2013 Eastern Analytical Symposium & Exposition
Preliminary Technical Oral Program

New this year we are excited to announce our award winner of the EAS Award for Outstanding Achievement in the Fields of Analytical Chemistry, Dr. Irving Wainer from the NIH, will present a plenary lecture for **all** of EAS registrants, on Monday, Nov. 18th in the late afternoon. This presentation will be followed by a time of networking and refreshments with all registrants of EAS encouraged to attend. This is not an event to miss.
Justin Pennington, 2013 EAS Program Chair

MONDAY MORNING, NOVEMBER 18, 2013

Time	Session Title, Author
New York Section of the Society for Applied Spectroscopy Gold Medal Award Honoring Prof. Stephen P. Cramer, University of California Chair: Deborah A. Peru, Colgate-Palmolive Company	
9:00	*Synchrotron X-Ray Spectroscopy - How 10 Orders of Magnitude Makes Hard Things Easy*, Stephen P. Cramer, University of CA
9:30	*X-Ray Emission Spectroscopy - A Powerful Tool to Study Biocatalysts*, Uwe Bergmann, Linac Coherent Light Source
10:00	Break
10:20	*Coherent and Inelastic Resonant X-Ray Scattering*, Esen E. Alp, Argonne National Labopratory
10:50	*The Good, the Bad and the Ugly: Understanding the Roles of Metals in Biology Using Synchrotron Radiation*, Graham George, University of Saskatchewan

American Microchemical Society Benedetti-Pichler Award Honoring Dr. Mark A. Hayes, Arizona State University Chair: Joseph Sneddon, McNeese University	
9:00	*Analysis of Vesicle Contents with Electrochemistry and Mass Spectrometry*, Andrew Ewing, University of Gothenburg
9:30	*TBA*, Edgar Arriaga, University of Minnesota
10:00	Break
10:20	*Microscale Separations Applied to Studies of Protein Aggregation*, Doug Gilman, Louisiana State University
10:50	*Punctuated Microgradients for Bioanalysis*, Mark A. Hayes, Arizona State University

Recent Advances and Novel Applications of uHPLC Chair: Yan Ma, Bristol-Myers Squibb	
9:00	*Monolith Versus Core Shell - Which One is Better?*, Egidijus Machtejevas, Karin Cabrera, EMD Millipore
9:20	*Performance Advantages of Monodispersed Porous Particles in UHPLC*, Richard Henry, William H. Campbell, David S. Bell, Gaurang Parmar, Wayne K. Way, Supelco Division of Sigma-Aldrich
9:40	*Superficially Porous Particles Offer a Complete Solution for LC Analyses*, Anne E. Mack, William J. Long, Agilent Technologies
10:00	*Speed vs. Sensitivity: Compatibility of Ultra High-Performance Liquid Chromatography Coupled to Electrospray Ionization High-Resolution Mass Spectrometry (ESI-HRMS)*, Samantha M. Mahmoud, Dil Ramanathan, Kean University
10:20	Break
10:40	*The Impact of Acquity UPLC on Dissolution Method Development: A Case Study*, Dante Pillon, Xiaoxuan (Jason) Shen, Yali Sun, Celgene Corporation
11:00	*Determination of Carbohydrates Using a New Integrated Capillary High-Performance Ion Chromatography System with Electrochemical Detection*, Jun Chen, Petr Jandik, Yan Liu, Chris Pohl, Michael Hvizd, Thermo Fisher Scientific
11:20	*Oligonucleotide Analysis with Different Liquid Chromatography Methods*, Mirlinda Biba, Bing Mao, Christopher J. Welch, Merck, Joe P. Foley, Drexel University
11:40	*Using Chaotropic Anions for Optimizing the Retention of Basic Pharmaceutical Compounds in HPLC Method Development for Complex Sample Matrix in OTC Drug Products*, Hugh V. Ta, Gail Reed, McNeil

Analytical Inhalation Session: Bringing Patients into the Lab Chair: Jennifer Wylie, Merck	
9:00	*Nasal Casts*, Julie Suman, Next Breath
9:30	*Flow Profile Simulator*, Joe Kocinsky, Mannkind
10:00	Break
10:20	*Next Gen Cascade Impaction*, Adrian Goodey, Merck
10:50	*Development and Validation of an HPLC-MS Method for Tobramycin in Isolated Perfused Rat Lung (IPRL) Perfusate: Applicability to Pulmonary Kinetic Studies*, Min Li, Virginia Commonwealth University

MONDAY MORNING *continued*

Manufacturing, Pharmaceutical and Environmental Applications of GC and GC/MS **Chair: Daryl Cobranchi, DuPont**	
9:00	*Ultrafast GC for Residual Solvents in Drug Substance Scale-Up and Manufacturing Using a Low Thermal Mass GC*, Yuwen Wang, Boehringer Ingelheim
9:20	*Chiral Constituents and Enantiomeric Composition in the Essential Oil Obtained from Artemisia Vulgaris L. Using Selectable 1-D/2-D Gas Chromatography/Mass Spectrometry*, Jack D. Williams, Tianyue Xie, Mercyhurst University, Michael A. Campbell, Michael C. Jaskolka, Pennsylvania State-Erie
9:40	*Identification of Impurities and Recovery of Starting Material from Industrial Distillation Bottom from y- Butyroactone Production*, Bala Balasanmugam, Joycelyn Yapchulay, Maria Diss, Ashland Inc.
10:00	Break
10:20	*Ionic Liquid Submerged Single Drop Microextraction and Static Headspace Single Drop Microextraction of Aromatic Hydrocarbons from Water*, Ramkumar Dhandapani, Nicholas H. Snow, Seton Hall University
10:40	*Extending the Hydrocarbon Range above Naphthalene for Soil Vapor and Air Samples Using Automated Thermal Desorption/Gas Chromatography/Mass Spectrometry (ATD/GC/MS)*, Lee D. Marotta, Bill Hahn, Cindy Liang, Perkin Elmer Instruments
11:00	*Petroleum Biomarker Analysis by Atmospheric Pressure Gas Chromatography Tandem Mass Spectrometry (APGC/MS/MS) and Electron-Impact Ionization Tandem Mass Spectrometry (EI/MS/MS)*, Chang S. Hsu, Florida State University, Quan Shi, China University of Petroleum, Douglas M. Stevens, Waters
11:20	*An Approach to Quantifying Petroleum Ether in Active Pharmaceutical Ingredients*, Jana Stavova, Curtis Tinker, Michelle Kubin, William Fish, Bristol-Myers Squibb

Carbon Dioxide-Based HPLC: Modern SFC **Chair: Larry Taylor, University of Virginia Tech**	
9:00	*Evaluation of Non-Conventional Solvents on Immobilized Chiral Stationary Phases with Supercritical Fluid Chromatography*, Jimmy DaSilva, Merck
9:30	*Development of a Strategy to Transfer SFC Methods from Analytical to Preparative Scale*, Chris Hudalla, Waters
10:00	Break
10:20	*Use of Supercritical Fluid Chromatography to Improve Efficiency of Medicinal Chemistry Purification*, Larry Miller, Amgen
10:50	*TBA*, Terry Berger, Aurora-Agilent

NMR of Molecules: Small and Large **Chair: Tatyana Polenova, University of Delaware**	
9:00	*Utility of NMR in the Development of Protein Drugs*, Luciano Mueller, Bristol Myers Squibb
9:30	*Regulation of Protein Tyrosine Kinase Signaling in Bacteria*, Ranajeet Ghose, CUNY- CCNY
10:00	*Molecular Dynamics Revealed: A ^{2}H Solid-State NMR Investigation*, Bernie O'Hare, Bruker Biospin
10:20	Break
10:40	*Anisotropic Interactions in MAS Solid-State NMR Spectroscopy: Methodology Development and Applications in Protein Assemblies*, Guangjin Hou, University of Delaware
11:00	*Molecular Insights into the Recognition of Cellular Membrane Geometry*, Fang Tian, Penn State-Hershey
11:20	*The Electronic Structure of Manganese Catalysts for Hydroxo- and Peroxo-Splitting Reactions*, LV Lakshmi, Rensselaer Polytechnic Institute

Environmental Analysis for Cultural Heritage Part I, *organized in cooperation with New York Conservation Foundation* **Chair: John Scott, *New York Conservation Foundation***	
9:00	*Environmental Analysis for Cultural Heritage*, John Scott, New York Conservation Foundation
9:30	*ATP Testing to Determine if Cultural Artifacts are Contaminated with Active Biological Materials*, Jessica Keister, Jessica Silverman, Conservation Center for Art & Historic Artifacts
10:00	Break
10:20	*The Influence of Select Pigments and Aging on the Detection of Proteinaceous Materials with ELISA*, Natalya Atlasevich, Metropolitan Museum of Art, Brian Baade, University of Delaware, Caroline Tokarski, Université de Lille, John Loike, Columbia University, Julie Arslanoglu, Metropolitan Museum of Art
10:50	*Determining the Kinetics of Paper Degradation in Reduced Oxygen Environments*, Ami L. Pass, Belinda J. Colston, University of Lincoln, Barry Knight, British Library

MONDAY MORNING *continued*

Practical Trace Analysis in Forensic and Environmental Applications **Chair: Matthew Wood, Ocean County Sheriff Department**	
9:00	*Spectroscopic Document Analysis - In Pursuit of a "Forensic Scanner"*, John Allison, Kelly Wisnewski, The College of New Jersey
9:20	*Effect of Orientation on the Dichroism of Dyed Fibers*, Dale K. Purcell, John A. Reffner, Thomas A. Kubic, John Jay College, Fran Adar, HORIBA Scientific
9:40	*Luminol for Blood Detection - Should It Be an Instrumental Method?*, John Allison, Nicole Renkel, Samantha Nowak, The College of New Jersey
10:00	*Development and Validation of a Urine Metabolomic Profiling Procedure Using GC/MS*, Krishnan R. Mohan, Clifford P. Weisel, Robert Wood Johnson Medical School
10:20	Break
10:40	*Rapid Quantification of DOSS Oil Dispersant in White Pelican Bill Knobs Inhabiting the Shores of the Gulf of Mexico Using QuEChERS Extraction and UPLC-MS/MS Analysis*, Aliaksandr V. Yeudakimau, Anthony V. Provatas, Brianna M. Galos, Christopher R. Perkins, James D. Stuart, University of Connecticut
11:00	*Automating the Fractionation of Extractable Petroleum Hydrocarbons with a Scaled Down Silica-Gel Cartridge*, Brian LaBrecque, Alicia J. Cannon, William R. Jones, Horizon Technology
11:20	*Double Lab Productivity Overnight: Extract PAHs and PCBs Simultaneously from Tissue and Soil Samples Using a New Accelerated Solvent Extraction (ASE) Procedure*, Greg Malek, Peter Bodsky, Art W. Fitchett, Michael Hvizd, Thermo Fisher Scientific
11:40	*Comparison of Methods for the Determination of Asbestos Soil Surface Contamination; Pretoria, South Africa*, Thomas Barkley, Raymond Kennedy, Kristen Goedde, Thomas Barkley, International Asbestos Testing Laboratories

Spectroscopy for Surface Science, Nano Materials and Fiber Analysis **Chair: Andrew Teplyakov, University of Delaware**	
9:00	*Reaction of Hydrazine with Cl-Terminated Si(111) Surfaces*, Fei Gao, Andrew Teplyakov, University of Delaware
9:20	*Towards Formation of Oxygen-Free Interface by Cyclocondensation on H-Terminated Si(111) Surface*, Yuexing Cui, Fangyuan Tian, Andrew Teplyakov, University of Delaware
9:40	*Probing the Orientation of 2,3-Dichloro-1,4-Naphthoquinone on Gold Nano-Rods and Ag Colloids*, Maraizu Ukaegbu, Oladapo Bakare, Charles Hosten, Howard University, Alberto Vivoni, Inter America University
10:00	*Ultrafast Microscopy of Single CdSSe Nanowires*, Peter S. Eldridge, Jolie C. Blake, Lars Gundlach, University of Delaware
10:20	Break
10:40	*Merging Methods - Correlating Structure and Chemistry with Light Microscopy (LM), SEM and XPS Imaging*, Peter Eastman, Michaeleen Pacholski, The Dow Chemical Company
11:00	*Polarized Raman Spectra of Single Isolated Strained Fibers of Cellulose*, Fran Adar, HORIBA Scientific, Craig Clemons, Umesh Agarwal, USDA
11:20	*Terahertz Spectroscopy Advancement to a Broadband Source: Pushing the Limits of Vibrational Spectroscopy and Time-of-Flight Analysis*, David A. Heaps, Eiji Kato, Edward E. King, Richard McKay, Mark Sullivan, Akiyoshi Irisawa, Motoki Imamura, Advantest America
11:20	*Sequential Electrochemical Reduction Analyses as a Tool for Surface Evaluation*, Peter Bratin, ECI Technology

MONDAY AFTERNOON, NOVEMBER 18, 2013

EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry **Honoring Dr. Irving Wainer, National Institutes of Health** ***Sponsored by Bristol-Myers Squibb*** **Chair: Ruin Moaddel, National Institutes of Health**	
2:00	*Ramp Up the Pressure, Turn Up the Heat: Secondary Effects in Chromatographic Method Scaling*, David Lloyd, Bristol-Myers Squibb
2:30	*Chiral Bioanalysis and Metabolite Monitoring in the Era of Enantiomerically Pure Drugs*, Anne-Françoise Aubry, Bristol-Myers Squibb
3:00	Break
3:20	*High-Performance Affinity Microcolumns: Recent Developments in Clinical Testing, Pharmaceutical Analysis and Biointeraction Studies*, David Hage, University of Nebraska
3:50	*Biochromatography: an Endless Frontier*, Gabriella Massolini, Department of Drug Sciences

MONDAY AFTERNOON *continued*

Plenary Lecture

EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry
Honoring Dr. Irving Wainer, National Institutes of Health

4:20	Presentation of the EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry
4:30	*Plenary Lecture* *When Someone Says "Everybody Knows That ..." Stop Listening! Adventures in Basic and Translational Research*, Irving Wainer, National Institutes of Health

Spectroscopic Applications in Biologics, *organized by the Coblentz Society*
Sponsored by the SAS New England
Chair: Brandye Smith-Goettler, Coblentz Society

2:00	*Deep UV Resonance Raman Spectroscopy of Biopharmaceuticals*, Sergey Arzhantsev, USFDA
2:30	*Characterization and Spectroscopic Applications in Pulmonary Delivery and Advanced Dry Powder Inhalers*, Heidi Mansour, University of Arizona-Tucson
3:00	Break
3:20	*Application of In-Line Raman for Real-time Measurement of Carbon Source in Mammalian Cell Culture Fermentation*, Louis Obando, Merck Sharpe & Dohme
3:50	*Raw Material Characterization for Mammalian Cell-Cultures Using Spectral Technologies*, Seongkyu Yoon, MA BioManufacturing Center

High Resolution Mass Spectrometry Small and Large Molecule Characterization and Detection
Chair: Dil Ramanathan, Kean University

2:00	*Analysis of Tetracycline Transformation and Degradation Using Vetiver Grass by Ultra High-Performance Liquid Chromatography/High-Resolution Mass Spectrometry*, Chinmayi Parikh, Dil Ramanathan, Kean University, Aparupa Sengupta, Rupali Datta, Michigan Technological University
2:20	*Electrospray Ionization Mass Spectrometry of Didodecylpolysulfides Using Silver(I) Complexation*, Christie Bowden, Sriraj Srinivasan, Gary S. Smith, Arkema
2:40	*Rapid Disulfide-Containing Protein Structure Analysis Using Combined Electrochemistry and Mass Spectrometry*, Hao Chen, Ohio University
3:00	Break
3:20	*Process Mass Spectrometers - Now a PAT Tool for Cell Culture*, Todd B. Colin, Peter J. Traynor, Thermo Fisher Scientific
3:40	*Evaluation of Centroid and Profile Mode Data Collection Methods for High-Resolution Accurate Mass Spectrometry, (HRMS) Based Integrated Qualitative and Quantitative Analysis*, Eldho Raju, Dil Ramanathan, Kean University
4:00	*Elucidation of Polysaccharide Structures, Containing Charged Polysulfated/Polycarboxylated Moieties, Using Exact-Mass ESI Negative Ionization MSMS Data and the MASSPEC Algorithm*, Marshall M. Siegel, Gary Walker, MS Mass Spec Consultants, Lingyun Li, Robert J. Linhardt, Rensselaer Polytechnic Institute

Supercritical Fluid Chromatography (SFC) as an Analytical and Preparative Tool
Chair: Chris Hudalla, Waters

2:00	*Chromatographic Method Development Strategies for Convergence Chromatography*, Paula Hong, Michael D. Jones, Patricia McConville, Waters
2:20	*Novel Supercritical Carbon Dioxide Enhanced Chromatography Method for the Comprehensive Analysis of Fatty Acid Methyl Esters (FAMEs) and FAMEs Containing Materials*, François J. Huby, Robert M. Campbell, The Dow Chemical Company
2:40	*Overloaded Chiral Separations on an Analytical and Preparatory (with Collection) Scale in SFC*, John Whelan, II, John Baugher, Waters
3:00	Break
3:20	*Targeted Isolation of Impurities in Pharmaceutical Compounds Using SFC*, Mikey Rego, Paul Lefebvre, John Tipping, Jeff Kiplinger, Averica Discovery Services
3:40	*Evaluation On an Improved Multiple-Columns-SFC System*, Chuping Luo, Ziqiang Wang, Waters
4:00	*Improved Chiral SFC Screening for Analytical Method Development*, Erik K. Regalado, Wes Schafer, Tilak Chandresekaran, Zainab Pirzada, Chaowei Zhang, Xiaoyi Gong, Mirlinda Biba, Christopher J. Welch, Merck

MONDAY AFTERNOON *continued*

Spectroscopy at Surfaces and Interfaces **Chair: Lars Gundlac, University of Delaware**	
2:00	*Two-Dimensional IR and Two-Dimensional SFG Spectroscopies: New Techniques for the Analytical Sciences*, Martin Zanni, University of Wisconsin-Madison
2:40	*Photophysics of Single to Multiple Excitons in Carbon Nanotubes*, Todd Krauss, University of Rochester
3:00	Break
3:20	*Using Nanoparticle to Probe Diffusion of Glassy Surfaces at Nanometer Length Scale*, Zahra Fakhraai, University of Pennsylvania
3:50	*Using Ultrafast Pump-Probe Microscopy to Image Carrier Migration and Carrier Recombination in Si and ZnO Nanowires*, John Papanikolas, University of North Carolina - Chapel Hill

Applications of NMR Spectroscopy from Small Molecules to Large Assemblies **Chair: Bernie O'Hare, Bruker Biospin**	
2:00	*Comparison of Two-Dimensional ^{1}H-^{19}F NMR Scalar Coupling Experiments in Small Molecules*, Alexander Marchione, Elizabeth F. McCord, Rebecca J. Dooley, DuPont
2:20	*Spectroscopic and Computational Analyses of Polymorphic Organic Materials*, Sean T. Holmes, Fahri Alkan, Cecil Dybowski, University of Delaware
2:40	*Characterization of Polymer Electrolyte Membranes by Gel-State MAS NMR*, Haiming Liu, Dave Mountz, Tao Zhang, Wensheng He, Arkema
3:00	Break
3:20	*Investigating the Molecular Framework and Assembly of Synthetic and Fungal Melanins by Solid-State NMR*, Subhasish Chatterjee, Sindy Tan, Hsin Wang, Ruth E. Stark, CUNY Institute for Macromolecular Assemblies, Rafael Prados-Rosales, Susana Frases, Arturo Casadevall, Albert Einstein College of Medicine, Boris Itin, New York Structural Biology Center
3:40	*NMR Relaxation Method to Detect Small Dynamical Differences in Proteins*, Rieko Ishima, University of Pittsburgh
4:00	*Exploring Amyloid Structure by Quenched Hydrogen Exchange Solution NMR*, Andrei T. Alexandrescu, University of Connecticut

Environmental Analysis for Cultural Heritage Part II, *organized in cooperation with New York Conservation Foundation* **Chair: John Scott, New York Conservation Foundation**	
2:00	*Monitoring Health Factors During Conservation of Metallic Lead*, Shaundree Davis, Princeton University
2:30	*Monitoring Museum Environmental Factors*, Paolo Dionisi-Vici, Metropolitan Museum of Art
3:00	Break
3:20	*Toward Remotely Assessing Heritage Environments and Materials*, Henoc Agbota, University College, London
3:50	*Evaluating the use of Agricultural Moisture Probes in the Historic Built Environment*, Nicole Fielding, Belinda J. Colston, Adrian M. Goodman, University of Lincoln

Women in Chromatography: Solving Real Life Problems **Chair: Mary Ellen McNally, DuPont Crop Protection**	
2:00	*Supercritical Fluid Chromatography (SFC), a Widely Applicable Technique Used in Industries from Pharmaceutical to Food*, Jennifer Van Anda, Agilent Technologies
2:30	*Keeping Our Food Safe: Detection of Veterinary Drug Residues*, Marilyn Schneider, United States Department of Agriculture
3:00	Break
3:20	*Analytical Development in Over-the-Counter Drugs – Straddling Pharmaceutical and Consumer Products*, Mary Selman, Rohto-Mentholatum Research Laboratories
3:50	*Systematic Investigation of Factors that Affect Precision in HPLC*, Mary Ellen McNally, Steven Hansen, DuPont Crop Protection, Karen Usher, West Chester University

TUESDAY MORNING, NOVEMBER 19, 2013

EAS Award for Outstanding Achievements in Chemometrics **Honoring Dr. Olav Martin Kvalheim, University of Bergen** ***Sponsored by Eigenvector Research*** **Chair: Svante Wold, Umeå University**	
9:00	*Metabolic Profiling as the Fundament in Personalized Theranostics*, Torbjörn Lundtstedt, Uppsala University
9:30	*Biomarker Signatures for Disease Classification*, Tarja Rajalahti Kvalheim, The Norwegian Multiple Sclerosis Competence Centre
10:00	Break
10:20	Johan Trygg, Umeå University
10:50	*Latent Variables - What are they?*, Svante Wold, Umeå University
11:20	Presentation of the EAS Award for Outstanding Achievements in Chemometrics
11:25	*Interpretation of Multivariate Data by Latent Variables*, Olav Martin Kvalheim, University of Bergen

EAS Award for Outstanding Achievements in Separation Science **Honoring Dr. Mark R. Schure, Kroungold Analytical, Inc.** ***Sponsored by Agilent Technologies*** **Chair: J. Ilja Siepmann, University of Minnesota**	
9:00	Presentation of the EAS Award for Outstanding Achievements in Separation Science
9:05	*Orthogonal Separations*, Mark R. Schure, Kroungold Analytical, Inc., Joe M. Davis, Southern Illinois University - Carbondale
9:30	*Adventures in Two-Dimensional Liquid Chromatography*, Peter W. Carr, University of Minnesota
10:00	Break
10:20	*Resolution of Transport and Kinetic Limitations in Protein Exchange in Polymer-Functionalized Adsorbents*, Abraham M. Lenhoff, University of Delaware
10:50	*Understanding Retention in RPLC: Insights from Molecular Simulation*, J. Ilja Siepmann, University of Minnesota

Challenges of Impurity Quantitation in Pharmaceutical Analysis **Chair: Fenghe Qiu, Boehringer Ingelheim**	
9:00	*ASAP (Accelerated Stability Assessment Program): Opportunities and Challenges*, Fenghe Qiu, Madhuri Jerfy, Lisa Hernandez, Zeena Williams, Prince Korah, Boehringer Ingelheim
9:20	*The Material Mass Balance Investigation of API in Orlistat Drug Product Stored at Accelerated Condition: Where is the Missing Orlistat?*, Zbigniew Marcinow, GlaxoSmithKline
9:40	*The Impact of Extractable Materials from Plastic Sample Preparation Devices on Formulation Analysis*, Jigna Patel, William Fish, Anne Kelly, Bristol-Myers Squibb
10:00	Break
10:20	*A Complete Solution for Sample Prep Technique for New USP<232> and <233>*, Arshad Kokardekar, David Gunn, Milestone Inc.
10:40	*A System to Perform Autocalibration, Automated Sample Dilution, and Auto-Spiking for Analyzing Pharmaceuticals by ICP and ICP-MS*, Kyle Uhlmeyer, Paul Field, Dan Wiederin, Elemental Scientific
11:00	*Determination of Polymeric Impurities in Pharmaceutical Products by Reversed Phase Chromatography*, Zongyun Huang, Yan Zha, Yue Hu, Zuguang Tian, Robert Perrone, Robert Francis, Joan Ruan, Bristol-Myers Squibb
11:20	*New Aspects in Drug Development Using (U)HPLC Methods and Robustness Evaluation According to Quality-by-Design Principles with the Help of Modeling Techniques*, Imre L. Molnar, Hans-Jürgen Rieger, Molnar-Institute, Alexander H. Schmidt, Steiner & Co.

Innovations in Forensic Drug Analysis ***Sponsored by New Jersey Association of Forensic Scientists*** **Chair: Thomas Blackwell, DEA Northeast Laboratory**	
9:00	*DART-MS Analysis of Synthetic Cannabinoids*, Jason Shepard, SUNY-Albany
9:30	*A Study of Positional Isomers Using Linear Ion Trap LCMS/MS and Q-TOF LC/MS*, Andrea Placke, DEA Northeast Laboratory
10:00	Break
10:20	*Forensic Applications of Comprehensive GC with TOF/MS*, Frank Dorman, Pennsylvania State University
10:50	*Development of a Surface-Enhanced Raman Spectroscopy Method for the Detection of Benzodiazepines in Urine*, Erika L. Doctor, Bruce McCord Florida International University

TUESDAY MORNING *continued*

Spectroscopic Applications in Biomedical Sensing, *organized by the Coblentz Society* **Chair: Brandye Smith-Goettler, Coblentz Society**	
9:00	*Semi-Conductor Compatible Plasmonic Materials: The Next Wave of Optical Sensing Technology*, Stefan Franzen, North Carolina State University
9:30	*Modeling Spectroscopic Imaging Optical Paths for New Biomedical Sensing Opportunities*, Rohit Bhargava, University of Illinois at Urbana-Champaign
10:00	Break
10:20	*Surface Enhanced Raman Scattering (SERS): New Pathways for Rapid, Parallel and Low-Level Analyte Detection*, Jennifer H. Granger, Marc D. Porter, Nano Institute of Utah
10:50	TBA, Ishan Barman, Massachusetts Institute of Technology

New Technology for Quantitation of Intracellular Drugs in Transporter Studies **Chair: Mingshe Zhu, Bristol-Myers Squibb**	
9:00	*Tailor-Made Transporter Assays for Stage-Specific Drug Discovery and Development*, Imad Hanna, Novartis
9:30	*Leveraging High-Throughput Transporter Inhibition Assays to Drive Decision Making and Enhance ADMET Knowledge*, Lisa Elkin, Bristol-Myers Squibb
10:00	Break
10:20	*High-Throughput LC/MS/MS Based Permeability and Transporter Assays in Early Drug Discovery*, Hui Zhang, Pfizer
10:50	*Application of New Analytical Technology to Transporter Assays in Support of Drug Development*, Ming Yao, Bristol-Myers Squibb

Structural Studies by Magnetic Resonance Spectroscopy **Chair: Patrick van der Wel, University of Pittsburgh School of Medicine**	
9:00	*EPR and NMR Studies of Membrane Proteins*, Gary A. Lorigan, Miami University
9:30	*Structural Basis for Membrane Disruption by Model Amyloid Peptides*, Simon Sharpe, University of Toronto
10:00	*Mechanism of Transient Sequential Domain Interactions in Nonribosomal Peptide Synthetases Revealed by NMR*, Dominique Frueh, Johns Hopkins School of Medicine
10:20	Break
10:40	*Amyloid Fibrils in Alzheimer's Disease, from Test Tube to Human Brain*, Wei Qiang, National Institutes of Health
11:00	*Investigating the Structure, Oligomerization, and Topology of Caveolin-1*, Jebrell Glover, Lehigh University
11:20	*Application of NMR Crystallography to Drug Development*, Heather Frericks Schmidt, Pfizer

Environmental Surface Chemistry **Chair: John Newberg, University of Delaware**	
9:00	*Scenes from the Edge: Atmospheric Chemistry of Environmental Interfaces*, V. Faye McNeil, Columbia University
9:30	*Interactions of Oxalic Acid on Ice*, Liang Chu, SUNY-Albany
10:00	Break
10:20	*Photolysis of Pollutants on Water and Ice Surfaces in the Presence of Environmental Contaminants*, Tara Kahan, Syracuse University
10:50	*Heterogeneous Reactions on Ice and Metal Oxide Surfaces Studied In-Situ by X-Ray Photoelectron Spectroscopy*, Hendrik Bluhm, Lawrence Berkeley National Laboratory

Analytical Imaging for Cultural Heritage Part I, *organized in cooperation with the New York Conservation Foundation* **Chair: John Scott, *New York Conservation Foundation***	
9:00	*Analytical Imaging for Cultural Heritage*, John Scott, New York Conservation Foundation
9:30	*Recent Advances in Documentary and Analytical Imaging*, E. Keats Webb, Museum Conservation Institute
10:00	Break
10:20	*3-D Photogrammetry for Cultural Heritage*, Mark Mudge, Cultural Heritage Imaging
10:50	*Computed Tomography with Elemental Analysis for Very Large Intact Archaeological Excavations*, Nicole Ebinger-Rist, Baden-Württemberg Landesamt für Denkmalpflege

Mass Spectrometry – A Powerful Technology for the Biotech and Pharmaceutical Scientist, *organized by American Chemical Society North Jersey Mass Spectrometry Discussion Group* **Chair: Robert Iannucci, *North Jersey Mass Spectrometry Discussion Group***	
9:00	*Dysregulation of Kynurenine Metabolites in Mouse Models of Inflammation Associated Depression*, David Budac, Lundbeck
9:30	*A Chemical Derivatization Approach for the Quantification of Genotoxic Impurities HOPO and EDAC-HCl at Sub-ppm Level by LC-MS/MS*, Wei Ding, Yande Huang, Jeff Dai, Jonathan Marshall, Scott Miller, Bristol-Myers Squibb
10:00	Break
10:20	*Enabling Rapid, Sensitive Peptide Quantitation Through Automation and Nano/LC/MS*, Weixun Wang, Merck

TUESDAY AFTERNOON, NOVEMBER 19, 2013

EAS Award for Outstanding Achievements in Mass Spectrometry **Honoring Dr. Michael L. Gross, NIH/Washington University in St. Louis** ***Sponsored by Thermo Fisher Scientific*** **Chair: David Russell, Texas A&M University**	
2:00	*Mass Spectrometry for Assessing the Occurrence and Biological Consequences of Oxidatively Induced Tandem DNA Lesions*, Yinsheng Wang, University of California-Riverside
2:30	*Mass Spectrometry as a Tool for Structural Biology*, Lisa M. Jones, IUPUI
3:00	Break
3:20	*Environment-Dependent Conformational Preferences of Peptides and Proteins*, David Russell, Texas A&M University
3:50	Presentation of the EAS Award for Outstanding Achievements in Mass Spectrometry
3:55	*Mass Spectrometry-Based Protein Footprinting: A Tool for Biophysics*, Michael L. Gross, NIH/Washington University St. Louis

What's New in NIR Analysis? **Chair: David Hopkins, NIR Consultant**	
2:00	*Using Fourth Derivative to Understand Changes in NIR Spectra*, Karl Norris, NIR Consultant
2:30	*Are Non-Linear Regression Techniques Useful for NIR Pharmaceutical Applications? A Pharmaceutical Tablet Assay Example*, Benoit Igne, Duquesne University
3:00	Break
3:20	*Addressing THE Problem with NIR*, Mark Howard, Mark Electronics
3:50	*NIR Methods for Health Assessment: New Eyes on an Old Problem*, David Burns, University New Brunswick

Multidimensional Chromatography ***Sponsored by the ACS Analytical Division*** **Chair: Neil Danielson, Miami University Ohio**	
2:00	*Composition Profile Comparison of Navy Mobility Fuels Using GCxGC/TOF and GC/MS*, Thomas Loegel, NOVA Research
2:30	*A Comparison of Heartcutting, Selective Comprehensive, and Fully Comprehensive Two-Dimensional Liquid Chromatography, with an Emphasis on Practical Factors Important for Success*, Dwight Stoll, Gustavus Adolphus College
3:00	Break
3:20	*Can Multidimensional Separations be Achieved in Liquid Chromatography via Multimodal/Mixed-Mode Chromatography or a Sequential use of Orthogonal Mobile Phases?*, Joe Foley, Drexel University
3:50	*Multidimensional Liquid Chromatography in Pharmaceutical Analysis: An Industry Perspective*, Kelly Zhang, Genentech Inc.

Advanced Vibrational Spectroscopy: Instrumentation and Applications, *organized by the Coblentz Society* **Chair: Ian Lewis, Kaiser Optical Systems**	
2:00	*Calibration Standards to Facilitate Data Exchange Between Raman Spectrometers*, Aaron Urbas, NIST
2:30	*Coupling QbD with Raman Spectroscopy*, John Wasylyk, Bristol-Myers Squibb
3:00	Break
3:20	*Handheld Spectrometers: Providing Answers in the Field*, Richard A. Crocombe, Thermo Fisher Scientific
3:50	*High Spatial Resolution Infrared Spectroscopy and Imaging Using AFM Detection*, Curt Marcott, Light Light Solutions, LLC

Analytical Imaging for Cultural Heritage Part II, *organized in cooperation with New York Conservation Foundation* **Chair: John Scott, *New York Conservation Foundation***	
2:00	*Spectroscopic Imaging in Cultural Heritage Science*, Edward Vicenzi, Museum Conservation Institute
2:30	*Advanced Spectral Imaging for Noninvasive Preservation of Cultural Heritage Materials*, Fenella G. France, Library of Congress
3:00	Break
3:20	*Watching Paint Age: Digital Imaging and Analysis Systems used to Characterize the Performance of Paints and Coatings at Dow Coating Materials*, Melinda Keefe, The Dow Chemical Company
3:50	*Watching Paint Age: Designing Digital Imaging and Analysis Systems used to Characterize the Performance of Paints and Coatings*, Michael Linsen, The Dow Chemical Company

TUESDAY AFTERNOON *continued*

Drug, Biomarkers and Cellular Bioanalysis **Chair: Nanda Subbarao, Biologics Consulting Group**	
2:00	*Quantitation of an Adenine Adduct of the Cytotoxin of an Antibody Drug Conjugate BMS-936561 in Urine as Potential Pharmacodynamic Biomarker of DNA Binding*, John Lute, Jian Wang, Anne-Françoise Aubry, Bristol-Myers Squibb
2:20	*Detection of Fentanyl Analogs and Metabolites in Four Biological Matrices; Urine, Plasma, Dried Urine Spots, and Dried Blood Spots*, Rebecca L. Shaner, Pearl Kaplan, Courtney T. Callahan, Elizabeth I. Hamelin, Rudolph C. Johnson, Centers for Disease Control and Prevention
2:40	*Universal LC-MS/MS Assays for Bioanalysis of Human Monoclonal Antibody Drug Candidates in Pharmacokinetic / Toxicokinetic Studies*, Michael T. Furlong, Bristol-Myers Squibb
3:00	*Quantitative LC-MS/MS Analysis of NanoRNAs in Escherichia Coli*, Landon Greene, Jeehiun Lee, Mu Chen, Rutgers University
3:20	Break
3:40	*Characterization of Curcumin-Nicotine Interaction in Cetyltrimethyammonium Bromide Micelle*, Maurice O. Iwunze, Morgan State University
4:00	*Applications of Lanthanide Probes for Sensitive of Biological Molecules and Living Cells*, Laura Wirpsza, Shyamaloa Pillai, Lev Krasnoperov, New Jersey Institute of Technology, Arkady Mustaev, Public Health Research Institute Center
4:20	*Electrochemical Mass Sensor for Insulin in Human Serum*, Sadagopan Krishnan, Vini Singh, Cassandra Rodenbaugh, Oklahoma State University
4:40	*Determination of Phthalate Metabolites, Bisphenol A Glucuronide, 1-Hydroxypyrene Glucuronide, Perfluorinated Chemicals and Leukotriene E4 in Urine*, Shin-Hung Liu, Chia-Yang Chen, National Taiwan University

Special Topics in Chemometrics and Quality-by-Design **Chair: Dongsheng Bu, Bristol-Myers Squibb**	
2:00	*Imputation of Incomplete Data in Classification Analysis*, Yushan Liu, Steven D. Brown, University of Delaware
2:20	*Geospatial Pattern Recognition: Geographical Pattern Knowledge Discovered from Surface Water Data*, Liyuan Chen, Steven D. Brown, University of Delaware
2:40	*Modeling Large Multiway Data Sets with Variable Selection and Model Ensembles*, Jeffrey A. Cramer, Robert E. Morris, Mark H. Hammond, U.S. Naval Research Laboratory
3:00	*Examination and Dating of Silver Gelatin Fiber Based Photographic Papers Using Infrared Spectroscopy and PLS-GLSW Modeling*, Donald B. Dahlberg, Ana Martins, Lebanon Valley College
3:20	Break
3:40	*Raw Material Characterization for Mammalian Cell-Cultures Using Spectral Technologies*, Nicolas A. Trunfio, Haewoo Lee, Seongkyu Yoon, University of Massachusetts-Lowell
4:00	*A "Built-in-Quality" Analytical Separation Method Obtained through QbD concepts: Method Development, NDA Validation and Technique Transfer*, Li Li, Peter Tattersall, Bristol-Myers Squibb
4:20	*Determining Particle Size Distribution Effects on Acoustic Emission*, Shikhar Mohan, Benoit Igne, Carla A. Anderson, James K. Drennen III, Duquesne University
4:40	*Characterizing and Optimizing the use of Flow Additives in Powders and Powder Formulations*, Tim C. Freeman, John Yin, Michael Delancy, Brian Armstrong, Katrina Brockbank, Freeman Technology

Forensic Toxicology: From Sample to Interpretation **Chair: Jeffery Hackett, United Chemical Technologies**	
2:00	*Survey of Practices and Recommendations for Toxicological Investigation of Drug-Impaired Driving and Motor Vehicle Fatalities*, Kayla J. Lowrie, Jennifer Turri, Jillian Yeakel, Center for Forensic Science Research and Education, Barry K. Logan, NMS Labs, Jennifer Limoges, New York State Police Forensic Investigation Center, Amy Miles, Wisconsin State Laboratory of Hygiene, Colleen Scarneo, New Hampshire State Police Forensic Laboratory, Sarah Kerrigan, Sam Houston State University, Laurel Farrell, Toxicologist Consultant
2:30	*SPE in Forensic Toxicology*, Michael J. Telepchak, United Chemical Technologies
3:00	Break
3:20	*Simultaneous Quantification of Opiates and Polar Metabolites in Urine and Blood by SPE and HILIC/MS/MS*, James N. Anasti, Thomas A. Brettell, Cedar Crest College
3:50	*Case Reports in the Analysis of Designer Drugs*, Jeffery Hackett, United Chemical Technologies, Albert A. Elian, Massachusetts State Police Crime Laboratory

TUESDAY AFTERNOON *continued*

Keeping Water Safe: Analysis of Aqueous Systems **Chair: Liang Chu, SUNY- Albany**	
2:00	*The Analysis of Challenging Samples Using of Ion Analysis Techniques*, Peter Bodsky, Rong Lin, Sheetal Bhardwaj, Kannan Srinivasan, Chris Pohl, Thermo Fisher Scientific
2:20	*Improved Determination of Trace Concentrations of Perchlorate in Drinking Water with Analytical/Capillary Two-Dimensional Ion Chromatography*, Peter Bodsky, Art W. Fitchett, Lillian Chen, Thermo Fisher Scientific
2:40	*Multimodal Chemistries for Automated Cartridge Based Solid-Phase Extraction of Emerging Contaminants in Drinking Water*, Alicia J. Cannon, Brian LaBrecque, William R. Jones, Horizon Technology
3:00	*Fracking, Boldly Going where no Ion Analysis has Gone Before*, Stuart J. Procter, Jay Gandhi, Johnson Matthew, Metrohm USA
3:20	Break
3:40	*Environmental Impact and Testing Requirements Required in the Process of "Fracking" with a Focus on the Analysis of Methane, Ethylene, and Ethane in Water by Headspace/Gas Chromatography (HS/GC) with Flame Ionization Detection (FID)*, Lee D. Marotta, Bill Hahn, Cindy Liang, Perkin Elmer Instruments
4:00	*Determination of 100 Pesticides in Water Using Ultra-Performance Liquid Chromatography/Tandem Mass Spectrometry with Electrospray Ionization*, Ming-Tsung Lu, Chia-Yang Chen, National Taiwan University
4:20	*Preconcentration and Quantitative Determination of Venlafaxine HCl Present in Water*, Prakash B. Samnani, The Maharaja Sayajirao University of Baroda, Santosh K. Koppula, Navrachna University

WEDNESDAY MORNING, NOVEMBER 20, 2013

EAS Award for Outstanding Achievements in Near-Infrared Spectroscopy **Honoring Ms. Susan Foulk, Guided Wave** ***Sponsored by FOSS NIRSystems*** **Chair: Katherine Bakeev, B&W Tek, Inc.**	
9:00	Presentation of the EAS Award for Outstanding Achievements in Near-Infrared Spectroscopy
9:05	*Online Implementation of NIR – Lessons Learned (or not)*, Susan Foulk, Guided Wave
9:30	*Gasoline Blending Optimization Using NIR Analyzers Technology*, Shashi Mistry, Suncore
10:00	Break
10:20	*Monitoring, Online and in Real Time, the Coating of an Active Solution onto Tablets by Near-Infrared Spectroscopy*, Benoit Igne, Duquesne University
10:50	*Multivariate Optical Computing in Oilfield Exploration*, Michael Myrick, University of South Carolina
11:20	*Near Infrared Spectroscopy for Assessment of Fetal, Maternal and Infant Health*, David Burns, University of New Brunswick

Advances in Fast and High Performance Bio-Analytical Separation Techniques ***Sponsored by the Chromatography Forum of Delaware Valley*** **Chairs: William Barber and Xiaoli Wang, Agilent Technologies**	
9:00	*High Resolution LC/MS Peptide Separations with Formic Acid Mobile Phases Using Charge Surface Modified C18 Columns*, Matthew A. Lauber, Stephan M Koza, Kenneth J. Fountain, Waters
9:30	*Advances in Sample Preparation and Chromatographic Separations in Bioanalytical Analyses*, David Bell, Supelco
10:00	Break
10:20	*Recent Innovations in Core Shell HPLC Columns for the Separation of Biomolecules*, Jason Anspach, Phenomenex
10:50	*Challenges and Rewards for Fast and High-Performance Techniques for Protein Separations-Application Point of View*, Phu Duong, Agilent Technologies

USP Compendial Standards: Recent and Future Updates **Chairs: Leonel M. Santos, United States Pharmacopeia (USP) and Kim Huynh-Ba, Pharmalytik**	
9:00	*Impurities in Drug Products: Recent Updates*, Antonio Hernandez-Cardoso, USP
9:30	*Dissolution/Drug Release Testing - Compendial Updates*, Erika Stippler, USP
10:00	Break
10:20	*USP Packaging Standards - Recent Changes and those to Come*, Desmond Hunt, USP
10:50	*Recent Revision of Spectroscopy Chapters*, Horacio Papa, USP

WEDNESDAY MORNING *continued*

Spectroscopic Imaging for Dissolution and Pharmaceutical Development **Chair: Xujin Lu, Bristol-Myers Squibb**	
9:00	*UV Surface Imaging Studies of Dissolution Behaviors of an Extended Release Drug Formulation*, Chris Zordan, Bristol-Myers Squibb
9:30	*Spatially Resolved Quantitative Magnetic Resonance Imaging Studies of API Behavior during In-Vitro Dissolution of Solid Dosage Forms*, Michael Mantle, Cambridge University
10:00	Break
10:20	*A Miniaturized Instrument for Rapid In-Vitro Release Testing*, David Goodall, Paraytec
10:50	*Understanding Dissolution Inconsistency Through In-Situ Study of Disintegration Mechanisms Using FBMR*, Jack Shu, Des O'Grady, Mettler Toledo

LC/IC/HILIC with Alternative Detection Techniques **Chair: Judy Lin, Bristol-Myers Squibb**	
9:00	*Platform Technologies for Pharmaceutical Counterion Analysis*, Michael W. Dong, Ross Woods, Genentech
9:20	*Determination of Anions in Dried Distillers Grains with Solubles (DDGS)*, Art W. Fitchett, Peter Bodsky, Kassandra Oates, Thermo Fisher Scientific
9:40	*Mixed-Mode Chromatography for Pharmaceutical Analysis*, Peter Bodsky, Xiaodong Liu, Chris Pohl, Michael G. Hvizd, Art W. Fitchett, Thermo Fisher Scientific
10:00	Break
10:20	*HILIC (Hydrophilic Interaction Chromatography) Chromatography-ELSD (Evaporative Light Scattering Detection) Detection for the Quantitative Analysis of Amino Acids*, Nicolas J. Hauser, Andy Ommen, Sigma-Aldrich, Carmen T. Santasania, Supelco
10:40	*Resolution of Antibody Charge Variants by Ion Exchange Chromatography*, Hillel Brandes, Dave S. Bell, Roy Eksteen, Supelco
11:00	*Assaying Gentamicin Sulfate by HPLC-Charged Aerosol Detection with an Ion-Pairing Reagent Gradient*, Michael Hvizd, Peter Bodsky, Lipika Basumallick, Jeff Rohrer, Thermo Fisher Scientific
11:20	*HPLC Column "Standardization" Process for Pharmaceutical Analysis*, Michael W. Dong, Midco Tsang, Dawen Lou, Roberto Garcia, Genentech

PAT for Continuous Manufacturing and Real-Time Release Testing (RTRT) **Chair: Joseph Medendorp, Vertex Pharmaceuticals**	
9:00	*PAT Options for Measuring Induction Seals and Blister Packs,* Robert Lodder, BioSpherix
9:30	*A Look at RTRT Nearly One Decade Following Approval*, Steve Short, Merck
10:00	Break
10:20	*Method Development, Method Validation, Specifications and Data Reporting for RTRT*, Henrik Rasmussen, Vertex Pharmaceuticals
10:50	*Application of an Advanced Process Controller to a Continuous Mixing / Direct Compression Process*, Daniel Blackwood, Pfizer

Applications of NMR in the Pharmaceutical Industry **Chair: Gary Martin, Merck**	
9:00	*Why Small is Good: Selected Applications of 1.7 mm Cryoprobes in Pharmaceutical R&D*, Mike Riley, Bristol-Myers Squibb
9:30	*Applications of NMR in Process Chemistry*, Robert A. Reamer, Merck
10:00	Break
10:20	*Small Molecule Applications of Optimized Acquisition-Based Sensitivity Enhancement*, David A. Rovnyak, Bucknell University
10:50	*RxnNMR: The Use of Flow NMR to Better Understand Process Chemistry and Impurities*, Brian Marquez, Pfizer
11:20	*Redefining "High-Throughput" NMR*, Krish Krishnamurthy, Agilent Technologies

The Key to a Successful Lab: Work Smarter, *organized by ALMA* **Chair: Dennis Swijter, International Flavors and Fragrances**	
9:00	*Coaching your Team to Improved Performance*, Stephanie Olexa, Lehigh University
9:30	*S.M.A.R.T. Laboratory Practices*, Julius Buenconsejo, Keppel Seghers Engineering
10:00	Break
10:20	*Managing for Increased Productivity in a Rapidly Evolving Analytical Landscape*, Richard Durand, Sun Chemical
10:50	*Leadership in Safety: The Managers Role*, James Kaufman, Lab Safety Institute

WEDNESDAY MORNING *continued*

What's in the Cabinet? Looking at Everyday Items in a New Light **Chair: Christina Robb, Connecticut Agricultural Experiment Station**	
9:00	*Determination of Choline in Infant Formula and Other Food Samples by IC*, Ken Kirkbride, Peter Bodsky, Michael G. Hvizd, Kassandra Oates, Thermo Fisher Scientific
9:20	*Rapid Measurement of Pomegranate Juice Adulteration with Minimal Sample Preparation Using DSA/TOF*, Avinash Dalmia, Perkin Elmer
9:40	*Determining Flavors and "Defects" in Beer by Headspace Trap/Gas Chromatography/Mass Spectrometry (HS Trap/GC/MS)*, Lee D. Marotta, Andrew Tipler, Bill Hahn, Cindy Liang, Perkin Elmer
10:00	Break
10:20	*Rapid Detection of Food Contaminants Using Surface Enhanced Raman Spectroscopy (SERS)*, Lili He, University of Massachusetts
10:40	*Rapid Phthalate Screening Techniques for Environmental and Consumer Product Samples*, Ken Kirkbride, Peter Bodsky, Jennifer Peterson, Thermo Fisher Scientific
11:00	*Preparation and Analysis of Imported Children's Toys for Toxic Metals*, Patricia L. Atkins, SPEX CertiPrep
11:20	*Analysis of Terpene Hydroperoxides Related to Allergic Contact Dermatitis Caused by Fragrance Use*, Michael J. Calandra, John A. Impellizzeri, Firmenich

Forensic Microscopy VII "What is it? Who does it?" **Chair: Thomas Kubic, John Jay College**	
9:00	*Firearms and Fabric*, Peter Diaczuk, John Jay College
9:30	*Microanalysis of Environmental Particulates*, Randy Boltin, MVA Scientific Consultants
10:00	Break
10:20	*Does Your UV-Visible Microspectrometer Have Intrinsic Polarization?*, Dale Purcell, John Jay College
10:50	*Forensic Microscopical Examination of Dust*, Nick Petraco, New York City Police Department Crime Laboratory

WEDNESDAY AFTERNOON, NOVEMBER 20, 2013

EAS Award for Outstanding Achievements in Magnetic Resonance **Honoring Dr. Dennis A. Torchia, National Institutes of Health** ***Sponsored by Bruker Biospin and New Era Enterprises*** **Chair: Edwin D. Becker, National Institutes of Health**	
2:00	Presentation of the EAS Award for Outstanding Achievements in Magnetic Resonance
2:05	*NMR in Structural Biology: Synergy of Solid- and Solution-State Approaches*, Dennis A. Torchia, National Institutes of Health
2:30	*High Frequency Dynamic Nuclear Polarization*, Robert Griffin, Massachusetts Institute of Technology
3:00	Break
3:20	*Seeing the Invisible by Solution NMR Spectroscopy*, Lewis Kay, University of Toronto
3:50	*Alpha-Synuclein, an Intrinsically Unstructured Protein. How Interesting can it be?*, Adriaan Bax, National Institutes of Health

Advancements in HPLC Stationary Phase and GC Carrier Gases **Chair: Landon Greene, Bristol-Myers Squibb**	
2:00	*Developments in Particles, Columns and Phases for HPLC and UHPLC*, Richard Henry, Consultant
2:30	*Carbon-Based Phases Revisited: New Chemistries, and a Fresh Perspective on Old Chemistries*, Dwight Stoll, Gustavus Adolphus College
3:00	Break
3:20	*The Development and Utilization of Sub-2 Micron Chromatography Columns*, Matthew Przybyciel, ES Industries
3:50	*Getting Away from Helium: Evaluation of Alternative Carrier Gases for GC-MS Analysis*, Stephen Toth, International Flavors & Fragrances

Analytical, Process, Regulatory Perspectives in Quality-by- Design for Biologics Development **Chair: Jianmei Kochling, Genzyme**	
2:00	*Application of Quality-by-Design Strategies to Analytical Method Development*, Serena Wang, Merck
2:30	*Quality-by-Design: Specifications Setting for Biological Drug Development*, Nanda Subbarao, Biologics Consulting Group
3:00	Break
3:20	*Analytical Methods Life Cycle Management in Quality-by-Design Paradigm for Biological Drug Development and Commercialization*, Robert Donaldson, Genzyme
3:50	*Formulation Development Using DOE for an Antibody Product: A Case Study*, Bhalla Amardeep, Merck

WEDNESDAY AFTERNOON *continued*

Physical Measurements of Pharmaceutical Products **Chair: Lydia Breckenridge, Bristol-Myers Squibb**	
2:00	*Best Practice in Cascade Impactor Measurements*, Volker Glaab, Terrence Tougas, Boehringer Ingelheim, Jolyon P. Mitchell, Trudell Medical International, Svetlana Lyapustina, Drinker Biddle & Reath
2:20	*Physical Characterization of Drug Product Intermediates Using Confocal Raman Imaging and Spectroscopy*, Duohai Pan, Bristol-Myers Squibb
2:40	*Physical Stability of Nanoparticle Dispersion*, Jonathan B. Denis, Formulaction Inc.
3:00	*A Rapid, Nondestructive Method to Measure Layer Thickness in Pharmaceutical Beads Using Terahertz Waves*, Richard R. McKay, Edward E. King, Eiji Kato, Mark Sullivan, David Heaps, Akiyoshi Irisawa, Motoki Imamura, Advantest America
3:20	Break
3:40	*Clustering, Visualization and Data Management as Applied to Preformulation*, Michael Boruta, Advanced Chemistry Development
4:00	*Pulsed Terahertz Time-Domain and FT Spectroscopy for the Molecular, Microscopic and Bulk Characterization of Pharmaceutical Tablets*, Mark J. Sullivan, Edward E. King, Richard R. McKay, David Heaps, Eiji Kato, Advantest America
4:20	*Applications of Differential Scanning Calorimetry High-Pressure Crucibles*, Richard S. Kwasny, Kenneth Kurko, Zachary Hackmeister, Fauske & Associates
4:40	*The Use of Natural-Abundance Stable Isotopes in the Characterization of Bio/Pharmaceutical Compounds and Synthetic Pathways*, John P. Jasper, Nature's Fingerprint, Martin B. Pavane, Cozen O'Connor, Dean Eyler, Gray Plant Mooty, Ila Sharma, Albert C. Lee, Chemir EAG Labs

Consumer Products - Challenges & Strategies **Chair: Susan Friedman, Colgate Palmolive Company**	
2:00	*Challenges in Developing Robust Analytical Methods for Consumer Products*, Jacqueline Erickson, GlaxoSmithKline
2:30	*Modernization of the USP Monograph with a Focus on the Consumer Products/ OTC Industry*, Leonel Santos, United States Pharmacopeia
3:00	Break
3:20	*Microscopy and Imaging Approaches for Solving Problems and Delighting Consumers*, Ian Henry, Procter & Gamble
3:50	*Implementation Challenges of Near IR Analysis in the Consumer Products Industry*, Ramon Santana, Colgate-Palmolive Company

Advancements in Chemometric Data Treatment **Chair: Benoit Igne, Duquesne University**	
2:00	*The Role of Chemometrics in Chromatography*, Brian G. Rohrback, Infometrix
2:30	*TBA*, Karl Brooksh, University of Delaware
3:00	Break
3:20	*On the Relationship Between Whitened Principal Components Analysis and Maximum Autocorrelation Factors*, Neal Gallagher, Jeremy M. Shaver, Eigenvector Research
3:50	*Implementation of Out-of-Scope Diagnostic Tools in a Pharmaceutical Environment*, Bu Dongsheng, Bristol-Myers Squibb

American Chemical Society Certification - How, When, Why **Chair: Cecil Dybowski, University of Delaware**	
2:00	*The ACS Approval Process - A Preview of Coming Attractions*, Cynthia Larive, University of California at Riverside
2:30	*The Role of Research in the ACS Certified Degree*, Thomas Wenzel, Bates College
3:00	Break
3:20	*Boots on the Ground: The Role of the Visiting Associate in the ACS Approval Program*, Richard Dallinger, Alabash College
3:50	*ACS Guidelines as a Catalyst for Institutional and Curricular Change*, Kimberley Woznack, California University of PA

WEDNESDAY AFTERNOON *continued*

Vibrate or Rotate - Techniques for Solving Problems with Spectroscopy **Chair: Shirley Fischer Drowos, Widener University**	
2:00	*Chirped-Pulse Millimeter Wave Spectroscopy of EPA TCL Volatiles Mix 5 Standard: Advantages of Coherent, Pure Rotational Spectroscopy for Trace Level Volatile Mixture Analysis*, Brent J. Harris, Amanda Steber, Brooks H. Pate, University of Virginia, Matthew Muckle, BrightSpec
2:20	*VOC Mixture Composition Analysis: Quantification of an EPA VOC Standard Mixture Using the BrightSpec Chirped-Pulse Fourier Transform Spectrometer*, Robin L. Pulliam, Brent J. Harris, Matthew Muckle, Dave McDaniel, BrightSpec, Brooks H. Pate, University of Virginia
2:40	*GPC-IR Deformulation of Complex Polymer Mixtures with IR Spectral Database Search*, Ming Zhou, Tracy Phillpott, Spectra Analysis Instruments, Dana Garcia, Arkema, Farrel N. Borden, Bio Rad Laboratories
3:00	*USP Spectral Library Pilot*, Michael Dotlich, Eli Lilly, Bei Ma, United States Pharmacopeia
3:20	Break
3:40	*Quantitative Analysis of Feed and Agricultural Samples Using a Portable NIR Instrument*, Suzanne Schreyer, Lin Zhang, Thermo Fisher Scientific
4:00	*Measurements of Key Cotton Fiber Properties Using a Small Portable NIR Analyzer*, James Rodgers, Chris Delhom, Xiaoliang Cui, United States Department of Agriculture
4:20	*A New Truly Easy-to-Use Dedicated Infrared Microscope*, Thomas J. Tague, Jr., Bruker Optics
4:40	*Handheld Vibrational Spectrometers: Novel Developments and Applications*, Heinz W. Siesler, University of Duisburg-Essen

Speeding Up Sample Preparation **Chair: Richard Nguyen, Merial Ltd.**	
2:00	*Reducing Sample Extraction Time While Increasing Sample Throughput*, Khanh Ha, Martin Schwalm, Bristol-Myers Squibb
2:20	*Class-Selective Extraction of Streptomycin and Related Drugs from Cell Culture and Peptide Solutions Using Moleculalrly-Imprinted Polymer SPE and LC/MS/MS*, Emily Barrey, Olga Shimelis, Michael Ye, Supelco
2:40	*Investigating Matrix Interference in Bioanalysis of Antiarrhythmic Cardiac Drugs*, Craig Aurand, Dave S. Bell, Lori Fields, Supelco
3:00	*SOTAX MultiDose: Fully Automated Bench-Top Dissolution*, Geoffrey Grove, SOTAX
3:20	Break
3:40	*Simplifying Complex Robotic Methods Using Visual Basic*, Sam Abdelhamid, Purdue Pharma
4:00	*Robotic Rheometry: A Novel Approach to High-Throughput Material Research*, James P. Eickhoff, Jr., Prajakta Kamerkar, Maxine Quitaro, Anton Paar USA
4:20	*Gel Point Determination Thanks to Microrheology*, Jonathan B. Denis, Formulaction Inc.
4:40	*A Novel Engineered Carbon Intended for Pigmented Sample Cleanup*, Dwight Stoll, Conor Smith, Jonathan Thompson, Gustavus Adolphus College