:40 | *Advances in the Analysis of Oral Care Consumer Products Using Benchtop Nuclear Magnetic Resonance (NMR)*, Robin Gordon, Micheal Knapp, Susan Friedman, Colgate-Palmolive |
| 11:00 | *Approaches to Develop USP Quality Monographs for Over-the-Counter Drug Products,* Richard B. Nguyen, United States Pharmacopeia |
| 11:20 | *USP Addresses Safety Concerns Associated with Acetaminophen Formulations*, Clydewyn M. Anthony, Richard B. Nguyen, United States Pharmacopeia |

## MONDAY AFTERNOON, NOVEMBER 14

| **EAS Award for Outstanding Achievements in Nuclear Magnetic Resonance**<br>**Honoring Gary Martin, Merck**<br>***Sponsored by Bruker BioSpin and New Era Enterprises***<br>**Chair: R. Thomas Williamson, Merck** | |
|---|---|
| 2:00 | *NMR of Small Molecules in Anisotropic Media*, Roberto Gil, Carnegie Mellon University |
| 2:30 | *Low-Field NMR and CRAFT - The Perfect Marriage*, Dave Russell, Genentech, Krish Krishnamurthy, Chempacker |
| 3:00 | Break |
| 3:20 | *NMR and Configuration*, R. Thomas Williamson, Merck |
| 3:50 | Presentation of the EAS Award for Outstanding Achievements in Nuclear Magnetic Resonance |
| 3:55 | *The Evolution of NMR Capabilities across the Breadth of a Career: From 1-D Proton to 13C-15N Correlation at Natural Abundance*, Gary Martin, Merck |

| **New York Section of the Society for Applied Spectroscopy Gold Medal Award**<br>**Honoring James G. Fujimoto, Massachusetts Institute of Technology**<br>**Session Chair: Deborah A. Peru, Colgate-Palmolive Co.** | |
|---|---|
| 2:00 | *Biomedical Applications of Optical Coherence Tomography,* James G. Fujimoto, Massachusetts Institute of Technology |
| 2:30 | *Fundamental Underlying Light Propagation for Optical Imaging in Model and Tissue Scattering Media*, Robert Alfano, The City College of New York |
| 3:00 | Break |
| 3:20 | *Intra-Operative OCT Imaging and Sensing Devices for Clinical Translation*, Yu Chen, University of Maryland |
| 3:50 | *Noninvasive Optical Imaging and Stimulation of Drosophila Heart Function*, Chao Zhou, Lehigh University |

| **Leading a Diverse Organization**<br>**Chair: Dennis Swijter, ALMA** | |
|---|---|
| 2:00 | *Inter- and Intra-Cultural Competence Skills for Managing a Majority-Minority Laboratory*, Ephraim M. Govere, Pennsylvania State University |
| 2:30 | *Planning for the Future: Succession Planning and Knowledge Transfer*, Scott Hanton, Intertek |
| 3:00 | Break |
| 3:20 | *Leading a Safer and Healthier Diverse Organization*, Jim A. Kauffmann, Rajeev Santhappa, Laboratory Safety Institute |
| 3:50 | *Communicating Across Cultures*, Patreese Ingram, Pennsylvania State University |

| **What's in an NIR Instrument**<br>**Chair: Franklin E. Barton II, LLS Instruments** | |
|---|---|
| 2:00 | *What the Instrument Sees*, Franklin E. Barton II, LLS Instruments |
| 2:30 | *How the Parts Influence the Results*, James A. de Haseth, Franklin E. Barton II, LLS Instruments |
| 3:00 | Break |
| 3:20 | *Detectors Old and New*, Ellen Miseo, Hamamatsu Corp. |
| 3:50 | *Reference Materials are a Must*, Susan L. Bragg, Art Springsteen, Avian Technology |

| **Overcome the Challenges in Parental Drug Development and Analysis**<br>**Chair: Xujin Lu, Novartis** | |
|---|---|
| 2:00 | *Meeting the Changing Expectations for Container Closure Integrity Testing of Parenterals on Stability*, Steven E. Kloher, Casey Tyrrel-Pawlowic, Chris Knutsen, Nikunj Vasoya, Antonio Fernandez, Bristol-Myers Squibb |
| 2:30 | *Analytical Method Development for Long-Acting Parenteral (LAP) Suspensions*, Donna Carroll, William Forrest, Claudia Neri, Kevin G. Reuter, Merck |
| 3:00 | Break |
| 3:20 | *TBA* |
| 3:50 | *Use of Electrochemical Methods in the Assay of Critical Components in an Oxygen Sensitive Drug Product*, Charles C. Van Kirk, Lantheus Medical Imaging |

| **Forensic Microscopy X "What is it? Who does it?"**<br>**Chair: Thomas Kubic, John Jay College** | |
|---|---|
| 9:00 | *Things You Don't "SEE" Everyday: Unique Trace Evidence*, Richard Brown, MVA Scientific Consultants |
| 9:30 | *Trace Evidence Applications of Cold-Cathode Cathodoluminence Microspectrophotometry*, Jo Ann Buscaglia, Sarah A. Brokus, Danielle K. Silletti, Dyanne E. Carpenter, Dale K. Purcell, Federal Bureau of Investigation Laboratory, Christopher S. Palenik, Microtrace, Graham F. Peaslee, Hope College |
| 10:00 | Break |
| 10:20 | *Rapid Shear of Garment Fibers - An Indication of a Ballistic Event,* Peter Diaczuk, D&H Criminalistics Agency |
| 10:50 | *The Evolution of Forensic House Hold Dust Analysis during the Last Hundred Years*, Nicholas Petraco, Nicholas D. K. Petraco, John Jay College of Criminal Justice, Erin K. Hanson, Jack Ballantyne, University of Central Florida, Mary Eng, New York City Police Department |

| **Recent Advances in Chromatography, *sponsored by the Chromatography Forum of the Delaware Valley***<br>**Chair: William Barber** | |
|---|---|
| 2:00 | *Synthesis and Applications of pH Reversible Ion-Exchange Materials*, Chris Pohl, Thermo Fisher Scientific |
| 2:30 | *Recent Advances in Suppressed Ion Chromatography with Carbonate Eluents*, Kannan Srinivasan, Brittany Omphroy, Mrinal Sengupta, Thermo Fisher Scientific |
| 3:00 | Break |
| 3:20 | *Solving Problems in the Pharmaceutical Industry with Chromatography*, Sut Ahuja, Ahuja Consulting |
| 3:50 | *Sharing a Passion for Analytical Chemistry with Sandy*, Janusz Pawlsizyn, University of Waterloo |

| **Bioanalytical & Protein Considerations**<br>**Chair: Sophia Xu, Bristol-Myers Squibb** | |
|---|---|
| 2:00 | *Method to Improve the Recovery of pH Labile Anti-Drug Antibodies during Acid Dissociation and Extraction for Immunogenicity Testing*, Weifeng Xu, Bristol-Myers Squibb |
| 2:20 | *Mass Spectrometry-Based Proteomics of Oxidative Stress: Identification of 4-hydroxy-2-nonenal (HNE) Adducts of Amino Acids Using Lysozyme and Bovine Serum Albumin as Model Proteins,* Costel C. Darie, Roshanak Aslebagh, Clarkson University, Bruce A. Pfeffer, Steven J. Fliesler, SUNY Buffalo |
| 2:40 | *An Immuno-Analytical Diagnostic Instrument for the Determination of a Panel of Biomarkers in Biosamples*, Norberto A. Guzman, Princeton Biochemicals |
| 3:00 | Break |
| 3:20 | *Reduction of Anthelmintic Drug (Methyl [1]carbamate- albendazole) on Electrodes Electrode Surfaces and Analysis of Chromatographic Reduction Products*, Amos M. Mugweru, Zahilis Mazzochette, Geoffrey Kamau, Rowan University |
| 3:40 | *The Optimization of Protein Buffers*, Shawn A. Clark, Jeff A. Signor, Delta Tm Technologies |
| 4:00 | *Nod2 Directly Binds Muramyl Dipeptide Through Its Leucine Rich Repeat Domains*, Mackenzie L. Lauro, Brian Bahnson, Catherine L. Grimes, University of Delaware |
| 4:20 | *Building a Protein Biomarker Signature for Early Detection of Breast Cancer Using Discovery Proteomics,* Roshanak Aslebagh, Costel C. Darie, Clarkson University, Kathleen F. Arcaro, University of Massachusetts Amherst |

| **CoSMoS Method Development Olympics Competition**<br>**Chair: Karen Alsante and Bill Farrell, Pfizer** | |
|---|---|
| 2:00 | Finalist A |
| 2:30 | Finalist B |
| 3:00 | Break |
| 3:20 | Finalist C |
| 3:50 | Conclusion and Voting. Award Presentation will be held Tuesday afternoon |

| **Innovations in Pharmaceutical Analysis**<br>**Chair: Ani Sarkahian, Widener University** | |
|---|---|
| 2:00 | *Fundamental Investigations into the Retention and Selectivity Observed on Biphenyl Stationary Phases for Reversed-Phase HPLC*, Daniel Shollenberger, Dave Bell, Stacy Shollenberger, Gary Oden, Hugh Cramer, MilliporeSigma |
| 2:20 | *New Method to Automate Shake Flask Determination of LogD with Biphasic Partitioning in an HPLC Vial*, Mark Mitchell, Reaction Analytics |
| 2:40 | *Multiple Injection Techniques in Pharmaceutical Analysis and in Support of High-Throughput Experimentation*, Kerstin Zawatzky, Christopher J. Welch, Merck |
| 3:00 | Break |
| 3:20 | *Molecular Isotopic Engineering (MIE): Industrial Manufacture of Small Molecules and Biologics of Predetermined Stable-Isotopic Compositions for Novel Intellectual Property Coverage as Well as for Authenticity and Security Protection,* John P. Jasper, Peter S. Mezes, Natures Fingerprint / MIT, Peter Farina, Canaan Partners, Ann Pearson, Harvard University, Anthony Sabatelli, Dilworth IP Law |
| 3:40 | *An Inexpensive System High-Performance Programmable Measurement and Control System,* Scot D. Abbott, Ryan I. Taylor, Phoenix First Response |
| 4:00 | *Extremely High-Throughput Headspace and Gas Analysis by Integrating Autosamplers with SIFT-MS* Barry J. Prince, Daniel B. Milligan, Vaughan S. Langford, Syft Technologies, Murray J. McEwan, University of Canterbury, Chuck Renner, Quantum Analytics |

## TUESDAY MORNING, NOVEMBER 15

| **EAS Award for Outstanding Achievements in Separation Sciences**<br>**Honoring Luis A. Colón, State University of New York-Buffalo**<br>***Sponsored by Agilent Technologies***<br>**Chair: Abdul Malik, University of South Florida** | |
|---|---|
| 9:00 | *Active Temperature Control in Capillary Liquid Chromatography,* Stephen Weber, Stephen R. Groskreutz, Rachael Wilson, Khang Ngo, Michael Rerick, University of Pittsburgh |
| 9:30 | *Capillary-Channeled Polymer Phases for Very High-Throughput Protein Analytics and Downstream Processing*, R. Kenneth Marcus, Liuwei Jiang, Hung K. Trang, Lei Wang Clemson University |
| 10:00 | Break |
| 10:20 | *Sol-Gel Organic-Inorganic Hybrid Materials in Separation Science*, Abdul Malik, Abdullah Alhendal, Emre Seyyal, Sheshanka Kesani, MinhPhuong Tran, Le Meng, University of South Florida |
| 10:50 | Presentation of the EAS Award for Outstanding Achievements in Separation Sciences |
| 10:55 | *Incursions into Material Chemistry for Chromatography,* Luis A. Colón, Karina M. Tirado-González, Zuqin Xue, Amaris C. Borges-Muñoz, Joseph R. Ezzo, Josmely Vélez-González, State University of New York-Buffalo |

| **Analytical Methods for 21st Century Cleaning Validation**<br>**Chair: Andrew Walsh, Center for Pharmaceutical Cleaning Innovation** | |
|---|---|
| 9:00 | *Development and Validation of a Cleanability Test Device*, Andrew Walsh, Center for Pharmaceutical Cleaning Innovation |
| 9:30 | *Modified SDS-PAGE for Protein Degradation Studies*, Dylan Wang, Dartmouth College |
| 10:00 | Break |
| 10:20 | *Application of At-Line TOC - Case Study*, Andrew Walsh, Center for Pharmaceutical Cleaning Innovation |
| 10:50 | *Cleaning Limits and Visual Inspection from an Analytical Perspectives*, Mariann Neverovitch, Antonio Fernandez, Elizabeth Moroney, Bristol-Myers Squibb |

| **Forensic Laboratory Research from our Emerging Forensic Scientists**<br>**Chair: Thomas Brettell, Cedar Crest College** | |
|---|---|
| 9:00 | *An Assessment of the Model Used to Estimate the Origin of Radial Spatter Patterns*, Yu Chen Lim, Pennsylvania State University |
| 9:30 | *Using APCI-MS-MS and Flow Injection for the Screening of Ignitable Liquids*, Clare Fried, Cedar Crest College |
| 10:00 | Break |
| 10:20 | *A Three-Year Study of Synthetic Cannabinoid Formulations in Pennsylvania*, Kacee Rizzo, Monica Joshi, West Chester University of PA, David Scott VanGorder, PA Department of Corrections |
| 10:50 | *Stability of Synthetic Cathinones in Biological and Non-Biological Matrices*, Heather L. Ciallella, Arcadia University, Lorna A. Nisbet, Anglia Ruskin University |
| 11:20 | *Shooting Distance Estimation Using Gunshot Residue on Mammalian Pelts*, Cory A. Weiss, Ralph R. Ristenbatt, Jason W. Brooks, Pennsylvania State University |

| **PAT in Pharmaceutical Manufacturing, *organized by The Coblentz Society***<br>**Chair: Brandye Smith-Goettler, Merck** | |
|---|---|
| 9:00 | *Application of PAT on a Pharmaceutical Coating Process: Prediction of Coating Thickness Using In-Line Spectroscopic Techniques*, James K. Drennen III, Hanzhou Feng, Yuxiang Zhao, Carl A. Anderson, Duquesne University |
| 9:30 | *Process Analytical Technology Methods as Part of a Comprehensive Control Strategy for Pharmaceutical Manufacturing,* Kirby Amponsah-Manager, GlaxoSmithKline |
| 10:00 | Break |
| 10:20 | *Fit-for-Purpose Methods to Support Drug Product Design*, Gary McGeorge, Boyong Wan, Dongsheng Bu, Bristol-Myers Squibb |
| 10:50 | *Application of PAT to the Preparation of Spray-Dried Intermediates of Drug Products*, George Zhou, Craig Ikeda, Yung-Chi Lee, Georgia Chouzouri, Busolo Wabuyele, Cindy Starbuck, Merck |

| **Coatings Research in Cultural Heritage, *organized by the New York Conservation Foundation***<br>**Chair: John Scott, New York Conservation Foundation** | |
|---|---|
| 9:00 | *A Review of the Testing and Development of Incralac Lacquer,* Rosie A. Grayburn, The Getty Conservation Institute, Julie Wolfe, J. Paul Getty Museum |
| 9:20 | *Reversible Aqueous Coatings for Outdoor Painted Surfaces*, Anthony F. Lagalante, Villanova University, Richard C. Wolbers, University of Delaware |
| 9:50 | Break |
| 10:10 | *Coatings, Art and Science: The Formulation of Low Solar Absorbing Polyurethane Coatings for Outdoor Sculptures*, John Escarsega, United States Army Research Laboratory Material Division |
| 10:40 | *Art and Industry-Connecting the Experts*, Melinda H. Keefe, Dow Chemical Company, Bronwyn Ormsby, Tate, Tom Learner, Alan Phenix, Getty Conservation Institute |

| **LC Method Development Using New Column Technologies & Modeling Approaches**<br>**Chair: Oscar Liu, Insys Therapeutics** | |
|---|---|
| 9:00 | *Effect of Flow Rate on Column Re-Equilibration after Gradient Elution for One- and Two-Dimensional Liquid Chromatography,* Joe P. Foley, Michael R. Fletcher, Drexel University |
| 9:20 | *Understanding the Impact of Pore Exclusion on Reversed-Phase HPLC Column Performance*, Richard A. Henry, Consultant |
| 9:40 | *Factors Affecting Selectivity of Solid-Core Particles,* Lavelay O. Kizekai, Bonnie Alden, Cheryl Boissel, Babajide Okandeji, Jacob Fairchild, Waters |
| 10:00 | Break |
| 10:20 | *Implementation of Modelling Tools for Multi-Factor Optimization in Chromatographic Method Development*, Pankaj Aggarwal, David T. Fortin, James E. Morgado, Kimber L. Barnett, Pfizer |
| 10:40 | *Hydrophilic Interaction Liquid Chromatography: Comparison of Selectivity Differences Observed on Polar Silica and Zwitterionic Stationary Phases*, Daniel Shollenberger, Dave Bell, Patrik Appelblad, Craig Aurand, MilliporeSigma |
| 11:00 | *Wide Pore Monolithic Silica of Various Functionalization: Protein A, C18, C8 and CN, in High-Performance Liquid Chromatography for Large Molecule Separations,* Egidijus Machtejevas, Benjamin Peters, Tom Kupfer, Merck KGaA |

| **Innovative Practical Applications of Atomic Spectroscopy**<br>**Chair: Lydia Breckenridge, Bristol-Myers Squibb** | |
|---|---|
| 9:00 | *Pharmaceutical Atomic Spectroscopy: Not Just the Metals Lab*, Lydia Breckenridge, Bristol-Myers Squibb |
| 9:30 | *Leveraging XRF to Simplify Metals Analysis*, Sharla Wood, Bristol-Myers Squibb |
| 10:00 | Break |
| 10:20 | *Expanding Laser Ablation ICP-MS Capabilities with Simultaneous LIBS and LAMIS*, Rick Russo, Lawrence Berkeley National Laboratory |
| 10:50 | *Measurement of Nanoparticle Size and Number Concentration using Single Particle ICP-MS and Capillary Electrophoresis-ICP-MS*, John W. Olesik, Austin T. Wilson, Madeleine C. Lomax-Vogt, Shi Jiao Ohio State University |

| **Food Analysis**<br>**Chair: Christina Robb, Connecticut Agricultural Experiment Station** | |
|---|---|
| 9:00 | *Potential Applicability of FPA-FTIR Spectroscopy for Rapid Identification of Foodborne Pathogens*, Ashraf Ismail, McGill University |
| 9:30 | *Single- and Multi-Laboratory Evaluations of Mycotoxin Analysis in Foods by Liquid Chromatography-Mass Spectrometry*, Kai Zhang, United States Food and Drug Administration |
| 10:00 | Break |
| 10:20 | *A GMO Testing Primer- Introduction to GMO Testing*, W. Jeffrey Hurst |
| 10:50 | *Gluten Testing: Variables and Standardization*, Q. Julia Zhao, Bowen Bioscience |

| **Microscopy, Microchips and Mass Spectrometry: Imaging, Detecting and Identifying Through High Resolution Approaches**<br>**Chair: Mary Lynn Grayeski, Marywood University** | |
|---|---|
| 9:00 | *Stable Isotope Ratio Mass Spectrometry: An Old Technology gets a 21st Century Upgrade,* Arthur Kasson, Elementar Americas |
| 9:20 | *Mass Spectrometry-Based Protein Biomarker Discovery in Autism Spectrum Disorder (ASD),* Kelly L. Wormwood, Laci Charette, Jeanne P. Ryan, Alisa G. Woods, Costel C. Darie, Clarkson University |
| 9:40 | *Analytical Challenges in the Detection and Quantitation of Asbestos in Non-Building Materials from an International Perspective: A Case Study,* Shane G. Cone, Thomas Barkley, International Asbestos Testing Laboratory |
| 10:00 | Break |
| 10:20 | *Peak Capacity and the Probability of Success in Capillary and Microchip Electrophoresis,* Joe P. Foley, Erin J. Ennis, Drexel University |
| 10:40 | *Mid-Infrared Quantum Cascade Optical Coherence Tomography (MIR-OCT) System for Spectroscopy and Imaging,* Deborah Varnell, Mei Chai Zheng, Claire Gmachl, Princeton University |
| 11:00 | *Laser Ablation Direct Analysis in Real-Time Mass Spectrometry - A New Approach to Imaging the Spatial Distributions of Small-Molecules in Complex Matrices,* Rabi A. Musah, Kristen L. Fowble, State University of New York-Albany |

| **Mass Spectrometry – Current Topics, *organized by the North Jersey Mass Spectrometry Discussion Group***<br>**Chair: Allen Jones, Liquid Light** | |
|---|---|
| 9:00 | *Sensitive and Specific Quantification of a Total Protein Biomarkerin Monkey Serum Using Immunocapture LC-MS-MS,* Long Yuan, Bristol-Myers Squibb |
| 9:30 | *Simultaneous Quantitative Analysis of Prescription Opioids and Cannabis in Wastewater Samples*, Alethea Jacox, CUNY John Jay College of Criminal Justice |
| 10:00 | Break |
| 10:20 | *Where is the Charge Located in Multifunctional Gaseous Ions?*, Athula B. Attygalle, Stevens Institute of Technology |
| 10:50 | *TBA*, Dil Ramanathan, Kean University |

## TUESDAY AFTERNOON, NOVEMBER 15

| **EAS Young Investigator Award**<br>**Honoring Lili He, University of Massachusetts**<br>**Chair: Christina Robb, CT Agricultural Experiment Station** | |
|---|---|
| 2:00 | Presentation of the EAS Young Investigator Award |
| 2:05 | *Surface Enhanced Raman Spectroscopy for Rapid Detection of Engineered Nanomaterials*, Lili He, University of Massachusetts |
| 2:30 | *Whole Organism Metrology in Support of Nanotoxicology Studies*, Bryant C. Nelson, National Institute of Standards and Technology, Monique E. Johnson, Christopher M. Sims |
| 3:00 | Break |
| 3:20 | *Bioavailability and Toxicity of Nanomaterials in Biosolids*, Jason Unrine, Chun Chen, David McNear, Olga Tsyusko, Jieran Li, University of Kentucky, Jon Judy, Commonwealth Scientific and Industrial Research Organization, Elma Lahive, Claus Svendsen, Steve Lofts, Centre for Ecology & Hydrology, Rui Ma, Greg Lowry, Carnegie Mellon |
| 3:50 | *Applications of Synchrotron X-Ray Methods for Determining the Environmental Fate of Nanomaterials,* Gregory V. Lowry, Carnegie Mellon University |

| **Vibrational Spectroscopy in Defense and Security, *organized by The Coblentz Society***<br>**Chair: David W. Schiering, Czitek** | |
|---|---|
| 2:00 | *Smart Chemical Imaging Sensors: Current and Emerging Strategies for Automated Detection of Hazardous Materials*, Matthew P. Nelson, Nathaniel R. Gomer, Charles W. Gardner, Patrick J. Treado ChemImage Corporation |
| 2:30 | *The Use of Spatially-Offset Raman Spectroscopy (SORS) to Identify Unknown Threats Through Opaque Containers*, Eric G. Roy, Cobalt Light Systems |
| 3:00 | Break |
| 3:20 | *Advancements in Chemical Biological and Explosive Detection at the United States Army Edgewood Chemical Biological Center,* Jason Guicheteau, Augustus W. Fountain III, Steven Christesen, Ashish Tripathi, Erik Emmon, United States Army Research, Development and Engineering Command Edgewood Chemical Biological Center |
| 3:50 | *How Security Threats Have Pushed FTIR Technology Development*, David W. Schiering, Czitek |

| **American Microchemical Society Benedetti-Pichler Award<br>Honoring Merlin Bruening, University of Notre Dame<br>Session Chair: Robert Vetrecin** | |
|---|---|
| 2:00 | *3D-Printed Devices with Integrated Membranes: Enabling New Tools for Drug Discovery,* Dana Spence, Michigan State University |
| 2:30 | *Single Molecule Redox Cycling in Recessed Dual Ring Electrode Zero-Mode Waveguide Structures*, Kaiyu Fu, Donghoon Han, Chaoxiong Ma, Paul W. Bohn, University of Notre Dame |
| 3:00 | Break |
| 3:20 | *Microporous Membranes for Protein Isolation and Digestion*, Merlin Bruening, University of Notre Dame |
| 3:50 | *Quantitative Electrochemical Detection of Analytes at Sub-Picomolar Levels Using A Simple Paper Sensor*, Richard Crooks, Josephine C. Cunningham, Paul DeGregory, University of Texas-Austin |

| **Two-Dimensional HPLC Applications, *organized by the North Jersey Chromatography Group*<br>Chair: Landon Greene, Bristol-Myers Squibb** | |
|---|---|
| 2:00 | *Characterization of Active Matrix Modulation – A New Approach to Improve Detection Sensitivity in Two-Dimensional Liquid Chromatography*, Dwight Stoll, Ray Sajulga, Tyler Brau, Eli Larson, Gustavus University, Sarah Rutan, Virginia Commonwealth University, Peter Carr, University of Minnesota, Konstantin Shoykhet, Stephan Buckenmaier, Agilent Technologies |
| 2:30 | *2D-LC as an On-Line Desalting Tool Allowing Peptide Identification Directly from MS Unfriendly HPLC Methods,* Hao Luo, Wendy Zhong, Jiong Yang, Ping Zhuang, Fanyu Meng, Bing Mao, Christopher Welch, Merck |
| 3:00 | Break |
| 3:20 | *Ultimate Limits of Peak Capacity in Gradient Elution Liquid Chromatography*, Peter W. Carr, University of Minnesota |
| 3:50 | *Development of an Ultra-High Performance – Two-Dimensional –Liquid Chromatography (UHP-2D-LC) Method for Synthetic Polymers*, Lu Bai, Dow Chemical Company |

| **Microfadometry in Cultural Heritage I *organized by the New York Conservation Foundation*<br>Chair: Tomasz Lojewski, AGH University of Science and Technology** | |
|---|---|
| 2:00 | *Microfading and Other Tools for Tailoring Preservation of Individual Objects*, Paul M. Whitmore, Yale University |
| 2:30 | *Integrating Microfade-Testing with Non-Invasive Change Detection Technologies*, Fenella G. France, Library of Congress |
| 3:00 | Break |
| 3:20 | *Microfade Testing in Canadian Institutions: An Effective Tool for Risk Assessment, Documentation, Education and Research*, Season Tse, Canadian Conservation Institute |
| 3:50 | *Implementing Lighting Policy for Vulnerable Collection Items by Using a Microfader*, Christel Pesme, MF Testing Provider |

| **Current Topics in the Forensic Investigation of Explosives<br>Chair: Vincent J. Desiderio, US Postal Inspection Service** | |
|---|---|
| 2:00 | *Forensic Aspects of Homemade Explosives Part I: Scene Considerations*, Michelle Evans, Bureau of Alcohol, Tobacco, Firearms, and Explosives |
| 2:30 | *Forensic Aspects of Homemade Explosives Part II: Laboratory Analysis*, Robert F. Mothershead II, Federal Bureau of Investigation Laboratory |
| 3:00 | Break |
| 3:20 | *Polarized Light Microscopy, Raman and FTIR Micro-Spectroscopy Analysis of Explosives*, Andrew Bowen, United States Postal Inspection Service |
| 3:50 | *Improvised Explosive Devices from the Postal Perspective*, Vincent J. Desiderio, United States Postal Inspection Service |

| **Sample Preparation: The First Step in any Great Analytical Method, *sponsored by the Chromatography Forum of the Delaware Valley*<br>Chair: Mary Ellen McNally, DuPont Crop Protection** | |
|---|---|
| 2:00 | *Properties of Deep-Eutectic Solvents and Their Use in Chemical Extractions*, Douglas E. Raynie, Ganesh Degam, Sampson Asare, South Dakota State University, Paige Reigsecker, Wayne State College |
| 2:30 | *Innovative Sample Preparation Technology for Improved Analytical Performance in Multi-Residue Analyses*, Bruce Richter, Derick Lucas, David Long, Limian Zhao, Agilent Technologies |
| 3:00 | Break |
| 3:20 | *Direct Coupling of Sample Prep to MS*, Janusz Pawlsizyn, University of Waterloo |
| 3:50 | *Recent Advances in Biocompatible Solid Phase Microextraction (BioSPME)*, Sara Smith, Emily Barrey, Craig Aurand, Candace Price, Sigma Aldrich |

| **Opening Doors Between Industry and Academia**<br>**Chair: Shirley Fischer-Drowos, Widener University** | |
|---|---|
| 2:00 | *Networking Tips to Enhance Your Career Search*, Bill Suits, American Chemical Society Career Consultant |
| 2:30 | *Academics to Industry or There and Back Again*, Thomas Twardowski, Integra LifeSciences |
| 3:00 | Break |
| 3:20 | *Industry to Academia - A Quantum Leap or One Small Step*, Shirley Fischer-Drowos, Widener University |
| 3:50 | *Two Body Problems and Job Transitions*, Amber Charlebois, SUNY-Geneseo |

| **New Analytical Approaches in Support of High-Throughput Screening**<br>**Chair: Wilson Shou, Bristol-Myers Squibb** | |
|---|---|
| 2:00 | *Comparison of Two Multiplexed LC-MS-MS Platforms for High-Throughput Bioanalytical Support of ADME Assays*, Jun Zhang, Bristol-Myers Squibb |
| 2:30 | *High-Throughput Clinical Mass Spectrometry: An Analytical Approach to Tackle the Breadth of Biology*, Matthew Crawford, Chris Shuford, Russell Grant, LabCorp |
| 3:00 | Break |
| 3:20 | *Identification of TarA Fragment Inhibitors by High Concentration Mass Spectrometry Screening Coupled with an EPIC-Based Aggregation Assay*, Juncai Meng, Merck |
| 3:50 | *The Quest for a Mass Spectrometry-Based Plate Reader: Evaluating Laser Diode Thermal Desorption (LDTD) Coupled with Nanoliter Dispensing for HT-ADME and Other HTS Applications*, Andrew Wagner, Bristol-Myers Squibb |

| **NMR in the Real World: Applications to Solutions and Solids by Modern Techniques**<br>**Chair: Cecil Dybowski, University of Delaware** | |
|---|---|
| 2:00 | *Improving the Sensitivity of the 19F-13C HSQC Experiment by Use of BURBOP and BIP Pulses in 19F*, Alexander A Marchione, Breanna Conklin, Chemours Experimental Station |
| 2:20 | *PEA-15 Phosphorylation at the C-Terminal Tail Modulates Conformation and Binding Specificity at the Death Effector Domain,* Yufeng Wei, Victor Leon, Chanel Wright, New Jersey City University |
| 2:40 | *Atropisomerization of 8-Membered Dibenzolactam: Experimental NMR and Theoretical DFT Study*, Alexei V. Buevich, Merck |
| 3:00 | Break |
| 3:20 | *Dynamic Nuclear Polarization $^{35}$Cl Solid-State NMR for the Analysis of Active Pharmaceutical Ingredients,* Robert W. Schurko, David A. Hirsh, University of Windsor, Aaron J. Rossini, Iowa State University, Lyndon Emsley, Ecole Polytechnique Fédérale de Lausanne |
| 3:40 | *Quantitative Component Analysis of Solid Mixtures by Analyzing Time-Domain 1H and 19F T1 Saturation Recovery Curves,* Dirk Stueber, Stefan Jehle, Bruker Biospin, Merck |
| 4:00 | *Benchtop NMR Pot Luck: A Case Study Analysis of Practical Applications*, Marcel Lachenmann, Oxford Instruments |
| 4:20 | *Analysis of Thermally Activated, Dry and Hydrated Ghanaian Clay Mixed with Bio-Degradable Substances as a Supplementary Cementitious Material in Portland Cement Using Solid-State NMR Spectroscopy*, Sudhaunshu S. Purohit, John Kevern, Nathan A. Oyler, University of Missouri-Kansas City, Mark Bediako, CSIR-Building and Road Research Institute |

## WEDNESDAY MORNING, NOVEMBER 16

| **EAS Award for Outstanding Achievements in Mass Spectrometry**<br>**Honoring Richard D. Smith, Pacific Northwest National Laboratory**<br>***Sponsored by Thermo Fisher Scientific***<br>**Chair: Erin Baker, Pacific Northwest National Laboratory** | |
|---|---|
| 9:00 | Presentation of the EAS Award for Outstanding Achievements in Mass Spectrometry |
| 9:05 | *Ultra-High Resolution Ion Mobility Separations based upon Long Path Length Structures for Lossless Ion Manipulations (SLIM),* Richard D. Smith, Pacific Northwest National Laboratory |
| 9:30 | *Molecular Phenomics in Systems, Synthetic, and Chemical Biology*, John A. McLean, Vanderbilt University |
| 10:00 | Break |
| 10:20 | *Pathways and Thermodynamics of Polyproline Helix Formation in Solution from Measurements of Ions in the Gas Phase*, David E. Clemmer, Indiana University |
| 10:50 | *Increasing Molecular Coverage in Complex Biological and Environmental Samples Using IMS-MS,* Erin Baker, Xueyun Zheng, Kristin Burnum-Johnson, Daniel Orton, Jennifer Kyle, Young-Mo Kim, Yehia Ibrahim, Matthew Monroe, Ryan Renslo, Dennis Thomas, Thomas Metz, Justin Teeguarden, Richard Smith Pacific Northwest National Laboratory |

| **Medicinal Cannabis: Perspectives on Analysis and Regulatory Requirements**<br>**Chair: Jason Shen, Celegene** | |
|---|---|
| 9:00 | *Cannabis Use in Adolescents: Potential Adverse Effects*, Donald Greydanus, Western Michigan University Homer Stryker MD School of Medicine |
| 9:30 | *Analytical Prospects and Challenges to Detection of the Medicinal Use of Cannabis*, Dayong Lee, Houston Forensic Science Center |
| 10:00 | Break |
| 10:20 | *Phytofacts: A Novel Approach to Characterizing Cannabis Medicines*, Mark Lewis, NaPro Research |
| 10:50 | *Analytical Testing for the Cannabis Industry: Consumer Safety vs. Regulatory Requirements*, Christopher Hudalla, ProVerde Laboratories |

| **Dynamic Nuclear Polarization: For Enhancing Signals in Solid-State NMR, *sponsored by DE Valley SAS***<br>**Chair: Dewey Barich, GlaxoSmithKline** | |
|---|---|
| 9:00 | *Applications of DNP MAS NMR in Structural Biology and Pharmaceutical Formulations*, QingZhe Ni, Thach Can, Sudheer Jawla, Robert Griffin, Massachusetts Institute of Technology, Fengyuan Yang, Maya Lipert, Yongjun Li, Wei Xu, Anthony Leone, Yongchao Su, Merck, Ivan Sergeyev, Bruker |
| 9:30 | *Characterization of Pure and Formulated Active Pharmaceutical Ingredients by DNP Enhanced Solid-State NMR*, Aaron J. Rossini, Iowa State University, Lyndon Emsley, Ecole Polytechnique Fédérale de Lausanne |
| 10:00 | Break |
| 10:20 | *Experimental Insights into Dynamic Nuclear Polarization and its Application in Biological Contexts*, Joanna R. Long, Bimala Lama, Adam N. Smith, James HP. Collins, Daniel P. Downes, Wenxing Tang, University of Florida, Johannes Mckay, Stephen Hill, Thierry Dubroca, Florida State University |
| 10:50 | *High-Throughput Structure Determination of Supramolecular Assemblies by Dynamic Nuclear Polarization Enhanced NMR*, Frédéric Blanc, University of Liverpool |

| **Raman Spectroscopy in Life Sciences**<br>**Chair: Jim Rydzak** | |
|---|---|
| 9:00 | *Getting the Spectroscopist out of Raman Spectroscopy: Challenges and Opportunities in Life Science, Biomedical and Process Raman Spectroscopy,* Karen Esmonde-White, Maryann Cuellar, Alexander Pitters, Sean Gilliam, Carsten Uerpmann, David Strachan, Bruno Lenain, Ian Lewis, Kaiser Optical Systems |
| 9:20 | *Raman Depth Profiles of Skin to Measure the Effectiveness of Topical Products Designed to Improve Hydration,* Fran Adar, Catalina David, Vincent Larat, HORIBA Scientific |
| 9:40 | *Real-Time and In-Situ Monitoring of Pesticide Penetration in Edible Leaves by SERS Mapping,* Tianxi Yang, Lili He, University of Massachusetts-Amherst |
| 10:00 | Break |
| 10:20 | *Study of Higher Order Structure of Stressed Monoclonal Antibody by Deep UV Resonance Raman Spectroscopy*, Sergey Arzhantsev, Chen Qiu, United States Food and Drug Administration |
| 10:40 | *Application of Raman and LIB Spectroscopy to Support Root Cause Investigation of Particulate Matter in Parenterals*, Olga Laskina, Oliver Valet, Markus Lankers, rap.ID Inc. |
| 11:00 | *Instrument Response Correction for Raman Spectral Library Searching*, Jun Zhao, Jack Zhou, B&W Tek |

| **Solving Analytical Challenges of Generic Pharmaceutical Products**<br>**Chairs: Kim Huynh-Ba, Pharmalytik and Karen Lucas, Janssen** | |
|---|---|
| 9:00 | *Analytical Challenges During Development of Biosimilars*, Nanda Subbarao, Biologics Consulting |
| 9:40 | *Analytical Challenges with Development of Generic Products*, Linda Ng, Fresenius-Kabi |
| 10:00 | Break |
| 10:20 | *Analytical Challenges Developing Stability Indicating Methods for Generic Combination Products,* Jennifer C. Lewis, FreeThink Technologies |
| 10:40 | *Developing Dissolution Methods for Generics*, Saji Thomas, Par Pharmaceuticals |

| **Microfadometry in Cultural Heritage II, *organized by the New York Conservation Foundation***<br>**Chair: Paul M. Whitmore, Yale University** | |
|---|---|
| 9:00 | *Microfading Testing: A Multifunctional Tool for Collection Care, Materials Research and Conservation Training*, Jacob Thomas, Gothenburg University |
| 9:30 | *Assessment of Microfadometry as a Tool for Accelerated Photodegradation of Polymer Based Rapid Prototyping Materials*, Carolien Coon, Matija Strlic, University College London, Institute for Sustainable Heritage, Jacob L. Thomas, Gothenburg University |
| 10:00 | Break |
| 10:20 | *The Interpretation of Microfading of Unvarnished Modern Paint and the Practical Issues Involved*, Joyce Townsend, Tate Britain Conservation Department |
| 10:50 | *A Discussion of some Uncertainties in Microfading*, Andrew Lerwill, College of the Bahamas, Christel Pesme, Vincent L. Beltran, Jim Druzik, Getty Conservation Institute |
| 11:20 | *Microfade as a Precision Lab Instrument vs. In-Situ Application,* Haida Liang, Nottingham Trent University |

| **Recent Advances in Environmental Analysis**<br>**Chair: Neil Jespersen, St. John's University** | |
|---|---|
| 9:00 | *Using SPME GC-ITMS to Evaluate Drinking Water Removal Efficacy for Unregulated Organic Contaminants*, Brian Buckley, Ill Yang Environmental and Occupational Health Sciences Institute, Lee Lippincott, New Jersey Department of Environmental Protection |
| 9:20 | *Consumer Products Analysis and the EPA's Exposure Forecasting (ExpoCast) Project,* Antony J. Williams, John Wambaugh, Katherine Phillips, Chris Grulke, Ann Richard, Paul Price, Kristin Isaacs, Russell Thomas, Kristin Favela, Derya Biryol, Alice Yau, Environmental Protection Agency |
| 9:40 | *Micro-Gas Chromatography Systems for Photochemical Assessment Monitoring Stations,* Douglas R. Adkins, Patrick R. Lewis, Defiant Technologies |
| 10:00 | Break |
| 10:20 | *Practical Guidance to Increase Productivity, Reproducibility, and Efficiency with Microwave Extraction for Environmental Labs*, Amit Joshi, Tim Michel, Milestone |
| 10:40 | *Surface-Enhanced Raman Scattering for Monitoring the Formation and Transport of Noble Metal Nanoparticles in Plant-Associated Systems,* Huiyuan Guo, Baoshan Xing, Stockbridge School of Agriculture, Lili He, University of Massachusetts Amherst |
| 11:00 | *Comprehensive Real-Time Environmental Air Analysis Using Dual-Polarity SIFT-MS*, Barry J. Prince, Daniel B. Milligan, Vaughan S. Langford, Syft Technologies, Murray J. McEwan, University of Canterbury, Chuck Renner, Quantum Analytics |

| **New Techniques to Discover Unwanted Food Ingredients**<br>**Chair: Kate Jackson, Colgate-Palmolive Company** | |
|---|---|
| 9:00 | *Advantages of Silica Hydride HPLC Stationary Phases for Food and Beverage Applications,* Joshua E. Young, MicroSolv Technology Corporation, Joseph J. Pesek, Maria T. Matyska, San Jose State University |
| 9:20 | *Method Development in the Use of Solid Phase Microextraction for the GC-MS Analysis of Pesticide Residues in Baby Food*, Katherine K. Stenerson, Robert Shirey, Leonard M. Sidisky, Craig Aurand, MilliporeSigma |
| 9:40 | *Interaction Between TiO2 Nanoparticles and Quercetin and its Impact on Uptake of TiO2 Nanoparticles by Intestinal Epithelial Cells,* Xiaoqiong Cao, Lili He, Hang Xiao, University of Massachusetts-Amherst |
| 10:00 | Break |
| 10:20 | *Analysis of Mycotoxins in Various Food Matrices via SFE-SFC-MS,* Todd M. Anderson, Kenichiro Tanaka, Tairo Ogura, Shimadzu Scientific |
| 10:40 | *Innovative SERS Sandwich Assay for Rapid, Sensitive, and Reliable Detection of Bacteria,* Brooke T. Pearson, University of Massachusetts-Amherst |
| 11:00 | *Rapid Quantitative NMR Analysis of Edible Oils to Combat Oil Adulteration,* Sue (Shuimei) Wang, Pei-Chin Chen, Industrial Technology Research Institute |

| **Pharmaceutical Formulation and Manufacturing Challenges**<br>**Chair: Mariann Neverovitch, Bristol-Myers Squibb** | |
|---|---|
| 9:00 | *Methods to Control Silicone-Induced Protein Agglomeration,* Olga Laskina, Oliver Valet, Markus Lankers, rap.ID Inc. |
| 9:20 | *Risk-Based Assessment to Determine Criticality of Reagents and Solvents and Extent of Analytical Methodology Validation,* Andrew S. Marriott, James Chadwick, Emma Quirk, Chris Wood, Bristol-Myers Squibb |
| 9:40 | *Analytical Investigation of an Unexpected Dehydration Behavior and its Impact on Material Properties,* Roxana Schlam, Matthew Haley, Bristol-Myers Squibb |
| 10:00 | Break |
| 10:20 | *Utilizing Predictive In-Vitro Methodologies to Guide Successful Development of Gastro-Retentive Drug Delivery Systems*, Sanjaykumar Patel, Pranav Gupta, Hong Xu, Gerard Bredael, Evan Friedman, Merck |
| 10:40 | *Analytical Challenges in Extractable Studies of IV Bags,* Dujuan Lu, Kenneth Wong, Jing Kong, Danny Hower, SGS, Kate Comstock, Ekong Bassey, Thermo Fisher Scientific |
| 11:00 | *Determining pH of Maximum Stability to Enable Development of Liquid Formulation*, Nicole Ferreira, Tiffany Jarrell, Alexander Chin, Lila Low-Beinart, Brian Regler, Alfred Rumondor, Chaitanya Wannere, Merck |

## WEDNESDAY AFTERNOON, NOVEMBER 18

| **Global and Targeted Analysis of Protein Using LC/MS**<br>**Chair: Jun Qu, SUNY-Buffalo** | |
|---|---|
| 2:00 | *Highly Sensitive Targeted Quantification of Low-Abundance Proteins, Isoforms, and Posttranslational Modifications*, Weijun Qian, Pacific Northwest National Laboratory |
| 2:30 | *Challenges and Assay Strategies for Bioanalytical Assessment of Antibody-Drug Conjugates*, Sukjoon J. Hyung, Neelima Koppada, Surinder Kaur, Ola M. Saad, Genentech |
| 3:00 | Break |
| 3:20 | *Label Free Proteomics for Biomarker Discovery*, Yu Tian, Abbvie |
| 3:50 | *Ionstar: A Promising Alternative to SWATH for Highly Accurate and Reproducible Proteomic Measurement*, Jun Qu, SUNY-Buffalo |

| **Spectroscopic Applications in the Field of Environmental Chemistry, *organized by The Coblentz Society***<br>**Chair: Brandye Smith-Goettler, Merck** | |
|---|---|
| 2:00 | *Spectroscopic Investigations of Microalgae Responding to Chemical Changes in an Ecosystem*, Frank Vogt, Zachary Ogburn, University of Tennessee |
| 2:30 | *Airborne Monitoring of Environmental Pollutants by Passive Infrared Spectrometry*, Gary W. Small, University of Iowa |
| 3:00 | Break |
| 3:20 | *Air Pollution and Climate: Spectroscopy in Atmospheric Chemistry*, Rainer M. Volkamer, University of Colorado-Boulder |
| 3:50 | *What can We Learn from Multi-Wavelength Measurements of Aerosol Optical Extinction?*, Dean B. Atkinson, Portland State University |

| **In-Process Control: From API to Drug Product**<br>**Chair: Laurent Lechman, Christopher Wood, Bristol-Myers Squibb** | |
|---|---|
| 2:00 | *Development and Scale-Up of Flow Processes Using Mechanistic Understanding through PAT Analysis*, Frederic Buono, Boehringer-Ingelheim |
| 2:30 | *Monitoring, Modelling, and Money: Enhancing the Efficiency of Pilot Plant Distillation Operations via On-Line Spectroscopy*, Robert Wethman, George Armenante, John Wasylyk, Ming Huang, Bristol-Myers Squibb |
| 3:00 | Break |
| 3:20 | *Use of PAT for In-Process Control: Enhance Robustness and Increase Productivity of Sitagliptin Manufacturing*, George Zhou, Merck |
| 3:50 | *Development and Implementation of Spectroscopy Methods for Quantitative and Qualitative Analysis of Pharmaceutical Reagents*, Bernard Agyei, Bristol-Myers Squibb |

| **Trace Analysis: Dust, Bugs & Drugs**<br>**Chair: Kimberly Gorel, New Jersey State Police Office of Forensic Sciences** | |
|---|---|
| 2:00 | *Application of Laser Induced Breakdown Spectroscopy to Forensic Science*, Lin Bui, Olga Laskina, Oliver Valet, Markus Lankers, rap.ID |
| 2:20 | *Green Subcritical Water Extraction of Medicinal Herbs*, Yu Yang, Ninad Doctor, Jenette Arreola, East Carolina University |
| 2:40 | *Methamphetamine, Amphetamine, and Norephedrine Levels in Dermestid Beetle Frass after Consumption of Dosed, Buried Rat Remains*, Meaghan P. Drumm, Kimberlee S. Moran, Karen S. Scott, Arcadia University, M.Lee Goff, University of Hawaii |
| 3:00 | Break |
| 3:20 | *The Separation of ∆8-THC, ∆9-THC, and their Enantiomers by UPC2 Using Trefoil Chiral Columns*, Jacquelyn Runco, Andrew Aubin, Waters |

| **Microfadometry in Cultural Heritage III, *organized by the New York Conservation Foundation***<br>**Chair: Andrew Lerwill, College of the Bahamas** | |
|---|---|
| 2:00 | *Microfading at the Getty Conservation Institute: From Scientist to Conservator*, Vincent L. Beltran, Jim Druzik, Getty Conservation Institute, Christel Pesme, Conservator, Andrew Lerwill, College of The Bahamas, Mark Benson, Getty Research Institute, Sarah Freeman, Jane Bassett, Nancy Turner, J. Paul Getty Museum |
| 2:30 | *Microfadometer Designed for Conservators - Presentation of a New Instrument,* Tomasz Lojewski, AGH University of Science and Technology |
| 3:00 | Break |
| 3:20 | *Beyond Lightfastness: Further Roles for Micro-Fade Testers,* Cindy Connelly Ryan, Library of Congress |
| 3:50 | *Paint Alteration as a Function of Pigment-Binder Interactions Studied by Spectroscopic Techniques*, Marcie B. Wiggins, Kristin deGhetaldi, Joshua Ottaway, Joseph P. Smith, Brian Baade, Thomas P. Beebe, Karl S. Booksh, University of Delaware |

| **Polymer and Biomolecule Analysis**<br>**Chair: Michael Hicks, Merck** | |
|---|---|
| 2:00 | *HPAE-PAD Applications for Biosimilar Development Processes: Monosaccharide and Sialic Acid Determinations,* Hua Yang, Thermo Fisher Scientific |
| 2:20 | *Gas Cluster Ion Sputtering: Topographic and Chemical Changes to Polymer Surfaces,* Christopher M. Goodwin, Zachary Voras, Thomas P. Beebe Jr., University of Delaware |
| 2:40 | *Separation of Cellulosic Polymers by Interaction Polymer Chromatography*, Guanglou Cheng, Teva Pharmaceuticals |
| 3:00 | Break |
| 3:20 | *Absolute Molecular Weight Analysis of Commercial Polymers by Relative SEC Using a Different Type of Polymer as Standard,* Yejia Li, Jim Cullen, Ashland |
| 3:40 | *Can Size Exclusion Chromatography of Biopolymers and Synthetic Polymers be Performed with Common Reversed-Phase and HILIC Columns, and Could this be a Good Idea?,* Joe P. Foley, Anna M. Caltabiano, Drexel University |
| 4:00 | *Assessing the Benefits of UHPLC for Reversed-Phase and Size Exclusion Separations of Biomolecules*, Stacy Shollenberger, Hillel Brandes, Cory Muraco, Dave Bell, MilliporeSigma |
| 4:20 | *Faster, Smaller, Deeper: Applications of UHPLC-SEC-MALS for Well-Characterized Biologics,* Michelle Chen, Sophia Kenrick, Jason Lin, Vivianna Day, Aryum Jeon, Wafa Hassouneh, Eric Seymour, Wyatt Technology |

| **Applications of Vibrational Spectroscopy**<br>**Chair: David Russell, The Chemours Company** | |
|---|---|
| 2:00 | *Noninvasive Glucose Sensing in Skin Based on Mid-Infrared Laser Spectroscopy*, Alexandra Werth, Anqi Dong, Yezhezi Zhang, Claire Gmachl, Princeton University, Sabbir Liakat, SRI International |
| 2:20 | *Near Infrared Spectrometry of Temperate Earth-sized Planets Orbiting a Nearby Ultracool Dwarf Star*, Robert A. Lodder, Anne Brooks, University of Kentucky |
| 2:40 | *Improved Performance Ingaas Linear Arrays and New 1.45 µm Cutoff Version for Handheld Raman Spectroscopy*, Douglas S. Malchow, UTC Aerospace Systems |
| 3:00 | Break |
| 3:20 | *Multivariate Exploratory Methods Applied to Raman Microspectroscopic Mapping of Titanium Dioxide Polymorphs,* Joseph P. Smith, Frank C. Smith, Billy P. Glass, Karl S. Booksh, University of Delaware |
| 3:40 | *Comparative Study of Crystallographic, Photophysical, TD-DFT Properties and Analytical Applications of Novel Ruthenium and Osmium Phenanthroline Complexes*, Mohit Patel, Susan A. Varnum, Temple University |
| 4:00 | *Real-Time Analysis of the Polymerization Kinetics of 1,4-Butanediol and 4,4´-Diphenylmethanediisocyanate by FTIR Spectroscopy with a Light-Fiber Coupled ATR Probe*, Heinz W. Siesler, Patrick Schuchardt, University of Duisburg-Essen |

## Poster Session Details will be available in October
## Call for Posters ends September 12th – don't delay; submit today
## www.EAS.org/asubmit