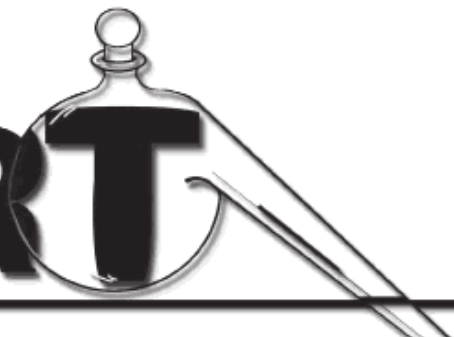




RETORT



May 2015

Newsletter of the Eastern Analytical Symposium & Exposition

EAS 2015 – Analytical Innovation from Benchtop to Business



I am excited to announce that Nobel Laureate Professor Kurt Wüthrich will be the Plenary Speaker for EAS 2015! See the following page for more details.

Glancing through this issue of the "Retort" you will realize that significant progress has been made since February. The Short Course Committee brings back highly demanded short courses and develops new ones to meet your evolving needs. The Program Committee has finalized the invited sessions and adds a few exciting sessions, such as "3D Technology: Leveraging Today's Tools for Tomorrow's Applications" and "Analytical Testing for the Cannabis Industry: Consumer Safety vs. Regulatory Requirements." For the technology entrepreneurs and business managers, Rutgers Business School is presenting a session on "Business Essentials for Technology Entrepreneurs" where you can learn about entrepreneurship, production and operation management, marketing, and leadership. Please consider showcasing your analytical innovation by submitting your abstract for an oral presentation by June 15.

We will offer three Workshops related to the employment: *Getting Hired - Secrets of a Contingency Recruiter, Using LinkedIn® Professional Networking Services to Network Your Way to a Job and More*, and *Sharpening your Presentation Skills – an Interactive Workshop*. We will also offer four Seminars for undergraduates and high school students and teachers; see page 10 for details.

The Exposition has 113 signed booths/tables at the time of writing and the list continues to grow. Visit our exhibitors this November to learn the latest development in analytical instrument and services.

I thank our sponsors for their generous support! More sponsorship opportunities are still available; please contact me for more information.

Please visit www.eas.org, and follow us on LinkedIn, Facebook or Twitter for up-to-date news about the symposium. I look forward to welcoming you to Somerset this November!

Oscar Liu, PhD
President, EAS 2015
Oscar.liu@eas.org

Registration Fees for 2015 EAS [Registration will open in early July]

	Registration received	Before Oct. 15	After Oct. 15
Full Conferee (includes all technical sessions, exposition, employment bureau, workshops seminars and a souvenir)		\$200	\$275
Exhibit-Only (includes poster sessions, exposition, employment bureau, and a souvenir)		\$100	\$100
Undergraduate Student (includes same items as full conferee, but at a reduced cost. Must provide student i.d.)		\$30	\$30
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)		\$320	\$520
One-Day Short Course (must register as full conferee in order to take course)		\$570	\$785
Two-Day Short Course (must register as full conferee in order to take course)		\$800	\$1170

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PLENARY LECTURE



EAS is pleased to announce that Nobel Laureate Professor Kurt Wüthrich will be the Plenary Speaker for EAS 2015.

Prof. Kurt Wüthrich is a Cecil H. and Ida M. Green Professor of Structural Biology at the Scripps Research Institute, La Jolla, CA, USA and Professor of Biophysics at the Swiss Federal Institute of Technology (ETH Zürich), Zürich, Switzerland. In 2002 Professor Wüthrich was awarded the Nobel Prize in Chemistry "for his development of nuclear magnetic resonance spectroscopy for determining the three-dimensional structure of biological macromolecules in solution."

Monday, November 16, 2015, 4:30 pm
DoubleTree Hotel, Ballroom

The lecture will be immediately followed by a reception; all registered attendees of EAS are encouraged to attend.

EAS Mixer in the Exposition Hall

Tuesday, November 17, 2015
from 4:00 to 5:30 pm

A mixer will be held in the poster area at the center of the exposition area.

Mix, mingle, and meet with your colleagues! Enjoy free refreshments while visiting our exhibitors to learn about the latest in analytical instrumentation, supplies, and services. This event is sponsored by our exhibitors and the 2015 EAS and is open to all registered attendees.

More details will follow in the Preliminary Program and Final Program.

CALL FOR PAPERS!

We invite you to be part of EAS's technical program by contributing a paper for consideration for an oral or poster presentation. EAS seeks contributions from scientists in all areas of analysis, which make its program uniquely strong. A preview of this November's invited sessions and speakers are included on the next few pages. Please consider submitting your abstracts for oral and poster presentations. Complementary papers to the topics mentioned are especially welcome.

EAS Call for Papers is now open; visit our website for more details and to submit
www.EAS.org/asubmit

You asked; we listened – extended deadlines!

Oral abstracts submission closes **June 15th**
Poster abstracts submission closes **Sept. 30th**

Submit a paper and be a part of EAS in November!

2015 EAS Invited Technical Sessions

Preliminary List as of May 4, 2015

Note: List does **not** include contributed oral or poster Sessions – these will be posted in the EAS Preliminary Program. Contributed abstract submission deadlines are June 15 for oral papers and September 30 for poster papers.

AWARD SESSIONS

EAS AWARD FOR OUTSTANDING ACHIEVEMENTS IN THE FIELDS OF ANALYTICAL CHEMISTRY

Honoring Chris Enke, Indiana University

Sponsored by Bristol-Myers Squibb

Chair: Qin C. Ji, Bristol-Myers Squibb

Distance-of-Flight Mass Spectrometry: The Joy of Collaborating with Chris Enke, Gary Hieftje, Indiana University

21 Tesla Fourier Transform Ion Cyclotron Resonance Mass Spectrometer: A National Resource for Ultrahigh Resolution Mass Analysis, Alan Marshall, Florida State University

Mass Spectrometry as a Method of Accelerated Small-Scale Synthesis, Graham Cooks, Purdue University

Comprehensive Analysis and the Theory of Complex Mixtures, Christie Enke, Indiana University

EAS AWARD FOR OUTSTANDING ACHIEVEMENTS IN NEAR INFRARED SPECTROSCOPY

Honoring Benoit Igne, GlaxoSmithKline

Sponsored by Metrohm USA

Chair: Carl Anderson, Duquesne University

Hyperspectral Image Calibrations for Transdermal Delivery Systems, Carl Anderson, Duquesne University

TBA, Charles Hurburgh, Iowa State University

TBA, Gary McGeorge, Bristol-Myers Squibb

When the Sample Makes the Technology, Benoit Igne, GlaxoSmithKline

EAS AWARD FOR OUTSTANDING ACHIEVEMENTS IN SEPARATION SCIENCES

Sponsored by Agilent Technologies

Honoring David Hage, University of Nebraska-Lincoln

Chair: William Clarke, Johns Hopkins University

Affinity Methods in Laboratory Medicine: Novel Tools for Clinical Analyses, William Clarke, Johns Hopkins University

Natural Product Screening Using Affinity Chromatography, Ruin Moaddel, National Institute on Aging, NIH

Affinity Chromatography as a Probe of Cellular Pharmacology: Current Practice and Future Directions, Irving Wainer, Mitchell Woods Pharmaceuticals

Frontiers in Affinity-Based Separations: Exploring New and Unique Tools for the Rapid Analysis of Clinical, Pharmaceutical and Environmental Samples, David Hage, University of Nebraska-Lincoln

EAS AWARD FOR OUTSTANDING ACHIEVEMENTS IN CHEMOMETRICS

Honoring Peter Wentzell, University Dalhousie

Sponsored by Eigenvektor Research

Chair: David Haaland, Spectral Resolutions

Session speakers to be announced

AWARD SESSIONS

EAS AWARD FOR OUTSTANDING ACHIEVEMENTS IN MASS SPECTROMETRY

Honoring Emile A. Schweikert, Texas A&M University

Sponsored by Thermo Fisher Scientific

Chair: Michael J. Van Stipdonk, Duquesne University

Micrometer-Scale Ion Traps from Micro-Mass Spectrometry to Quantum Information Processing: Why Instrumentation Still Matters, Matthew Blain, Sandia National Laboratory

Characterization of Semiconductor Materials by SIMS, Joe Bennett, National Institute of Standards and Technology

Trapped Ion Mobility Mass Spectrometry and the Preservation of Sample Features, Mel Park, Bruker Daltonics

Molecular Analysis at the Nanoscale, Emile A. Schweikert, Texas A&M University

EAS AWARD FOR OUTSTANDING ACHIEVEMENTS IN NUCLEAR MAGNETIC RESONANCE

Sponsored by Bruker BioSpin and New Era Enterprises

Honoring Timothy Cross, Florida State University

Chair: Eduard Chekmenev, Vanderbilt University

Membrane Proteins: Structural Heterogeneity, Dynamics and Functional Mechanisms from Solid State NMR, Timothy Cross, Florida State University

NMR of Membrane Proteins, Stanley Opella, University of California San Diego

Insights into the Mechanism of Action of Antimicrobial Peptide Piscidin: One Peptide Family, Multiple Roles in Host Defense, Myriam Cotton, Hamilton College

NMR Sensitivity Enhancement by Hyperpolarization, Eduard Chekmenev, Vanderbilt University

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

Honoring John A. Reffner, John Jay College

Chair: Deborah Peru, Colgate-Palmolive Co.

Some Milestones in Role of Infrared Microspectroscopy as Applied to Microscopic Trace Evidence: A Personal Perspective, Skip Palenik, MicroTrace

The Synergism between Raman and FTIR Microscopy, Fran Adar, Horiba Scientific

New Technologies for the Molecular, Nano, Meso and Micron Scale Characterization of Biopharmaceutical Products, Neil Lewis, Malvern Instruments

Uniting Microscopy and Molecular Spectroscopy, John Reffner, John Jay College

AMERICAN MICROCHEMICAL SOCIETY BENEDETTI PICHLER AWARD

Honoring: Apryll Stalcup, Irish Separation Science Cluster

Chair: Robert Vetrecin

Session speakers to be announced

BIOANALYSIS

From Benchtop to Bedside – Biomarker Analysis in Support of Translational Research

Chairs: Wenying Jian, Naidong Weng, Janssen R&D

Biomarkers of Oxidative Stress, Clementina Mesaros, University of Pennsylvania

Ion-Current-Based Clinical and Pharmaceutical Proteomics for Biomarker Discovery, Jun Qu, University of Buffalo

Biochemical and Biological Characterization of IL-25 Enriched from Primary Human T-Cells, Yazen Jmeian, Jansen R&D

Bioanalytical Challenges and Strategies for Developing a Highly Sensitive LC-MS/MS Method to Quantify Total and Free levels of a Soluble Target, Interferon-gamma-inducible Protein-10 at Picomolar Levels in Human Serum, Hongwei Zhang, Bristol-Myers Squibb

CHEMOMETRICS

Chemometrics Advances for Bioprocess Spectroscopic Monitoring and Control, organized by the Coblenz Society

Chair: Benoit Igne, GlaxoSmithKline

Identification of Model Parameters in Cell Culture Bioreactor by Raman Spectroscopy via Calibration-Free Way, Nicholas Spegazzini, Massachusetts Institute of Technology

The Use of Multi-Dimensional Fluorescence Spectroscopy for the Quantitative Analysis of Liquid Media: From Hydrolysates to Protein Solutions, Alan Ryder, National University of Ireland-Galway

Insightful Analytical Data from Upstream Bioprocesses with a Real-time In-Situ Monitor, Mark Arnold, University of Iowa

Using IR Absorption and Raman Spectroscopy for Characterization of Biomass Hydrolysis, Sergey Mozharov, University of Washington

CHROMATOGRAPHY

Young Investigators in Chromatography, sponsored by the Chromatography Forum of Delaware Valley

Chair: Mary Ellen McNally, DuPont Crop Protection

Utilizing Computational Predictions to Aid in the Design of Chromatographic and Electrophoretic Separations, Donna Blackney, Drexel University

Trace Level Impurity Analysis in Project Manufacturing, Andrew Kennedy, DuPont Crop Protection

Trace Analysis of Dioxins and Dioxin-Like PCBs Utilizing GC/MS/MS with a New Sensitive Source, Jessica Westland, Agilent Technologies

2D-LC: Practical Considerations and Applications, Marcelo Filgueira, The Dow Chemical Company

Solving Real-World Problems with Two-Dimensional LC, sponsored by the Chromatography Forum of Delaware Valley
Chairs: William Barber, Xiaoli Wang, Agilent Technologies

Two-Dimensional Liquid Chromatography Strategies Coupled with Mass Spectrometry for Efficiency, High Resolution Characterization of Therapeutic Monoclonal Antibodies, Dwight Stoll, Gustavus Adolphus College

TBA, Chris Welch, Merck

Two Dimensional Heart-Cutting UHPLC for Process Development, Nelu Grinberg, Boehringer Ingelheim

Microdosing Device and Drug Formulation Compatibility Study by 2DLC-MS, Lulu Dai, Genentech

CULTURAL HERITAGE

Terahertz and Allied Methods for Cultural Heritage, Part I, organized by the New York Conservation Foundation

Chair: Albert Redo-Sanchez, Massachusetts Institute of Technology

Terahertz in Art and Cultural Heritage Inspection: Present and Future, Albert Redo-Sanchez, Massachusetts Institute of Technology

Development of Novel Systems Architecture in THz Imaging for the Analysis of Cultural Heritage Materials, Roxanne Radpour, University of California-Los Angeles

Terahertz Systems for Cultural Heritage, Philip Taday, TeraView Ltd.

Characterization and Imaging of Archival Texts: Let's Have a Word with Terahertz!, Tiphaine Bardon, UCL Institute for Sustainable Heritage

Terahertz and Allied Methods for Cultural Heritage, Part II, organized by the New York Conservation Foundation

Chair: Ilaria Cacciari, CNR - Institute of Applied Physics 'Nello Carrara'

Terahertz Characterization of Archaeological Artefacts, Ilaria Cacciari, CNR - Institute of Applied Physics 'Nello Carrara'

Contribution of THz-Time Domain Imaging to Multi-Layered Artifact Inspection, Corinna Koch Dandolo, Technical University of Denmark

Terahertz Investigation of Materials and Hidden Structures in Historic Art, Enrique Castro Camus, Center of Investigations in Optica A.C.

THz Waveform Techniques for Nondestructive Evaluation in Dense Materials, David Plusquellic, National Institute of Standards and Technology

Analytical Methods for Cultural Heritage, Part I & II

organized by the New York Conservation Foundation

Chair: John Scott, New York Conservation Foundation

Terahertz in Art Culture and Coatings, Irl Duling, Advanced Photonix Inc

Low-Cost Multispectral Imaging for Art and Archaeology, Antonino Cosentino, Cultural Heritage Science Open Source

Battelle Smart Corrosion Detector™ Bead: Self-Healing with Corrosion Detection by Terahertz, Cindy Conner, Battelle Consumer & Industrial Products

Predictive Assessment of the Impact of Environment and Treatments on Heritage Materials, Fenella France, Library of Congress

EDUCATION

Business Essentials for Technology Entrepreneurs

Organizer: Lei Lei, Rutgers Business School

Chair: Yao Zhao, Rutgers Business School

Technical Entrepreneurship, Arturo Osorio, Rutgers Business School

Production and Operations Management, Yao Zhao, Rutgers Business School

Marketing, Lei Wang, Rutgers Business School

Management and Leadership, David Dobrzykowski, Rutgers Business School

FOOD & ENVIRONMENTAL ANALYSIS

Assuring Water Quality: The Application of Novel Analytical Technologies and Strategies, sponsored by NY ACS

Chair: Sut Ahuja, Ahuja Consulting

Assuring Water Quality with Advanced Analytical Methods, Sut Ahuja, Ahuja Consulting

Novel Cation-Exchange Phases for the Analysis of Alkali Metals and Alkaline Earth Cations in Drinking Water, Chris Pohl, Thermo Fisher Scientific

Recent Developments in Analyzing Ionic Components in Drinking Water, Kannan Srinivasan, Thermo Fisher Scientific

Understanding the Mechanism of Drinking Water Disinfection Organic By-products: Analytical Technology Partners with Organic Chemistry, Daniel Norwood

Advances in Food Analysis: Mycotoxins, Pesticides and Toxic Metals

Chairs: Christina Robb, Brian Eitzer, The Connecticut Agricultural Experiment Station

Pesticide Residue Analysis Using GC/MS/MS for Target Compounds and GC/Q-TOF for Screening, Phil Wylie, Agilent Technologies

Advancing FDA Regulatory Screening for Mycotoxins in Foods and Animal Feed Using Liquid Chromatography and Mass Spectrometry, Kai Zhang, US Food and Drug Administration

Heavy Metals in Seafood: Let's have a Risk/Benefit Conversation, Marc Engel, Florida Department of Agriculture, Donald M Axelrad, Florida A&M University

The Analysis of Pesticide Residues on Fruits and Vegetables Using Liquid Chromatography/High Resolution Mass Spectrometry, Brian Eitzer, The Connecticut Agricultural Experiment Station

Analytical Testing for the Cannabis Industry: Consumer Safety vs. Regulatory Requirements

Chair: Christopher Hudalla, ProVerde Labs

Analyzing Cannabis for Physiological Purposes, Jeffrey C. Raber, The Werk Shop

Obtaining Accurate Results for Residual Solvents in Cannabis Concentrates, Amanda Rigdon, Restek

Multiresidue Pesticide Analysis in a Highly Resinous Natural Product Matrix; Sample Preparation Strategies for Ultra High Performance LC-MS and SFC-MS Analysis, Michael S. Young, Waters Corporation

Applications of Supercritical CO₂ for the Analysis and Preparation of Cannabis as a Natural Therapeutic, Christopher Hudalla, ProVerde Labs

FORENSIC ANALYSIS

DNA Frontiers, sponsored by New Jersey Association of Forensic Scientists

Chair: Matthew Wood, Ocean County Sheriff's Office Forensic Laboratory

Wildlife Forensics: Development of In-House Assays for Non-Human Testing with Emphasis on Elephant DNA Testing, Jillian Fesolovich, Meredith Rohrbaugh, Arcadia University

Wildlife Forensics: Techniques and Applications, Jane Huffman, East Stroudsburg University

Validation and Implementation of the RapidHIT® 200 System in a Crime Lab, Megan Boll, NMS Labs

What is RAPID DNA Analysis? Introduction and New Research Directions, Tracey Dawson-Cruz, Virginia Commonwealth University

LABORATORY ANALYSIS

Issues about which Every Manager Should be Thinking
Chair: Dennis Swijter, International Flavors & Fragrances

What is Your Cultural Competence Level as a Laboratory Manager?, Ephraim Muchada Govere, Pennsylvania State University

Using Technology to Advance your Lab Through the Use of a LIMS Solution, Kim Charles, Labvantage Solutions

Managing the Sandbox: Coaching Toward Collaboration and Teamwork, Richard Durand, Sun Chemical

Lab Leadership-Are you a Chemist or a Manager, Jean-François Borny, CB&I

3D Technology: Leveraging Today's Tools for Tomorrow's Applications

Chair: Alex Baranowski, Bristol-Myers Squibb

3D Technology: A Journey through the Limits of Current Design and Implementation, Alex Baranowski, Bristol-Myers Squibb

3D Scanning: Rapid Analytics, Richman Siansimbi, DigitalScan3D

Continuous Liquid Interface Production, Rima Januszewicz, University of North Carolina-Chapel Hill

Development of Reactionware for Chemical Discovery by Combining 3D Printing and Configurable Robotics, Lee Cronin, University of Glasgow

MASS SPECTROMETRY

The Applications of Tandem Quadrupole Mass Spectrometry in Absolute Quantitation

Chair: Jim Shen, Bristol-Myers Squibb

Detection of Cathinone and Mephedrone in Plasma by LC-MS/MS Using Standard Addition Quantification Technique, Shu-Yuan Cheng, John Jay College

Sub-Classification of Anti-Drug Antibodies Using LC-MS/MS, Guowen Liu, Bristol-Myers Squibb

Applications of Tandem Mass Spectrometry in Forensic Toxicology, Thomas Rosano, Albany Medical Center Hospital and College

Advances in High Performance Mass Spectrometry for Quantitative Applications and Enhanced Productivity, Keeley Murphy, Thermo Fisher Scientific

New Approaches for Bioanalysis of Small Molecule and Biotherapeutics Beyond Traditional LC-MS/MS

Chair: Naiyu Zheng, Bristol-Myers Squibb

Analysis of Cyclic Peptides Resistant to Gas-Phase Fragmentation Using Survivor-Selected Ion Monitoring (Survivor-SIM) on an HRMS System, Eugene Ciccimaro, Bristol-Myers Squibb

Low-Flow LC-MS and Related Techniques for the Quantification of Biotherapeutics, Jun Qu, University at Buffalo

Improvement of LC-MS Peptide Quantitation Using Differential Mobility Spectrometry, Mingshe Zhu, Bristol-Myers Squibb

Ultrasensitive Quantification of Serum Estrogens Using Pre-ionized Derivatives and LC-MS, Ian A. Blair, University of Pennsylvania

MICROSCOPY

Forensic Microscopy IX

Chair: Thomas Kubic, John Jay College

Confocal Raman Microscopy and Forensic Evidence, Jennifer Leonard, John Jay College

Assessing the Utility of the Light Mineral Fraction of Soils for Forensic Applications, Jack Hietpas, ORISE-FBI

Characteristics and Impact Dynamics of Frangible Ammunition, Peter Diaczuk, John Jay College

Forensic Microscopy Investigations in Civil Litigation, Dale Purcell, SSCI

NMR SPECTROSCOPY

New Developments in Quantitative NMR: From Multinuclear to 2D Applications

Chair: Yande Huang, Bristol-Myers Squibb

From "Pure" Substances to Complex Mixtures: Applications of 1D Quantitative ¹H NMR in Medicinal Chemistry and Natural Product Research, Jose Napolitano Farina, AbbVie

Approaches to Quantitative 1D and 2D Carbon-13 NMR Spectroscopy, John Markley, University of Wisconsin-Madison

Using NMR to Understand Pharmaceutical Drug Dissolution, Andy Phillips, AstraZeneca

Improving the Efficiency of Quantitative 1H NMR: An Innovative External Standard-Internal Reference Approach, Yande Huang, Bristol-Myers Squibb

Advances in Solid-State NMR

Chairs: Yongchao Su, Merck

Investigating Viral Membrane Protein Structure and Function by Solid-State NMR, Mei Hong, Massachusetts Institute of Technology

Expediting the Cures: The Role of Solid-State NMR, George Crull, Bristol-Myers Squibb

Recent Development of Magnetic Resonance: Instrumentation, Physics and Applications, Yiqiao Song, Schlumberger-Doll Research

Application of Solid-State NMR in the Pharmaceutical Industry, Dirk Stueber, Merck

Macromolecular NMR: Probing Structure and Function

Chair: Nina Gonnella, Boehringer Ingelheim

The Role of Millisecond Conformational Motions in Enzyme Function and Allostery, Patrick Loria, Yale University

Use of 19F NMR to Probe Conformational Heterogeneity and Dynamics of Exchange in Functional RNA Molecules, Nancy Greenbaum, Hunter College

Hybrid Approaches for Protein Structure Determination Combining Computational Modeling with Sparse NMR Restraints, Gaetano Montelione, Rutgers University

FBLD Yields Orally Active, Brain Penetrant Inhibitors for BACE1 and PDE10A, Daniel Wyss, Merck

PHARMACEUTICAL ANALYSIS

Lifecycle Management of Analytical Validation of Pharmaceutical Products

Chairs: Domenick Vicchio, United States Pharmacopeia and Kim Huynh-Ba, Pharmalytik

Lifecycle Management of Compendial Monographs through Modernization, Leonel Santos, US Pharmacopeia

Analytical Method Lifecycle: Recent Updates from USP and FDA, Greg Martin, Complotors Consulting

Method Validation through the Phases of Drug Development, Kevin Dobmeier, Merck

Life Cycle Management for Method Validation of Biologics Drug Products, Nanda Subbarao, Biologics Consulting Group

Recent Advances in Trace Analysis and Process Control of Genotoxic Impurities in Pharmaceuticals

Chairs: Fenghe Qiu, Boehringer Ingelheim and David Liu, GlaxoSmithKline

ICH M7 Guideline Implementation Perspectives, Warren Ku, Boehringer Ingelheim

Advantages of HILIC-LCMS for the Trace GTI Analysis, Mohan Kanthasamy, Bristol Myers Squibb

Overcoming High Recovery Issues in Trace Level N-chlorosuccinimide (NCS) Analysis by Chemical Derivatization: Sample Matrix Effect, Hong Cui, GlaxoSmithKline

Generic GC-MS Method for Simultaneous Quantitation of Organohalide Alkylators and Benzene in Drug Substances, Li Cui, GlaxoSmithKline

Dissolution Testing: New Challenges and Solutions for In-Vitro Predictive Analysis

Chairs: Xujin Lu, Bristol-Myers Squibb and Justin Pennington, Merck

In-Vitro In-Vivo Correlation in a QbD Environment, Raimar Loebenberg, University of Alberta

Biorelevant Dissolution Measurements at the Drug Solubility Limit: Optimizing Exposure Rankings, Paul Harmon, Merck

Dissolution: Biorelevant or Clinical Relevant? Expectation vs. Reality and How can we do Better, Jian-Hwa Han, Abbvie

Biorelevant Dissolution Media and Applications in Pharmaceutical Development - Case Studies, Xujin Lu, Bristol-Myers Squibb

SPECTROSCOPY

Emerging Trends in Near Infrared Spectroscopy, organized by the Coblenz Society

Chair: Franklin E. Barton II, Light Light Solutions

A New Look at the Derivative Quotient Method in Regression, David Hopkins, NIR Consultant

A Novel Configuration for Near-Infrared Analysis of LPG Composition and Quality Control in a Refinery Setting, Susan Foulk, Guided Wave

New Use Cases of a Miniature Fit-for-Purpose NIR Spectrometer in Food, Agriculture, and Pharmaceutical Applications, Nada O'Brien, JDSU

Derivatives: What Are We Actually Doing?, Jim de Haseth, LLS Instruments

SPECTROSCOPY *continued*

Celebrating the "International Year of Light" - How Spectroscopists are Helping Save the World, organized by the Coblenz Society

Chair: Brandye Smith-Goettler, Merck

It's Finally Here: Making Quantitative Molecular Spectroscopy into a Metrical Science, Jerry Workman Jr., Unity Scientific

Infrared Microscopy for Practical Cancer Imaging, Rohit Bhargava, University of Illinois at Urbana-Champaign

Use of Near-IR and Hyperspectral Imaging in Analysis of Agricultural Commodities, Stephen R. Delwiche, USDA-ARS

NIR with Problem Data Sets, Franklin E. Barton II, Light Light Solutions

Light and the Single Molecule - Viewing the Nanoworld

Chair: Linda B. McGown, Rensselaer Polytechnic Institute

New Nano Tools for Follow-that-Molecule in Single Live Cells, Nancy Xu, Old Dominion University

Single-Molecule Nanocatalysis: From Fundamentals to Solar Energy Conversion, Peng Chen, Cornell University

Quantitative Single-Molecule Imaging of DNA Hybridization, Joel Harris, University of Utah

Spectroscopic Applications in the Pharmaceutical Industry, organized by the Coblenz Society

Chair: Steve Short, Merck

The Role of PAT in Continuous Manufacturing, Jennifer Schubert, Vertex

Transmission Raman Spectroscopy for the Analysis of Bilayered Tablets, Gary McGeorge, Bristol-Myers Squibb

Efficient Design of Experiments for Spectroscopic Calibrations Predicting Quality Attributes of Pharmaceutical Products, Carl Anderson, Duquesne University

Quality-by-Control Approaches for Crystallization Systems Using Spectroscopy-Based Feedback Control Technologies, Zoltan Nagy, Purdue University

SURFACE SCIENCE

Surface Functionalization of Nanoparticles and Nanomaterials

Chair: Andrew Teplyakov, University of Delaware

Surface and Interface Nanostructures of Oxide Catalysts for Solar Water Splitting, Bruce Koel, Princeton University

The Role of Surface Defect Sites of Transition Metal Oxide Nanoparticles in Clean Energy Production, Xianqin Wang, NJ Institute of Technology

Kinetics of Surface-Assisted Silica Nucleation on Model Biological Interfaces, Adam F. Wallace, University of Delaware

Surface Analysis and Correlation to Coating's Adhesion to Metal, Xiaochun Zhang, Ashland

ADDITIONAL INVITED SESSIONS

- **Forensic Toxicology**, sponsored by New Jersey Association of Forensic Scientists
Chair: Barry K. Logan, National Medical Services
- **The Best Chromatography is No Chromatography! - LC/MS Without a Column**
Chair: Daniel Norwood
- **Advances and Applications in Imaging Science and Technology**
Chair: John R. Reffner, Dow Chemical
- **Reaction Monitoring by NMR**
Chair: Gary Martin, Merck
- **Critical Issues in Inhalation Product Development**
Chair: Philippe Rogueda, Inhalation Asia
- **Chromatography of Biologics**, organized by the North Jersey Chromatography Group
Chair: Landon Greene, Bristol-Myers Squibb

2015 EAS WORKSHOPS & EMPLOYMENT BUREAU

EAS is committed to your professional development, as well as the enhancement of knowledge. Our workshops include topics to help develop your professional skills, as well as to hone other skills critical for career success. These workshops will provide insight into the best techniques for presenting your background and relevant experience using both social media and traditional resume formats. Skills such as these are essential today, and EAS is the place to begin or continue developing them. We offer different workshops each day, which are free to all attendees with a Full Conferee or Student registration. Workshop descriptions and registration details will be posted on the EAS website in early June -stay tuned!

Workshops for Nov. 16-18, 2015

- **Getting Hired, Secrets of a Contingency Recruiter**
Donald Truss, Solidus Services Group
- **Using LinkedIn® Professional Networking Services to Network Your Way to a Job and More**
Katie DeVito, Katie DeVito LLC
- **Sharpening your Presentation Skills - An Interactive Workshop**
Jana Casey, Bristol-Myers Squibb

An **Employment Bureau** is available to provide ample opportunity for employees to meet prospective employers. The Employment Bureau is located in the Exposition Hall and is free to all registered attendees. Visit our website for more details and job seeker forms. www.EAS.org

2015 EAS SHORT COURSES

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 2015 Short Courses is \$320 for a half-day course, \$570 for a one-day course and \$800 for a two-day course before Oct. 15. Pricing after Oct. 15, is \$520 for a half-day course, \$785 for a one-day course and \$1,170 for a two-day course; note: pricing for courses is in addition to the Full Conferee registration fee. Courses are subject to changes.

Click on the course title for full course descriptions.

# of Days	Course Names	Instructors
2-day	Practical Gas Chromatography	Eugene Barry, University of Massachusetts Thomas Brettell, Cedar Crest College
2-day	Troubleshooting Chromatographic Systems	Merlin K.L. Bicking, ACCT, Inc. Douglas E. Raynie, SD State University
2-day	Chemometrics Without Equations Part 1 &/or Part 2	Donald Dahlberg, Lebanon Valley College Neal Gallagher, Eigenvector Research
2-day	LC/MS: Theory, Instruments, and Applications	Guodong Chen, Bristol-Myers Squibb Ragu Ramanathan, Pfizer
2-day	How to Develop Validated HPLC Methods: Rational Design with Practical Statistics and Troubleshooting	Brian A. Bidlingmeyer, Agilent Technologies Stanley N. Deming, Statistical Designs
2-day	Physical Characterization and Methods of Analysis of Pharmaceutical Solids: Essential Knowledge and Advanced Applications; Part 1 &/or Part 2	Xiaoming (Sean) Chen, Shionogi Inc. Steve Byrn, Purdue University
1-day	Introduction to GLP Regulations and Bioanalytical Method Validation by LC-MS/MS (NEW!)	Perry Wang, LC-MS Technical Expert
1-day	Practical Guide to Performing HPLC and UHPLC Experiments in Reversed-Phase Mode (NEW!)	Merlin K. L. Bicking, ACCTA, Inc. Richard A. Henry, Consultant
1-day	Conducting Effective Investigations of Out of Specification and Atypical Laboratory Results: Using Root Cause Analysis and CAPA to Close Them Quickly and Keep Them from Coming Back (NEW!)	Gregory Martin, Complectors Consulting
1-day	Handheld Vibrational Spectrometers: State-of-the Art Instrumentation and Novel Applications (NEW!)	Heinz Siesler, University of Duisburg-Essen
1-day	Impurities in Pharmaceuticals: A Survey Course (NEW!)	Bernard Olsen, Olsen Pharmaceutical Consulting
1-day	Atomic Spectrometry: Applications of Elemental Analysis in the Pharmaceutical Industry (NEW!)	Timothy L. Shelbourn, Eli Lilly and Company
1-day	Keeping Current with GMP and Laboratory Controls in Generic Industry	Anthony DeStefano, YourEncore Kim Huynh-Ba, Pharmalytik
1-day	LC-MS Method Development for Small Molecule Pharmaceuticals	Perry Wang, LC-MS Technical Expert
1-day	Polymers: An Introduction and Characterization Techniques	Diep Nguyen, Illinois Institute of Technology
1-day	How to Create a more Effective Lab Safety Program	James Kaufman, Lab Safety Institute
1-day	Getting the most from GC and GC/MS	Gregory Slack, Clarkson University Nicholas Snow, Seton Hall University
1-day	Interpretation of Mass Spectra with Practical Solutions to Problems	Mike Lee, Milestone Development
1-day	Therapeutic Peptide and Protein Bioanalysis by LC-MS/MS	Faye Vazvaei, Roche Jianing Zeng, Bristol-Myers Squibb Jun Qu, SUNY-Buffalo Yan Zhang, Bristol-Myers Squibb
1-day	Sample Preparation: The Chemistry Behind the Techniques	Douglas E. Raynie, SD State University Merlin K.L. Bicking, ACCTA, Inc.
1-day	Introduction to Vibrational Spectroscopy for Real Time Analysis	Peter J. Larkin, Bristol-Myers Squibb John M. Wasylyk, Bristol-Myers Squibb
1-day	Developing, Validating and Troubleshooting Dissolution Methods	Gregory Martin, Complectors Consulting
1-day	The Chemistry of Drug Degradation	Chris Foti, Gilead Gregory Sluggett, Pfizer Todd Zelesky, Pfizer
½ -day	Making the Transition to GC-MS, GC-MS-MS and GCxGC-MS (NEW!)	Nicholas Snow, Seton Hall University Gregory Slack, Clarkson University
½ -day	Advanced HPLC/UHPLC Part 1 &/or Part 2 (NEW!)	Michael W. Dong, MWD Consulting
½ -day	HPLC Method Development Made Easy (NEW!)	Michael W. Dong, MWD Consulting
½ -day	Drug Quality Fundamentals Part I &/or Part 2	Michael W. Dong, MWD Consulting

EAS Awards Program

Thomas Brettell, 2015 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 2015 Symposium scientists in six areas of endeavor, will be presented awards.



Dr. Chris Enke
Indiana University
*EAS Award for Outstanding
Achievements
in the Fields of Analytical Chemistry*



Prof. Tim Cross
Florida State University
*EAS Award for Outstanding
Achievements in
Nuclear Magnetic Resonance*



Dr. Benoît Igne
GlaxoSmithKline
*EAS Award for Outstanding
Achievements in Near
Infrared Spectroscopy*



Dr. Peter Wentzell
Dalhousie University
*EAS Award for Outstanding
Achievements in Chemometrics*



Prof. Emile Schweikert
Texas A&M University
*EAS Award for Outstanding
Achievements in Mass Spectroscopy*

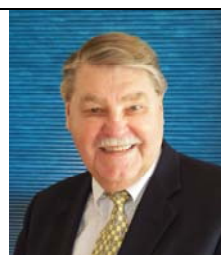


Prof. David Hage
University of Nebraska-Lincoln
*EAS Award for Outstanding
Achievements in Separation Science*

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



Prof. Apryll Stalcup
Irish Separation Science Cluster
*American Microchemical Society
Benedetti-Pichler Award*



Prof. John A. Reffner
John Jay College of Criminal Justice
*New York Section of the
Society for Applied Spectroscopy
Gold Medal Award*

EAS Awards are selected by independent juries of experts in these respective fields from nominations received by the Award Committee from the scientific community at large 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: 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 all 2016 award nominations is September 1, 2015.



2015 EAS Seminars

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

EAS offers four seminars essentially for high school teachers, students 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:

The Best Way to Teach Forensic Science is to Teach Science

Sunday, November 15, 2015

Registration Limited to **TEACHERS ONLY**

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

This seminar will be offered exclusively to middle and high school teachers. The seminar will be conducted by several scientists active in the field of Forensic Science including: Dr. Lawrence Kobilinsky, John Jay College of Criminal Justice and Dr. Richard Saferstein, Forensic Science consultant and author of the forensic science high school text "Forensic Science: An Introduction" (2nd edition). The focus of this educational seminar is to encourage teachers to use present-day police laboratory techniques in their classroom as a vehicle to motivate students to understand and appreciate basic chemical and biological principles.

Mass Spectrometry and Microbiology

Monday, November 16, 2015

Registration for High School and Undergrad Students

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

The focus of this seminar is to introduce students to the fundamentals and applications of mass spectrometry. The seminar will focus on the basics of mass spectrometry, the generation and interpretation of mass spectra, and the application of mass spectrometric tools in different types of chemical analysis from environmental, forensic/clinical, pharmaceutical to biological material. Mass spectrometry will be presented by USP Scientific Liaison Dr. Shankari Shivaprasad. A second topic on will discuss basic microbiology to include description of microorganisms, identification, counting, and other characteristics. Dr. David Porter (former Director of USP General Chapters) will present the topic on microbiology.

Analytical Chemistry and Forensic Science

Tuesday, November 17, 2015

Registration for High School and Undergrad 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.

Careers in Analytical Chemistry

Wednesday, November 18, 2015

Registration for High School and Undergrad Students

10:00 a.m. to 12:00 p.m.

Thinking about working as an Analytical Chemist? Attend this seminar to hear some of the different roles analytical chemists fill in industry from Donald Truss. Roles in Materials Science, Pharmaceutical Science, Environmental Science, Food Science and more are described and their importance explained. Hear examples of perplexing problems and the detective work used to solve them. Get a better understanding of just how powerful today's instruments are!

*Students and teachers must **pre-register** to reserve a space. Registration will open in early July. Please contact Eastern Analytical Symposium at askeas@eas.org or visit our website at www.EAS.org for more information.*

Visit Us at the 2015 EAS

Last updated April 27, 2015

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Carltext, Inc.	LabX	Sotax Corporation
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Cerilliant Corporation	LEAP Technologies	Spectrum Chemicals
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Chemglass Life Sciences	Logan Instruments	Students 2 Science
Chromatography Forum of the Delaware Valley	Mac-Mod Analytical	Supelco/Sigma-Aldrich
Coblentz Society	Macherey-Nagel, Inc.	TA Instruments
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Reserve your booth or tabletop now for the 2015 Eastern Analytical Symposium, November 16-18, 2015, Somerset, New Jersey
For more information contact Sheree Gold, EAS Exposition Director at:
610-742-4981 (phone) • [easinfo@aol.com](mailto: easinfo@aol.com) (e-mail)

The 2014 Eastern Analytical Symposium – Facts and Statistics

Table I

2014 Registration at a Glance

Total	2440
Full Conferees	1306
Exhibitor Personnel	599
Expo-Only	535

Table II

Employer Category of Those Attending the 2014 EAS

Category	Number
Total Responding	1540
Industry	960
Academic (Student)	342
Academic (Faculty)	105
Other	74
Self-Employed	27
Government	20
No Response	7
Retired	5

Table III

Primary Job Responsibility of those Attending the 2014 EAS

Total Responding	1540
Chemist/Scientist	624
Student	346
Lab Manager	117
Sales/Marketing	89
Group Leader	77
Instructor/Professor	65
Lab Director	60
Other	46
Administration	37
Technician	37
No Response	28
Retired	10
Purchasing	4

Table IV

Primary Techniques/Interest of Those Attending the 2014 EAS*

Total Responses	2808
Chromatography – Liquid/High Pressure Liquid	517
Chromatography – General	377
Spectrometry – Mass	296
Chromatography – Gas	285
Spectroscopy – General	199
Spectroscopy – Infrared/Mid-infrared/Raman	127
Microscopy	108
No Response	84*
Wet Chemistry	83
Lab Automation	81
Sampling	67
Spectroscopy – Ultraviolet/Visible	65
Other	57
Spectroscopy – Magnetic Resonance	53
Laboratory Information Management	50
Chromatography – Size Exclusion	45
Thermal Analysis	44
Spectroscopy – Atomic Absorption/Emission	37
Surface Analysis	32
Chemometrics	28
Chromatography – Ion	28
Electrophoresis	27
Electrochemistry	25
Spectroscopy – Fluorescence	25
Chromatography – Other	24
Capillary Zone Electrophoresis	22
Chromatography – Thin Layer	22

*Respondents could select a maximum of two techniques/interests

Table V

Primary Applications of Those Attending the 2014 EAS

Total Responses	3283
Pharmaceutical Analysis	719
Lab Instrumentation	464
Biotechnology	319
Food Science	210
Education	200
Forensic Analysis	198
Environmental Analysis	185
Polymer Analysis	167
Flavors/Fragrances	147
Cosmetics	129
ISO/GMP	116
Process Analysis	107
Microscale/Nanoscale Analysis	83
No Response	77
Other	69
Hazard Analysis	55
Heritage Conservation	38



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2015 EAS

November 16-18, 2015

Somerset, NJ

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IMPORTANT DATES

March 1 Abstract submission opens for contributed oral and poster abstracts
June 1 Presenters of invited presentations are contacted by email with instructions for the submission of final abstracts
June 15 Abstract submission deadline for contributed **oral** abstracts
July 6 Registration opens
July 15 Presenters of invited presentations are contacted by email with session schedules
July 15 Presenters of contributed oral presentations are contacted by email with session schedules and presentation guidelines
July 15 Deadline for receipt of final abstracts for invited presentations
Aug. 1 Preliminary Program posted on www.EAS.org
Sept. 30 Abstract submission deadline for contributed **poster** abstracts
Oct. 15 Deadline to register for 2015 EAS at a reduced price
Nov. 1 Deadline to cancel registration and still receive a refund
Nov. 16-18 54th Eastern Analytical Symposium & Exposition in Somerset, NJ

How to contact us....

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