

April 2013

Newsletter of the Eastern Analytical Symposium & Exposition

## EAS 2013 – Analytical In Motion: Knowledge, Network and Career



Spring is here and plans for EAS 2013 are in motion. It is my pleasure to be in a position to watch all the wheels turning to bring to life a dynamic meeting for this year.

The Program Committee is finalizing the invited sessions to bring you the best speakers throughout the fields of analytical sciences as well as current hot topics in industry. Contributed abstracts continue to come in to build our oral and posters sessions. In addition, the Program Committee and the Award Committee have collaborated to organize a plenary session on Monday afternoon and the Fields of Analytical Chemistry Award Winner will deliver the keynote address to the entire EAS conference. The Short Course Committee has put together a great list

of Short Courses. We have brought back the most popular topics from previous years and have added many new topics. In addition, we are offering half-day short courses for those of you who have limited time to be at our meeting. The Exposition Committee is introducing a new floor plan to promote more networking opportunities, improve the flow of traffic, and better accommodate the Technology Tour and Employment Bureau.

Glancing through the program, I am amazed at how much is packed into 3 short days! Your time is valuable to us and we want you to get the most from our meeting. You may find a solution for your problem, a new application of technology, a discussion on critical regulation, or a training opportunity. The possibilities are endless.

I challenge you to put Analytical In Motion as we take AIM to improve your *knowledge*, build your *network* and advance your *career*. Join us for EAS 2013.

Kim Huynh-Ba President EAS 2013



November 18–20, 2013 Garden State Exhibit Center Somerset, New Jersey



#### **Registration Fees for 2013 EAS**

[See details posted at www.eas.org]

Registration received	Before Oct. 15	After Oct. 15
Full Conferee (includes all technical sessions, exposition, employment bureau, and a souvenir)	\$145	\$195
Exhibit-Only (includes poster sessions, exposition, employment bureau, and a souvenir)	\$75	\$75
Undergraduate Student (includes same items as full conferee, but at a reduced cost. Must provide student i.d.)	\$25	\$25
High School Student with Seminar (must register for a seminar)	\$0	\$0
Half-Day Short Course (must register as full conferee in order to take course)	\$300	\$500
One-Day Short Course (must register as full conferee in order to take course)	\$550	\$750
Two-Day Short Course (must register as full conferee in order to take course)	\$750	\$1100

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## Visit These Exhibitors at the 2013 EAS

Last updated April 12, 2013

**ABC** Laboratories Advanced Chemistry Development, Inc. Advantage Business Media Advantest Agilent Technologies Inc. Airgas East Air Liquide America Specialty Gases ALMAC American Chemical Society's New York Section American Laboratory Magazine (ISC) Analtech, Inc. Angstrom Scientific Anton PAAR USA Arizona Instruments Atlantic Analytical Laboratory Avomeen Analytical Services Axiom Analytical B&W Tek Baseline Service Berghof/America Biotage Bonna-Agela Technologies BrightSpec Bruker Carltex, Inc. Carl Zeiss Microimaging CAS Case Laboratories **CEM** Corporation **Cerilliant** Corporation Chata Biosystems Chemglass Life Sciences Chromatography Forum of the Delaware Valley Cobalt Light Systems Coblentz Society Compco Analytical Cosa Instrument **Decagon Devices** DeltaNu/Intevac **Dissolution Technologies** Distek, Inc. D-ploy USA Drug Development and Delivery Eigenvector **Elemental Scientific EMD** Millipore EMSL Analytical **ES** Industries

Exel Laboratory Services Excellims Formulaction FOSS Freeman Technology Gases and Instrumentation GenTech Scientific Gerstel, Inc. Gilson, Inc. Glas-Col GTS-Welco, Inc. **GVS** Filter Technology Hi-Scope System Company Hitachi High Technologies America Honeywell Burdick & Jackson Horizon Technology, Inc. Hudson Surface Tech Inovatia Laboratories LLC International Scientific Communications (ISC) **ITSP Solutions** Jade Scientific JEOL USA, Inc. Jordi Labs LLC Joule Scientific **Kinesis** Lab Manager Magazine Labman Automation Laboratory Equipment Lab Support LabSynergy LabX LC\*GC/Spectroscopy Leco Corporation LGC Standards Mac-Mod Analytical Macherey-Nagel, Inc. Markes International Mass Tech Metrohm USA Mettler Toledo Microbac Laboratories MicroLiter Analytical Supplies, Inc. MicroSolv Technology Molnar Institute Nacalai USA New Era Enterprises, Inc New York Microscopical Society North Jersey ACS Orochem Technologies Inc.

Oxford Instruments Pace Analytical Packaged Gas Systems Pall Life Sciences PANalytical Parker Balston Peak Scientific PerkinElmer Pharmaceutical Formulation and Quality Phenomenex, Inc. pION, Inc. Polytec, Inc. PPD Protea Biosciences Quantum Analytics **Reaction Analytics Real-Time Analyzers Restek Corporation** Rigaku Americas Corp. Rigaku Raman Robertson Microlit Laboratories, Inc. Rudolph Research Analytical SGE Analytical SGS Life Science Services Shimadzu Scientific Instruments, Inc. Silicycle Sirius Analytical Sonntek, Inc. Sotax Corporation Specialty Gas Report Spectra Analysis Instruments Spex CertiPrep Spex SamplePrep Supelco/Sigma-Aldrich Surface Measurement Systems TA Instruments Taylor and Francis Thermo Scientific **Tiger Optics** Tosoh Bioscience LLC TSI, Inc. USP (U.S. Pharmacopeia) Waters Corporation Wiley Wilmad-LabGlass Wyatt Technology Corp. Xylem/OI Analytical YMC Co., Ltd. ZirChrom Separations, Inc.

Reserve your booth now for the 2013 Eastern Analytical Symposium, November 18-20, 2013, Somerset, New Jersey For more information contact Sheree Gold, EAS Exposition Director at: 610-485-4633 (phone) • 610-485-9467 (fax) • easinfo@aol.com (e-mail)

## The 2012 Eastern Analytical Symposium – Facts and Statistics

## Table I

2464
1386
636
442

## Table II

### Employer Category of Those Attending the 2012 EAS

Category	Number
Total Responding	1356
Industry	919
Academic (Student)	268
Academic (Faculty)	74
Self-Employed	50
Government	27
Retired	10
No Response	8

## Table III

Primary Job Responsibility of those Attending the 2012 EAS

Total Responding	1356
Chemist/Scientist	618
Student	252
Sales/Marketing	99
Lab Manager	91
Group Leader	82
Lab Director	49
Technician	48
Administration	44
Instructor/Professor	42
No Response	14
Retired	10
Purchasing	7

## Table IV

Topical Areas of Interest as Indicated by Registrants at the 2012 EAS	
Chromatography	720
HPLC/UPLC	715
Mass Spectrometry	574
GC	528
Pharmaceuticals	516
UV-Visible	363
Wet Chemistry	263
Ion Chromatography	244
Food Science	236
Near IR	217
Forensics	210
Atomic Spectroscopy	206
Biotechnology	
NMR	190
Environmental	187
Mid-IR	186
Flavors/Fragrances	181
Polymers	174
Raman	168
Fluorescence	156
Microscopy	156
Lab Automation/Robotics	153
Process Analysis	144
Thermal Analysis	130
TLC	119
Education	118
Chemometrics	114
Cosmetics	108
ISO/GMP	105
Electrochemistry	102

SFE/SFC	86
Surfaces	75
Hazard Analysis	56
CZE	46
Information Management/Science	46
Other	46
Heritage Conservation	44
No Response	8







## **2013 EAS Invited Technical Sessions**

Preliminary List as of April 15, 2013

#### Note: List does not include contributed oral or poster Sessions - these will be posted in the EAS Preliminary Program

It is only April but it is never too early to begin planning for the EAS 2013 conference in November. Our planning for the Fall is well under way with our awards and invited sessions being finalized in the next few weeks. A preview of this November's invited sessions and speakers are included below.

Please consider submitting your abstracts for oral and poster presentations for participation in our contributed sessions. Complementary papers to the topics mentioned below are especially welcome. Our deadline for contributed paper submissions has been extended until April 30<sup>th</sup>. This is your opportunity to share your work in depth with a broad group of scientists. Our goal is to involve each of you in this year's theme, *Analytical in Motion - Knowledge, Network, and Career.* 

EAS hosts many awards during the conference. The 2013 awardees have been announced and the programs for their award sessions are below. These are the stellar scientists in the fields of analytical chemistry and the sessions guarantee to invigorate us around future directions. This year we are particularly excited about our Fields award winner, Dr. Irving Wainer from the NIH, presenting a plenary lecture for all of EAS on Monday, Nov. 18<sup>th</sup> in the late afternoon. This presentation will be followed by a time of networking and refreshments with all attendees of EAS invited to attend. This is not an event to miss. *Justin Pennington, 2013 EAS Program Chair* 

### **Award Sessions**

EAS AWARD FOR OUTSTANDING ACHIEVEMENTS IN THE FIELDS OF ANALYTICAL CHEMISTRY Honoring Irving Wainer National Institutes of Health

#### Session Chair: Ruin Moaddel, National Institutes of Health

Ramp up the Pressure, Turn up the Heat: Secondary Effects in Chromatographic Method Scaling, David Lloyd, Bristol-Myers Squibb

Chirality in Bioanalysis and why we need Chiral Chromatography even with Enantiomerically Pure Drugs, Anne-Francoise Aubry, Bristol-Myers Squibb

High-Performance Affinity Microcolumns: Recent Developments in Clinical Testing, Pharmaceutical Analysis and Biointeraction Studies, David Hage, University of Nebraska

*Biochromatography an Endless Frontier*, Gabriella Massolini, Department of Drug Sciences

Whenever Someone Says: "Everybody knows that...." Stop listening, Irving Wainer, National Institutes of Health

#### EAS AWARD FOR OUTSTANDING ACHIEVEMENTS IN NEAR INFRARED SPECTROSCOPY Honoring Ms. Susan Foulk, Guided Wave

#### Session Chair: Katherine Bakeev, B&W Tek, Inc Sponsored by FOSS NIRSystems

NIR for a Quarter Century, Susan Foulk, Guided Wave

TBA, Shashi Mistry, Suncore

Monitoring, Online and in Real Time, the Coating of an Active Solution onto Tablets by Near Infrared Spectroscopy, Benoit Igne, Duquesne University

*Multivariate Optical Computing in Oilfield Exploration*, Micky Myrick, University of South Carolina

Near Infrared Spectroscopy for Assessment of Fetal, Maternal and Infant Health, David Burns, University of New Brunswick

### Award Sessions continued

EAS AWARD FOR OUTSTANDING ACHIEVEMENTS IN MAGNETIC RESONANCE Honoring Dr. Dennis A. Torchia National Institutes of Health

Session Chair: Edwin D. Becker, National Institutes of Health

Sponsored by Bruker BioSpin and New Era Enterprises

*NMR in Structural Biology: Synergy of Solid- and Solution-State Approaches*, Dennis A. Torchia, National Institutes of Health

Alpha-Synuclein, an Intrinsically Unstructured Protein. How Interesting can it be?, Ad Bax, National Institutes of Health

Seeing the Invisible by Solution NMR Spectroscopy, Lewis Kay, University of Toronto

*High Frequency Dynamic Nuclear Polarization*, Robert Griffin, Massachusetts Institute of Technology

#### EAS AWARD FOR OUTSTANDING ACHIEVEMENTS IN MASS SPECTROMETRY Honoring Dr. Michael L. Gross NIH/Washington University in St. Louis

Session Chair: David Russell, Texas A&M University Sponsored by Thermo Fisher Scientific

Mass Spectrometry for Assessing the Occurrence and Biological Consequences of Oxidatively Induced DNA Lesions, Yinsheng Wang, University of California, Riverside

Mass Spectrometry as a Tool for Structural Biology, Lisa M. Jones, IUPUI

Environment-Dependent Conformational Preferences of Peptides and Proteins, David Russell, Texas A&M University

Mass Spectrometry-Based Protein Footprinting: A Tool for Biophysics, Michael L. Gross, NIH/Washington University St. Louis





### Award Sessions continued

EAS AWARD FOR OUTSTANDING ACHIEVEMENTS IN CHEMOMETRICS

Honoring Dr. Olav Martin Kvalheim, University of Bergen

### Session Chair: Svante Wold

#### Sponsored by Eigenvector Research

Metabolic Profiling as the Fundament in Personalized Theranostics, Torbjörn Lundtstedt, Uppsala University

Biomarker Signatures for Disease Classification, Tarja Rajalahti Kvalheim, The Norwegian Multiple Sclerosis Competence Centre

Latent Variables - What are they, Svante Wold

Interpretation of Multivariate Data by I Atent Variables, Olav Martin Kvalheim, University of Bergen

#### EAS AWARD FOR OUTSTANDING ACHIEVEMENTS IN SEPARATION SCIENCE

Honoring Dr. Mark R. Schure, Kroungold Analytical, Inc.

#### Organizer: J. Ilja Siepmann, University of Minnesota Sponsored by Agilent Technologies

Orthogonal Separations: Metrics and Definitions in 1-D and 2-D Chromatography, Mark R. Schure, Kroungold Analytical, Inc.

Adventures in Two-Dimensional Liquid Chromatography, Peter W. Carr, University of Minnesota

Resolution of Transport and Kinetic Limitations in Protein Exchange in Polymer-Functionalized Adsorbents, Abraham M. Lenhoff, University of Delaware

Understanding Retention in RPLC: Insights from Molecular Simulation, J. Ilja Siepmann, University of Minnesota

#### AMERICAN MICROCHEMICAL SOCIETY BENEDETTI-PICHLER AWARD Honoring Dr. Mark A. Hayes, Arizona State University

#### Session Chair: Joseph Sneddon, McNeese University

Analysis of Vesicle Contents with Electrochemistry and Mass Spectrometry, Andrew Ewing, University of Gothenburg

TBA, Edgar Arriaga, Minnesota University

Microscale Separations Applied to Studies of Protein Aggregation, Doug Gilman, Louisiana State University

*Punctuated Microgradients for Bioanalysis*, Mark A. Hayes, Arizona State University

#### NEW YORK SECTION OF THE SOCIETY FOR APPLIED SPECTROSCOPY GOLD MEDAL AWARD

### Honoring Prof. Stephen P. Cramer, University of California

#### Session Chair: Deborah A. Peru, Colgate-Palmolive Co.

Synchrotron X-Ray Spectroscopy - How 10 Orders of Magnitude Makes Hard Things Easy", Stephen P. Cramer, University of CA

X-Ray Emission Spectroscopy - A Powerful Tool to Sudy Biocatalysts, Uwe Bergmann, Linac Coherent Light Source

Development of Nuclear Resonant Vibrational Spectroscopy and its Applications in Enzyme Dynamics, Esen Ercan Alp, Advanced Photon Source

The Good, the Bad and the Ugly: Understanding the Roles of Metals in Biology using Synchrotron Radiation, Graham George, University of Saskatchewan

## **Invited Sessions**

#### **BIOANALYSIS/BIOTECHNOLOGY**

New Technology for Quantitation of Intracellular Drugs in Transporter Studies

Chair: Mingshe Zhu, Bristol-Myers Squibb

Tailor-Made Transporter Assays for Stage-Specific Drug Discovery and Development, Imad Hanna, Novarits

Leveraging High-Throughput Transporter Inhibition Assays to Drive Decision Making and Enhance ADMET Knowledge, Lisa Elkin, Bristol-Myers Squibb

High-Throughput LC/MS/MS Based Permeability and Transporter Assays in Early Drug Discovery, Hui Zhang, Pfizer

Application of New Analytical Technology to Transporter Assays in Support of Drug Development, Ming Yao, Bristol-Myers Squibb

#### **CHEMOMETRICS**

Advancements in Chemometric Data Treatment Chair: Benoit Igne, Duquesne University

The Role of Chemometrics in Chromatography, Brian Rohrback, Infometrix

TBA, Karl Brooksh, University of Delaware

On the Relationship between Whitened Principle Components Analysis, Neal Gallagher, Eigenvector Research

Implementation of Out-of-Specification Diagnostic Tools in a Pharmaceutical Environment, Bu Dongsheng, Bristol-Myers Squibb

#### CHROMATOGRAPHY

Carbon Dioxide-Based HPLC: Modern SFC Chair: Larry Taylor, University of Virginia Tech

Evaluation of Non-Conventional Solvents on Immobilized Chiral Stationary Phases with Supercritical Fluid Chromatography, Jimmy DaSilva, Merck

Development of a Strategy to Transfer SFC Methods from Analytical to Preparative Scale, Chris Hudalla, Waters

Use of Supercritical Fluid Chromatography to Improve Efficiency of Medicinal Chemistry Purification, Larry Miller, Amgen

TBA, Terry Berger, Aurora-Agilent

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

High Resolution LC-MS Peptide Separations with Formic Acid Mobile Phases using Charge Surface Modified C18 Columns, Matthew Lauber, Waters

Advances in Sample Preparation and Chromatographic Separations in Bioanalytical Analyses, David Bell, Supelco

Recent Innovations in Core Shell HPLC Columns for the Separation of Biomolecules, Jason Anspach, Phenomenex

Challenges and Rewards for Fast and High-Performance Techniques for Protein Separations-Application Point of View, Phu Duong, Agilent Technologies





### CHROMATOGRAPHY continued

Women in Chromatography: Solving Real Life Problems Chair: Mary Ellen McNally, DuPont Crop Protection

Supercritical Fluid Chromatography (SFC), a Widely Applicable Technique used in Industries from Pharmaceutical to Food, Jennifer Van Anda, Agilent Technologies

Keeping our Food Safe: Detection of Veterinary Drug Residues, Marilyn Schneider, USDA

Analytical Development in Over-the-Counter Drugs – Straddling Pharma and Consumer Products, Mary Selman, Rohto-Mentholatum Research Laboratories

Systematic Investigation of Factors that Affect Precision in HPLC, Mary Ellen McNally, DuPont Crop Protection

#### Advancements in Stationary Phase Chair: Landon Greene, Bristol-Myers Squibb

Developments in Particles, Columns and Phases for HPLC and UHPLC, Richard Henry, Consultant

Carbon-Based Phases Revisited: New Chemistries, and a Fresh Perspective on Old Chemistries, Dwight Stoll, Gustavus Adolphus College

The Development and Utilization of Sub-2 Micron Chromatography Columns, Matthew Przybyciel, ES Industries

Getting Away from Helium: Evaluation of Alternative Carrier Gases for GC-MS Analysis, Stephen Toth, International Flavors & Fragrances

#### **CONSERVATION SCIENCE**

Analytical Imaging for Cultural Heritage Part I, organized in cooperation with the New York Conservation Foundation Chair: John Scott, NYCF

Analytical Imaging for Cultural Heritage, John Scott, NYCF

Spectroscopic Imaging in Cultural Heritage Science, Edward Vicenzi, Museum Conservation Institute

Watching Paint Age: Digital Imaging and Analysis Systems used to Characterize the Performance of Paints and Coatings at Dow Coating Materials, Melinda Keefe, Dow Chemical Company

Watching Paint Age: Designing Digital Imaging and Analysis Systems used to Characterize the Performance of Paints and Coatings, Michael Linsen, Dow Chemical Company

# Analytical Imaging for Cultural Heritage Part II, organized in cooperation with the New York Conservation Foundation Chair: John Scott, NYCF

Recent Advances in Documentary and Analytical Imaging, E. Keats Webb, Museum Conservation Institute

Computed Tomography with Elemental Analysis for Very Large Intact Archeological Excavations, Nicole Ebinger-Rist, Baden-Wuertemberg Historic Preservation Agency

Three Dimensional Photogrammetric Imaging, Mariano Ullibari, Georgia O'Keeffe Museum

#### Environmental Analysis for Cultural Heritage Part I, organized in cooperation with NY Conservation Foundation Chair: John Scott, NYCF

Environmental Analysis for Cultural Heritage, John Scott, NYCF

Managing Cultural Heritage Environments, Cecily Grzwacz, Smithsonian Institution's National Gallery of Art

Toward Remotely Assessing Heritage Environments and Materials, Henoc Agbota, University College, London

#### **CONSERVATION SCIENCE** continued

Environmental Analysis for Cultural Heritage Part II, organized in cooperation with NY Conservation Foundation Chair: John Scott, NYCF

Monitoring Health Factors during Conservation of Metallic Lead, Shaundree Davis, Princeton University

Monitoring and Managing Museum Storage, Annie Hall, Cooper Hewitt National Design Museum

Monitoring Museum Environmental Factors, Paolo Dionisi-Vici, Metropolitan Museum of Art

#### EDUCATION

American Chemical Society Certification - How, When, Why Chair: Cecil Dybowski, University of Delaware

*The ACS Approval Process - A Preview of Coming Attractions,* Cynthia Larive, University of California at Riverside

The Role of Research in the ACS Certified Degree, Thomas Wenzel, Bates College

Boots on the Ground: The Role of the Visiting Associate in the ACS Approval Program, Richard Dallinger, Alabash College

ACS Guidelines as a Catalyst for Institutional and Curricular Change, Kimberley Woznack, California University of PA

#### CONSUMER PRODUCTS

Consumer Products - Challenges & Strategies Chair: Susan Friedman, Colgate Palmolive Company

Challenges in Developing Robust Analytical Methods for Consumer Products, Jacqueline Erickson, GlaxoSmithKline

Modernization of the USP Monograph with a Focus on the Consumer Products/ OTC Industry, Leonel Santos, United States Pharmacopeia

Microscopy and Imaging Approaches for Solving Problems and Delighting Consumers, Ian Henry, Procter & Gamble

Implementation Challenges of Near IR Analysis in the Consumer Products Industry, Ramon Santana, Colgate-Palmolive Company

#### FORENSIC ANALYSIS

Innovations in Forensic Drug Analysis Chair: Thomas Blackwell, DEA Northeast Laboratory

DART-MS Analysis of Synthetic Cannabinoids, Jason Shepard, University at Albany

A Study of Positional Isomers Using Linear Ion Trap LCMS/MS and Q-TOF LC/MS, Andrea Placke, DEA Northeast Laboratory

Forensic Applications of Comprehensive GC with TOF-MS, Frank Dorman, Penn State University

Development of a Surface-Enhanced Raman Spectroscopy Method for the Detection of Benzodiazepines in Urine, Erika Doctor, Florida International University

#### Forensic Toxicology: From Sample to Interpretation Chair: Jeffery Hackett, UCT Inc.

Recommendations for Toxicological Investigation of Drug Impaired Driving and Motor Vehicle Fatalities, Kayla Lowrie, Center for Forensic Science Research and Education

SPE in Forensic Toxicology, Michael Telepchak, UTC Inc.

Separation of Morphine Glucuronides using HILIC, James Anasti, Cedar Crest College

Case Reports in the Analysis of Designer Drugs, Jeffery Hackett, UTC Inc.





### FORENSIC ANALYSIS continued

Forensic Microscopy VII "What is it? Who does it?" Chair: Thomas Kubic, John Jay College

Firearms and Fabric, Peter Diaczuk, John Jay College

*Microanalysis of Environmental Particulates*, Randy Boltin, MVA Scientific Consultants

Does your UV-Visible Microspectrometer have Intrinsic Polarization?, Dale Purcell, John Jay College

Forensic Microscopical Examination of Dust, Nick Petraco, New York City Police Department Crime Laboratory

#### LABORATORY MANAGEMENT

The Key to a Successful Lab: Work Smarter, organized by ALMA

Chair: Dennis Swijter, International Flavors and Fragrances

Coaching your Team to Improved Performance, Stephanie Olexa, Lehigh University

*S.M.A.R.T. Laboratory Practices*, Julius Buenconsejo, Keppel Seghers Engineering

Managing for Increased Productivity in a Rapidly Evolving Analytical Landscape, Richard Durand, Sun Chemical

Leadership in Safety: The Managers Role, James Kaufman, Lab Safety Institute

#### MASS SPECTROMETRY

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

Dysregulation of Kynurenine Metabolites in Mouse Models of

Inflammation Associated Depression, David Budac A Chemical Derivatization Approach for the Quantification of Genotoxic Impurities HOPO and EDAC-HCI at Sub-ppm Level by LC-MS/MS, Wei Ding, Bristol-Myers Squibb

Enabling Rapid, Sensitive Peptide Quantitation Through Automation and Nano-LC-MS, Weixun Wang, Merck

#### NMR SPECTROMETRY

#### NMR of Molecules: Small and Large Chair: Tatyana Polenova, University of Delaware

*Utility of NMR in the Development of Protein Drugs*, Luciano Mueller, Bristol Myers Squibb

Regulation of Protein Tyrosine Kinase Signaling in Bacteria, Ranajeet Ghose, CUNY- CCNY

Molecular Dynamics Revealed: A 2H Solid-State NMR Investigation, Bernie O'Hare, Bruker Biospin

Anisotropic Interactions in MAS Solid-State NMR Spectroscopy: Methodology Development and Applications in Protein Assemblies, Guangjin Hou, University of Delaware

Molecular Insights into the Recognition of Cellular Membrane Geometry, Fang Tian, Penn State-Hershey

TBA, LV Lakshmi, Rensselaer Polytechnic Institute

#### NMR SPECTROMETRY continued

Structural Studies by Magnetic Resonance Spectroscopy Chair: Patrick van der Wel, University of Pittsburgh School of Medicine

EPR and NMR Studies of Membrane Proteins, Gary Lorigan, Miami University

Structural Basis for Membrane Disruption by Model Amyloid Peptides, Simon Sharpe, University of Toronto

Mechanism of Transient Sequential Domain Interactions in Nonribosomal Peptide Synthetases Revealed by NMR, Dominique Frueh, Johns Hopkins School of Medicine

Amyloid Fibrils in Alzheimer's Disease, from Test Tube to Human Brain, Wei Qiang, National Institutes of Health

Investigating the Structure, Oligomerization, and Topology of Caveolin-1, Jebrell Glover, Lehigh University

Application of NMR Crystallography to Drug Development, Heather Frericks Schmidt, Pfizer

#### PHARMACEUTICAL ANALYSIS

USP Compendial Standards: Recent and Future Updates Chairs: Kim Huynh-Ba, Pharmalytik and Leonel M. Santos, United States Pharmacopeia (USP)

*Impurities in Drug Products: Recent Updates*, Antonio Hernandez-Cardoso, USP

Dissolution/Drug Release Testing - Compendial Updates, Erika Stippler, USP

USP Packaging Standards - Recent Changes and those to Come, Desmond Hunt, USP

Recent Revision of Spectroscopy Chapters, Horacio Papa, USP

## Analytical Inhalation Session: Bringing Patients into the Lab Chair: Jennifer Wylie, Merck

Nasal Casts, Julie Suman, Next Breath

Flow Profile Simulator, Joe Kocinsky, Mannkind

Next Gen Cascade Impaction, Adrian Goodey, Merck

*Bioanalytical Method for Tobramycin*, Min Li, Virginia Commonwealth University

## PAT for Continuous Manufacturing and Real-Time Release Testing (RTRT)

#### Chair: Joseph Medendorp, Vertex Pharmaceuticals

PAT Options for Measuring Induction Seals and Blister Packs, Robert Lodder, BioSpherix

A Look at RTRT Nearly One Decade Following Approval, Steve Short, Merck

Method Development, Method Validation, Specifications and Data Reporting for RTRT, Henrik Rasmussen, Vertex

Application of an Advanced Process Controller to a Continuous Mixing / Direct Compression Process, Daniel Blackwood, Pfizer





#### PHARMACEUTICAL ANALYSIS continued

Spectroscopic Imaging for Dissolution and Pharmaceutical Development

#### Chair: Xujin Lu, Bristol-Myers Squibb

UV Surface Imaging Studies of Dissolution Behaviors of an Extended Release Drug Formulation, Chris Zordan, Bristol-Myers Squibb

Spatially Resolved Quantitative Magnetic Resonance Imaging Studies of API Behaviour during In-Vitro Dissolution of Solid Dosage Forms, Michael Mantle, Cambridge University

A Miniaturized Instrument for Rapid In-Vitro Release Testing, David Goodall, Paraytec

Understanding Dissolution Inconsistency through In-Situ Study of Disintegration Mechanisms using FBMR, Jack Shu, Mettler Toledo

Analytical, Process, Regulatory Perspectives in Quality-by-Design for Biologics Development Chair: Jianmei Kochling, Genzyme

Application of Quality-by-Design Strategies to Analytical Method Development, Serena Wang, Merck

*Quality-by-Design:* Specifications Setting for Biological Drug Development, Nanda Subbarao, Biologics Consulting Group

Analytical Methods Life Cycle Management in Quality-by-Design Paradigm for Biological Drug Development and Commercialization, Deborah Aguiar, Genzyme

Formulation Development Using DOE for an Antibody Product: A Case Study, Bhalla Amardeep, Merck

#### **SPECTROSCOPY**

Spectroscopic Applications in Biologics, *organized by the Coblentz Society* 

#### Chair: Brandye Smith-Goettler, Coblentz Society

Deep UV Resonance Raman Spectroscopy of Biopharmaceuticals, Sergey Arzhantsev, USFDA

Characterization and Spectroscopic Applications in Pulmonary Delivery and Advanced Dry Powder Inhalers, Heidi Mansour, University of Arizona-Tucson

Application of In-Line Raman for Real-time Measurement of Carbon Source in Mammalian Cell Culture Fermentation, Louis Obando, Merck Sharpe & Dohme

Raw Material Characterization for Mammalian Cell-Cultures using Spectral Technologies, Seongkyu Yoon, MA BioManufacturing Center

Spectroscopic Applications in Biomedical Sensing, organized by the Coblentz Society

Chair: Brandye Smith-Goettler, Coblentz Society

Semi-Conductor Compatible Plasmonic Materials: The Next Wave of Optical Sensing Technology, Stefan Franzen, North Carolina State University

Modeling Spectroscopic Imaging Optical Paths for New Biomedical Sensing Opportunities, Rohit Bhargava, University of Illinois at Urbana-Champaign

Surface Enhanced Raman Scattering (SERS): New Pathways for Rapid, Parallel and Low-Level Analyte Detection, Jennifer Granger, Nano Institute SPECTROSCOPY continued

Advanced Vibrational Spectroscopy: Instrumentation and Applications, *organized by the Coblentz Society* Chair: Ian Lewis, Kaiser Optical Systems

Calibration Standards to Facilitate Data Exchange Between Raman Spectrometers, Aaron Urbas, NIST

Coupling QbD with Raman Spectroscopy, John Wasylyk, Bristol-Myers Squibb

Handheld Spectrometers: Providing Answers in the Field, Richard Crocombe, Thermo Fisher Scientific

High Spatial Resolution Infrared Spectroscopy and Imaging using AFM Detection, Curt Marcott, Light Light Solutions, LLC

#### SURFACE ANALYSIS

#### Spectroscopy at Surfaces and Interfaces Chair: Lars Gundlac, University of Delaware

*Two-Dimensional IR Spectroscopy: A New Technique for the Analytical Sciences*, Martin Zanni, University of Wisconsin Madison

Photophysics of Single to Multiple Excitons in Carbon Nanotubes, Todd Krauss, University of Rochester

Using Nanoparticle to Probe Diffusion of Glassy Surfaces at Nanometer Length Scale, Zahra Fakhraai, University of Pennsylvania

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

#### Environmental Surface Chemistry Chair: John Newberg, University of Delaware

Scenes from the Edge: Atmospheric Chemistry of Environmental Interfaces, Faye McNeil, Columbia University

Interactions of Oxalic Acid on Ice, Liang Chu, University of Albany

Photolysis of Pollutants on Water and Ice Surfaces in the Presence of Environmental Contaminants, Tara Kahan, Syracuse University

Heterogeneous Reactions on Ice and Metal Oxide Surfaces Studied In-Situ by X-Ray Photoelectron Spectroscopy, Hendrik Bluhm, Lawrence Berkeley National Lab

#### ADDITIONAL INVITED SESSIONS

- EAS New Faculty Award in NMR Spectroscopy Chair: Tatyana Polenova, University of Delaware
- Innovations in Forensic Drug Analysis
- Chair: Thomas Blackwell, DEA Northeast Laboratory

  Industrial Microscopy
- Chairs: John R. Reffner, Dow and George R. Munzing Jr., BASF Corporation
- What's New in NIR Analysis? Chair: David Hopkins, NIR Consultant
- Applications of NMR in the Pharmaceutical Industry Chair: Gary Martin, Merck
- Chromatography
   Chair: Neil Danielson

## SHORT COURSES AT-A-GLANCE

EAS short courses are designed to help the practicing analyst develop new skills and enhance knowledge. Taught by experts, the short courses emphasize practical knowledge of a variety of important topics to help one keep current with best practices and new techniques.

Pricing for 2013 Short Courses is \$300 for a half-day course, \$550 for a one-day course and \$750 for a two-day course if registered by Oct. 15, 2013. Pricing after Oct. 15, 2013 is \$500 for a half-day course, \$750 for a one-day course and \$1,100 for a two-day course; note: pricing for courses is in addition to the Full Conferee registration fee. *Courses are subject to changes*. Visit our website for full course descriptions. *Daniel Norwood, 2013 Short Course Chair* 

# of Days	Course Name	Instructor(s)	
1-day	NMR: Basic Theory, Spectral Interpretation and Applications NEW!	Dr. Nina Gonnella	
1-day	Green Analytical Chemistry NEW!	Dr. Douglas E. Raynie	
1-day	Digital Photogrammetric Analysis for Heritage Conservation NEW!	ТВА	
1-day	Quantitative Lab Skills for the Modern Analyst NEW!	Dr. Merlin K.L. Bicking	
1-day	Quality Control of Small Molecule Drugs and Recombinant Biologics: Fundamentals and Best Practices NEW!	Dr. Michael W. Dong	
1-day	Qualification of Analytical Instruments for the Pharmaceutical Lab NEW!	Mr. Gregory Martin	
½-day	Leachables and Extractables Considerations for the Pharmaceutical Regulatory Environment NEW!	Dr. Thomas Feinberg	
½-day	Small Molecule Single-Crystal X-Ray Crystallography in Structural Chemistry NEW!	Dr. Nina Gonnella	
½-day	The Art of Managing a High Performance Laboratory NEW!	Dr. Wayne Collins	
½-day	Pharmaceutical Cleaning Validation NEW!	Dr. Jianmei Kochling	
2-day	Practical Gas Chromatography	Dr. Eugene F. Barry Dr. Thomas Brettell	
2-day	LC/MS: Theory, Instruments, and Applications	Dr. Guodong Chen Dr. Ragu Ramanathan	
2-day	Chemometrics Without Equations: Introduction Part 1 <b>and/or</b> Intermediate Part 2	Dr. Donald Dahlberg Dr. Barry M. Wise	
2-day	Essentials of Modern HPLC/UHPLC Part 1 and/or Part 2	Dr. Michael W. Dong	
2-day	Troubleshooting Chromatographic Systems	Dr. Merlin K.L. Bicking Dr. Douglas E. Raynie	
2-day	How to Develop Validated HPLC Methods: Rational Design with Practical Statistics and Troubleshooting	Dr. Brian A. Bidlingmeyer Dr. Stanley N. Deming	
2-day	Quality-by-Design: A New Paradigm for the Analytical Laboratory Part 1 and/ or Part 2	Dr. Zenaida Otero Gephardt	
2-day	Physical Characterization and Analytical Test of Pharmaceutical Solids	Dr. Sean Chen Dr. Stephen Byrn	
1-day	Polymers: An Introduction and Characterization Techniques	Dr. Diep Nguyen	
1-day	Infrared Spectral Interpretation	Dr. Brian C. Smith	
1-day	Interpretation of Mass Spectra with Practical Solutions to Problems	Dr. Mike Lee	
1-day	Data Analysis with EXCEL for Improved Productivity in the Analytical Lab: New Uses for a Familiar Tool	Dr. Zenaida Otero Gephardt	
1-day	Development, Validation, Verification and Transfer of Analytical Methods: A Lifestyle Approach of Analytical Methods	Mr. Gregory Martin	
1-day	Practical Headspace Gas Chromatography	Dr. Mary Ellen P. McNally Dr. Thomas A. Brettell	
1-day	The Chemistry of Drug Degradation	Dr. Christopher Foti	
1-day	Dissolution: A Rational Approach to Developing and Validating Methods for a Variety of Purposes	Mr. Gregory Martin	
1-day	Sample Preparation: The Chemistry Behind the Techniques	Dr. Merlin K.L. Bicking Dr. Douglas E. Raynie	

## EAS Awards Program Tatyana Polenova, 2013 EAS Awards Chair

Each year the Eastern Analytical Symposium honors Analytical Chemists who have distinguished career achievements. The recipients of these awards advanced these fields by superior work in Developing Theory, Techniques or Instrumentation. At the 2013 Symposium scientists in six areas of endeavor, will be presented awards.



Dr. Irving Wainer National Institute of Aging EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry



Dr. Dennis Torchia National Institute of Dental and Craniofacial Research EAS Award for Outstanding Achievements in Nuclear Magnetic Resonance



Ms. Susan Foulk Guided Wave, Inc. EAS Award for Outstanding Achievements in Near Infrared Spectroscopy



Dr. Olav Kvalheim University of Bergen, Norway EAS Award for Outstanding Achievements in Chemometrics

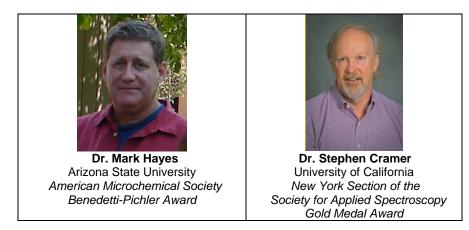


Dr. Michael L. Gross Washington University St. Louis EAS Award for Outstanding Achievements in Mass Spectroscopy



Dr. Mark R. Schure Kroungold Analytical EAS Award for Outstanding Achievements in Separation Science

Two other awards are presented at the Annual Symposium in November under the auspices of the presenting organizations



EAS Awards are selected by independent juries of experts in these respective fields from nominations received by the Award Committee from the scientific community at large or by the jury members. Each award consists of an honorarium, travel expenses to EAS, a plaque, and the opportunity for the Awardee to present his or her work at EAS at an Award Symposium in his/her honor.

Persons wishing to make a nomination for any of the awards given by EAS should send complete documentation of the candidate (nominating letter summarizing achievements, curriculum vita or resume, a statement of the nominee's willingness to present an address as part of an EAS Award Symposium, and arrange for at least one seconding letter) electronically (single PDF file is preferred) to: <a href="mailto:awards@eas.org">awards@eas.org</a>

The length of the nomination packet should be commensurate with the nominee's accomplishments, but should be limited to six to eight pages. The deadline for 2014 award nominations for all awards except the "Fields Award" is August 1, 2013. The deadline for the latter award is September 1, 2013.



## CALL FOR NOMINATIONS



## EAS Awards

EAS Awards are selected by independent juries of experts in these respective fields from nominations received by the Award Committee from the scientific community at large or by the jury members. Each award consists of an honorarium, travel expenses to EAS, a plaque, and the opportunity for the Awardee to present his or her work at EAS at an Award Symposium in his/her honor.

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### awards@eas.org

The length of the nomination packet should be commensurate with the nominee's accomplishments, but should be limited to six to eight pages. The deadline for 2014 award nominations for all awards except the "Fields Award" is August 1, 2013. The deadline for the latter award is September 1, 2013.

## EAS New Faculty Award in NMR Spectroscopy

The Eastern Analytical Symposium (EAS) invites nominations for an EAS New Faculty Award in NMR Spectroscopy. The Award will be presented at the 2013 Eastern Analytical Symposium held November 18 – 20, in Somerset, NJ. The Award, sponsored by Agilent Technologies, Inc., recognizes outstanding contributions by new faculty to the development of the field of NMR spectroscopy (broadly defined). To qualify for the award, candidates must at the time of the award hold a position as a tenure-track Assistant Professor in an academic institution in the US or Canada and be within 10 years of completing their terminal research degree. An Award winner will receive a certificate as well as \$2,000 and will deliver an award lecture at a dedicated EAS session.

Persons who wish to make a nomination for the EAS New Faculty Award in NMR Spectroscopy should send complete documentation of the candidate (nominating letter summarizing achievements, curriculum vita or resume, a statement of the nominee's willingness to present an address as part of the award symposium, and at least one seconding letter). The length of the nomination packet should be commensurate with the nominee's accomplishments, but should be limited to ten to fifteen pages. The **deadline for the 2013 Award nomination is May 1, 2013**. The Awardee will be selected by the EAS NMR Awards Committee and notified by July 1, 2013.

Please send the nomination materials electronically (single PDF file is preferred) to: <u>awards@eas.org</u>

## **2013 Student Awards**

The Eastern Analytical Symposium and Exhibition annually offers awards to recognize and encourage scientific promise and research talent in several under-graduate chemistry students. Each college may nominate one student *who will be a senior in November of 2013*.

Winners will receive an all-expense paid trip to the EAS, be presented with plaques at an award luncheon, and have an opportunity to present their research project in a poster session. In addition, they will be able to participate in all the usual activities of a world-class scientific convention and meet distinguished members of their future profession.

The awardees will be students who are already involved in research, in the broad field of analytical chemistry. Nominations should be in the form of a letter including the following:

- Your appraisal of how the student handles research, deals with problems, and gets involved in the research process.
- Student's postal and e-mail addresses for both the current spring semester and the summer.

Nominations are due by **April 30** and should be submitted by e-mail to **student.awards@eas.org** Questions: Contact Dr. Kebbekus at this e-address, or by phone at 609-577-2261.

## 2013 EAS Seminars

#### Eastern Analytical Symposium has refocused and expanded its Outreach Program for undergraduates and high school teachers.

EAS offers four seminars essentially for high school teachers and undergraduate students during the November meeting. Each seminar has outstanding presenters from academia and industry. The goal of each seminar is to demonstrate the advantages of a career in chemistry. The topics of these seminars include (subject to change):

### Chemistry and Climate Dynamics

#### Sunday, November 17, 2013 Registration Limited to Middle and High School Teachers

## 1:00 p.m. to 4:00 p.m.

This seminar, presented by Professor Chris E. Forest, Associate Professor of Climate Dynamics at Pennsylvania State University, is designed to provide teachers an understanding of the role of chemistry in atmospheric processes as related to climate change. The seminar covers the fundamental science to understand: the links between chemistry and climate change (atmospheric, biologic, geophysical) and the chemistry of greenhouse gases and atmospheric pollution in the climate system. Teachers taking this seminar will gain a basis for incorporating these concepts into their high school science curricula.

### **Chemistry and Climate Change**

#### Monday, November 18, 2013 Registration for Qualified Teachers and Students 10:00 a.m. to 1:00 p.m.

This seminar, presented by Professor Chris E. Forest, Associate Professor of Climate Dynamics at Pennsylvania State University, studies the role of chemistry in understanding climate change. Students are introduced to the role of biogeochemical processes in the Earth system and the basic concepts of climate dynamics. The focus is on understanding the role of chemistry in maintaining the Earth's climate and interpreting changes during geologic, historical, and future periods.

### **Analytical Chemistry and Forensic Science**

#### Tuesday, November 19, 2013 Registration for Qualified Teachers and Students

10:00 a.m. to 1:00 p.m.

In this seminar, organized by Dr. Richard Saferstein, several speakers discuss a variety of analytical technologies that are applicable to solving forensic science problems. Students are introduced to the science of forensic toxicology and learn the strategies that forensic toxicologists employ to detect poisons and drugs in the human body. Significant achievements that have been made in utilizing DNA typing for the purposes of linking biological evidence to a single individual are also discussed. A number of actual case discussions are presented and finally an overview of how forensic analysis makes use of minute particles in resolving crimes is given.

## **Chemical Identity via Mass Spectrometry**

## Wednesday, November 20, 2013 Registration for Qualified Teachers and Students

10:00 a.m. to 1:00 p.m.

This seminar, organized by Dr. Mingxiang Lin (Merck & Co.) sponsored by the North Jersey Mass Spectrometry Discussion Group, is designed to familiarize students with the fundamentals of mass spectrometry. Several speakers discuss a variety of mass spectrometry techniques. Students get to practice their skills at identifying compounds based on a mass spectrum, and applications of MS in various disciplines are presented.

Students and teachers must pre-register to reserve a space. Information on schedules and registration will be posted on our website as soon as they are finalized. Please contact Eastern Analytical Symposium at <u>askeas@eas.org</u> or visit our website at <u>www.EAS.org</u> for more information. Registration will open early July 2013.



# The Governing Board of EAS would like to thank the following sponsors for their support

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**IMPORTANT DATES** 

instructions for the submission of final abstracts

Preliminary Program posted on www.EAS.org

session schedules and presentation guidelines

Deadline to register for 2013 EAS at a reduced price Deadline to cancel registration and still receive a refund

Nov. 18-20 52nd Eastern Analytical Symposium & Exposition in Somerset, NJ

How to contact us....

session schedules

Registration opens

Abstract submission opens for contributed oral and poster abstracts

Abstract submission deadline extended for contributed papers

Presenters of invited presentations are contacted by email with

Presenters of invited presentations are contacted by email with

Deadline for receipt of final abstracts for invited presentations

Presenters of contributed presentations are contacted by email with

Abstract submission deadline for contributed oral and poster abstracts

## 2013 EAS

## November 18-20, 2013

March 1

April 15

April 30

May 1

June 1

June 15

June 30 Julv 1

July 1

Oct. 15

Nov. 1

## Somerset, NJ

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