



EAS.org

FINAL PROGRAM

2015 Eastern Analytical
Symposium & Exposition

ANALYTICAL INNOVATION FROM BENCHTOP TO BUSINESS

Garden State Exhibit Center | Somerset, NJ

November 16–18, 2015



eas.org in f t

Analytical Chemistry Opens Doors

2016 EASTERN ANALYTICAL
SYMPOSIUM & EXPOSITION

SAVE THE DATE

November 14–16, 2016
Garden State Exhibit Center
Somerset, NJ

- ▲ Three-day technical program
- ▲ State-of-the-art exposition featuring analytical equipment and services
- ▲ Extensive selection of short courses and professional development workshops
- ▲ Employment bureau, and more





Message from the President of the Governing Board

Analytical Innovation from Benchtop to Business

Oscar Liu
President, EAS 2015



Welcome to the 54th Eastern Analytical Symposium and Exposition!

I still vividly remember the first time I attended EAS in the early 1990's as a graduate student. I was inspired by the depth of the technical presentations and impressed by the welcoming environment. I was able to meet experts from all over the world in an

informal setting. After that experience, I have become a regular EAS attendee and eventually, I decided to pay back EAS by volunteering my time to help organize the annual symposium and exposition. I am honored to be the President of the 54th EAS this year. I hope you will experience a dynamic and inspiring symposium and exposition in the next few days. The theme of this year's meeting highlights the impact that Analytical Chemistry has in generating business results, and will be a thread throughout the program and exhibit.

The premier event at this year's EAS will be the **Plenary Lecture** "*From Basic Research in NMR to use in Daily Human Life*" to be presented by **Nobel Laureate Professor Kurt Wüthrich** on Monday at 4:30 pm, followed immediately by a complimentary mixer. All registrants and exhibitors are welcome to attend. I am infinitely grateful to Professor Kurt Wüthrich for accepting my invitation to address the audience at the 54th EAS.

The **Program Committee** has put together a dynamic and robust technical program featuring our traditionally strong symposia in MS, NMR, NIR, imaging, chemometrics, art and heritage conservation, environmental and food sciences, and chromatography, among others. EAS is a proud sponsor of the International Year of Light 2015. Officially registered as one of the IYL activities, EAS, in collaboration with the Coblentz Society, organized two special sessions to complement the already strong offerings in spectroscopy. In addition, this year we expanded our program in bioanalysis and forensic sciences. The peer-reviewed poster presentations in the exposition hall is a not-to-be-missed event. We also added technical content to address novel technologies and applications. The infinite possibilities offered by 3-D technology have the potential to revolutionize how we work in analytical labs. You will have an opportunity to learn the latest development and applications of this exciting technology in the oral session scheduled on Wednesday morning. With the movement to legalize the medical marijuana, I think it is "high time" to bring focus on consumer safety and regulatory requirements in this new industry. Two sessions

are centered on the topic of analysis of cannabis products. Technical entrepreneurs and business managers will not want to miss the session "*Business Essentials for Technology Entrepreneurs*" organized by Rutgers' Business School.

The **award sessions** are always a highlight of the EAS Program. I congratulate all the winners, some of the world's pre-eminent scientists in Mass Spec, NMR, NIR, Separation Sciences, Chemometrics, and Microscopy and Molecular Spectroscopy on their awards and look forward to their lectures. Let me also recognize the graduate and undergraduate awardees – you are the future of analytical chemistry.

EAS short courses offer a wide range of topics for new comers and experienced scientists, featuring some new courses as well as returning favorite ones. Onsite registration for short courses is available.

The **EAS Exposition** will present you the opportunity to study the latest development in laboratory instruments or services, to catch up with your service engineers or account managers, or to network with colleagues. You will find world's premier instrument vendors, contract research organizations, publishers, standard-setting organizations, and professional and non-profit organizations in the exposition hall. You should not miss Tuesday afternoon's complementary Mixer to be held at the exposition hall 4:00-5:30pm. A special poster session will be offered and the exposition will remain open.

The **Employment Bureau** is "going digital" this year. Applicants will be able to submit résumés in pdf format and employers can search résumés on-line. On-site interviews will be available. This year, free workshops are available for full conferees and students on important topics such as "Getting Hired – Secrets of a Contingency Recruiter," "Using LinkedIn® Professional Networking Services to Network Your Way to a Job and More," as well as "Sharpening your Presentation Skills – an Interactive Workshop."

To help you navigate the parallel sessions and other events, I suggest that you download the 2015 EAS mobile phone App (**EAS & Expo 2015**) and build your personalized agenda. Be sure to put the Monday plenary lecture and the Tuesday mixer on your agenda.

I sincerely thank all of our sponsors for their generous support of our award sessions, technical program, meeting souvenir, food carts, and Tuesday mixer.

I warmly thank all the contributors to the 54th EAS: the presenters, the session chairs, the instructors, the exhibitors, and all the attendees. Finally, I am indebted to the staff and the volunteers of the Governing Board of EAS, who have spent numerous hours planning this event.

I trust you will enjoy and remember your experience at the 54th EAS.

General Information & Schedule

Technical Sessions

All oral technical sessions are held in the DoubleTree Hotel, located behind the Garden State Exhibit Center. Poster sessions are held in the Garden State Exhibit Center. Room assignments for the various sessions are located in the Final Program.

Schedule

Oral Technical Sessions

Sunday

No oral sessions

Monday

9:00 AM to Noon / 2:00 PM to 4:20 PM

**Note: there is a Plenary Lecture on Monday, November 16th at 4:30 PM in the Ballroom at the DoubleTree Hotel.*

All registrants are invited to attend; reception to follow

Tuesday & Wednesday

9:00 AM to Noon / 2:00 PM to 4:30 PM

Schedule

Poster Sessions

Posters are displayed only on the day of the poster session

Sunday

No poster sessions

Monday

Poster Set-Up: 9:00-10:00 AM

Posters on display: 10:00 AM-3:00 PM

Authors Available: Noon-2:00 PM

Posters Removed: 3:00-4:00 PM

Tuesday* & Wednesday

Poster Set-Up: 9:00-10:00 AM

Posters on display: 10:00 AM-2:00 PM

Authors Available: Noon-2:00 PM

Posters Removed: 2:00-3:00 PM

**There will be special vendor poster session & mixer on Tuesday, Nov. 17 at 4:00pm for all attendees*

Exposition

The Exposition is located in the Garden State Exhibit Center.

Exposition Schedule

Sunday

Open for exhibitor set-up only

Monday & Wednesday Hours:

9:00 AM to 4:00 PM

Tuesday Hours: 9:00 AM to 5:30 PM

Free light lunch: 12:00 PM, 12:45 PM AND 1:30 PM

Registration Hours

Sunday

Exhibitors – 8:00 AM to 5:00 PM

All Others – 3:00 PM to 5:00 PM

Monday

8:00 AM to 4:45 PM

Tuesday & Wednesday

8:00 AM to 4:00 PM

Employment Bureau

The Employment Bureau is located in the Garden State Exhibit Center in the EAS Exposition Hall.

All EAS registrants are able to participate in the Employment Bureau.

Monday & Tuesday

9:00 AM to 4:00 PM

Wednesday

9:00 AM to 1:00 PM

EAS Short Courses

EAS Short Courses are held in the Somerset Holiday Inn, located across Davidson Avenue from the Garden State Exhibit Center. You must pick up your Full Conferee registration information at the Garden State Exhibit Center prior to going to the Holiday Inn (Mon.-Wed.)

Sunday - Wednesday

8:30 AM to 5:00 PM

**Note: there is a Plenary Lecture on Monday, November 16th at 4:30pm in the Ballroom at the DoubleTree Hotel. All registrants are invited to attend; reception to follow*

Seminars

Seminars are held in the DoubleTree Hotel, which is located behind the Garden State Exhibit Center. Pre-registration is required.

Sunday

1:00 PM to 4:00 PM

Monday & Tuesday

10:00 AM to 1:00 PM

Wednesday

10:00 AM to 12:00 PM

Workshops

Workshops are held in the DoubleTree Hotel, which is located behind the Garden State Exhibit Center. Open to all registrants; no additional fee to attend the workshops. Pre-registration for each workshop is requested, remaining seats are on a first-come, first serve, space available basis.

Monday, Tuesday & Wednesday

9:30 AM to 11:30 AM

Photography and Cell Phone Use

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

Badges

Your badge is your admission to many of the activities at the 2015 EAS. Please make sure that you remember to bring it with you when you come to the meeting. There is a \$25 fee for the processing of lost or misplaced badges. Badges are non-transferable

EAS Shuttle Service

EAS Shuttle Buses will run between the Garden State Exhibit Center, the DoubleTree Hotel and the Holiday Inn Monday-Wednesday. For schedules and information, please check at the EAS Information Center in the Exhibit Center.

More Information

To obtain answers to EAS-related questions before and after the meeting:

EAS Hotline: 732-449-2280

EAS E-mail: askEAS@EAS.org

Eastern Analytical Symposium
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The EAS Final Program

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*The Eastern Analytical Symposium & Exposition is sponsored
 by the Analytical Division, the North Jersey and the New
 York Sections of the American Chemical Society; the
 American Microchemical Society; the Chromatography Forum
 of Delaware Valley; the Coblentz Society; the New York
 Microscopical Society; the Delaware Valley, New England,
 New York Sections of the Society for Applied Spectroscopy;
 the Association of Laboratory Managers (ALMA); and the New
 Jersey Association of Forensic Scientists*

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

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For updates and discussions follow us on:



The 2015 Eastern Analytical Symposium at a glance

Sunday Nov. 15

8:00 AM Exhibitor Registration opens - **GSEC**
 8:00 AM - 4:00 PM Exposition setup (Exhibitors only) - **GSEC**
 8:30 AM - 5:00 PM Short courses - **Holiday Inn**
 1:00 PM - 4:00 PM Teacher seminar "*The Best Way to Teach Forensic Science is to Teach Science*" - **DoubleTree**
 3:00 PM Attendee registration opens - **GSEC**
 5:00 PM Exhibitor registration closes - **GSEC**
 5:00 PM Attendee registration closes - **GSEC**

Monday Nov. 16

8:00 AM Registration opens - **GSEC**
 8:30 AM - 5:00 PM Short courses - **Holiday Inn**
 9:00 AM Ribbon cutting - **GSEC**
 9:00 AM - 4:00 PM Exposition - **GSEC**
 9:00 AM - 4:00 PM Employment Bureau - **GSEC**
 9:00 AM - 12:00 PM Bruker Special Event - **GSEC**
 9:00 AM - 11:30 AM Morning Oral Sessions - **DoubleTree**
 9:00 AM - 10:00 AM Poster setup - **GSEC**
 9:30 AM - 11:30 AM Workshop "*Getting Hired - Secrets of a Contingency Recruiter*" - **DoubleTree**
 10:00 AM - 1:00 PM Student Seminar "*Mass Spectrometry and Microbiology*" - **DoubleTree**
 10:00 AM - 3:00 PM Posters on display - **GSEC**
 10:00 AM - 3:45 PM Anton Paar Special Event - **GSEC**
 12:00 PM - 2:00 PM Poster Sessions - **GSEC**
 12:00, 12:45 AND 1:30 PM Light Lunch in **Exposition Hall**
 2:00 PM - 4:20 PM Afternoon Oral Sessions - **DoubleTree**
 2:30 PM Technology Tour Prize Drawing - **GSEC**
 3:00 PM - 4:00 PM Posters removed - **GSEC**
 4:30 PM Plenary Session - **DoubleTree** *Open to all attendees.*
 4:45 PM Registration closes
 5:30 PM Plenary Reception - **DoubleTree** *Open to all attendees.*
 7:00 PM Coblenz Society Reception - **DoubleTree** *By invitation only*

Tuesday Nov. 17

8:00 AM Registration opens - **GSEC**
 8:30 AM - 5:00 PM Short courses - **Holiday Inn**
 9:00 AM - 4:00 PM Exposition - **GSEC**
 9:00 AM - 4:00 PM Employment Bureau - **GSEC**
 9:00 AM - 12:00 PM Agilent Technologies Special Event - **GSEC**

9:00 AM - 12:30 PM Supelco Special Event - **GSEC**
 9:00 AM - 11:30 AM Morning Oral Sessions - **DoubleTree**
 9:00 AM - 10:00 AM Poster setup - **GSEC**
 9:30 AM - 11:30 AM Workshop "*Using LinkedIn® Professional Networking Services to Network Your Way to a Job and More*" - **DoubleTree**
 10:00 AM - 1:00 PM Student Seminar "*Analytical Chemistry and Forensic Science*" - **DoubleTree**
 10:00 AM - 2:00 PM Posters on display - **GSEC**
 12:00 PM - 2:00 PM Poster Sessions - **GSEC**
 12:00, 12:45 AND 1:30 PM Light Lunch in **Exposition Hall**
 12:30 PM - 4:00 PM Thermo Special Event - **GSEC**
 1:00 PM - 4:00 PM CEM Corporation Special Event - **GSEC**
 2:00 PM - 4:20 PM Afternoon Oral Sessions - **DoubleTree**
 2:00 PM - 3:00 PM Posters removed - **GSEC**
 2:30 PM Tech Tour Prize Drawing - **GSEC**
 3:00 PM Vendor poster set up - **GSEC**
 4:00 PM Registration closes
 4:00 PM - 5:30 PM Mixer in the Expo - **GSEC**; open to all registered attendees, free beverage, food and poster sessions
 5:30 PM Vendor posters removed - **GSEC**
 7:00 PM EAS President's Reception - **DoubleTree** *By invitation only*

Wednesday Nov. 18

8:00 AM Registration opens - **GSEC**
 8:30 AM - 5:00 PM Short courses - **Holiday Inn**
 9:00 AM - 4:00 PM Exposition - **GSEC**
 9:00 AM - 1:00 PM Employment Bureau - **GSEC**
 9:00 AM - 11:30 AM Morning Oral Sessions - **DoubleTree**
 9:00 AM - 10:00 AM Poster setup - **GSEC**
 9:30 AM - 11:30 AM Workshop "*Sharpening your Presentation Skills - an Interactive Workshop*" - **DoubleTree**
 10:00 AM - 12:00 PM Student Seminar "*Careers in Analytical Chemistry*" - **DoubleTree**
 10:00 AM - 2:00 PM Posters on display - **GSEC**
 12:00 PM - 2:00 PM Poster Sessions - **GSEC**
 12:00, 12:45 AND 1:30 PM Light Lunch in **Exposition Hall**
 2:00 PM - 4:20 PM Afternoon Oral Sessions - **DoubleTree**
 2:30 PM Tech Tour Prize Drawing - **GSEC**
 2:00 PM - 3:30 PM Posters removed - **GSEC**
 4:00 PM Registration closes

2015 EAS Conferences-in-Miniature

3-D TECHNOLOGY

Technical Session

- 3-D Technology: Leveraging Today's Tools for Tomorrow's Applications (11/18 AM)

BIOANALYSIS

Technical Sessions

- Bioanalysis and Biomarker Discovery (11/16 AM)
- Poster Session: Bioanalysis I (11/16)
- From Benchtop to Bedside – Biomarker Analysis in Support of Translational Research (11/17 AM)
- Poster Session: Bioanalysis II (11/17)
- Poster Session: Biomarker (11/17)
- New Approaches for Bioanalysis of Small Molecules and Biotherapeutics Beyond Traditional LC-MS/MS (11/17 PM)

Short Courses

- Therapeutic Peptide and Protein Bioanalysis by LC-MS/MS (11/18)

BUSINESS MANAGEMENT

Technical Sessions

- Issues about which Every Manager Should be Thinking (11/16 PM)
- Business Essentials for Technology Entrepreneurs (11/17 AM)

CHEMOMETRICS

Technical Sessions

- EAS Award for Outstanding Achievements in Chemometrics, Honoring Peter Wentzell, University Dalhousie (11/17 AM)
- Chemometrics Advances for Bioprocess Spectroscopic Monitoring and Control (11/17 PM)

Short Courses

- Chemometrics Without Equations I & II (11/15-11/16)
- Introduction to Chemometrics Without Equations (11/15)
- Intermediate Chemometrics Without Equations (11/16)

CONSERVATION SCIENCE

All sessions organized by the New York Conservation Foundation

Technical Sessions

- Terahertz and Allied Methods for Cultural Heritage, Part I (11/16 AM)
- Analytical Methods for Cultural Heritage, Part I (11/16 PM)
- Terahertz and Allied Methods for Cultural Heritage, Part II (11/17 AM)
- Analytical Methods for Cultural Heritage, Part II (11/17 PM)

EDUCATION

Technical Session

- Business Essentials for Technology Entrepreneurs (11/17 AM)

Short Course

- 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 (11/18)

ENVIRONMENTAL & FOOD ANALYSIS

Technical Sessions

- Poster Session: Environmental Analysis (11/17)
- Poster Session: Food Analysis (11/17)
- Analysis of Chemical Contaminants in Foods (11/17 PM)
- Analytical Testing for the Cannabis Industry: Consumer Safety vs. Regulatory Requirements (11/18 AM)
- Poster Session: Sensors (11/18)
- Assuring Water Quality: The Application of Novel Analytical Technologies and Strategies (11/18 PM)
- Identification of Trace Analytes in Forensic & Environmental Analysis (11/18 PM)

FORENSIC ANALYSIS

Technical Sessions

- Forensic Toxicology (11/16 AM)
- Poster Session: Forensic Analysis (11/16)
- DNA Frontiers (11/16 PM)
- Identification of Trace Analytes in Forensic and Environmental Analysis (11/18 PM)
- Recent Advances in Forensic Microscopy IX (11/17 AM)

GAS CHROMATOGRAPHY

Technical Sessions

- American Microchemical Society Benedetti-Pichler Award, Honoring Apryll Stalcup, City University of Dublin (11/16 AM)
- Column Technology & Method Optimization (11/16 AM)
- Young Investigators in Chromatography (11/17 AM)
- Poster Session: Hyphenated Technique - LC/MS and GC/MS (11/17)
- EAS Award for Outstanding Achievements in Separation Sciences, Honoring David Hage, University of Nebraska-Lincoln (11/17 PM)
- Gas Chromatography & Vacuum Chromatography: From Method Development to Field Application (11/17 PM)
- Separation Science for Drugs and Biotherapeutics (11/18 AM)
- Poster Session: Separation Science (11/18)
- Poster Session: Sample Preparation (11/18)
- Chromatography and Imaging Applications to Medicinal Cannabis and Pharmaceutical Analysis (11/18 PM)

Short Courses

- Practical Gas Chromatography (11/15-11/16)
- Troubleshooting Chromatographic Systems (11/15-11/16)
- Getting the most from GC and GC/MS (11/17)
- Sample Preparation: The Chemistry Behind the Techniques (11/17)
- Making the Transition to GC-MS, GC-MS-MS & GCxGC-MS (11/18 PM)

INFRARED SPECTROSCOPY

Technical Sessions

- EAS Award for Outstanding Achievements in NIR, Honoring Benoit Igne, GlaxoSmithKline (11/18 AM)
- Emerging Trends in Near-Infrared Spectroscopy (11/18 PM)

LABORATORY MANAGEMENT

Technical Session

- Issues about which Every Manager Should be Thinking (11/16 PM)
- Poster Session: Lab Management and Automation (11/18)

Short Courses

- 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 (11/18)

LIQUID CHROMATOGRAPHY

Technical Sessions

- American Microchemical Society Benedetti-Pichler Award, Honoring Apryll Stalcup, City University of Dublin (11/16 AM)
- Column Technology & Method Optimization (11/16 AM)
- Poster Session: Liquid Chromatography (11/16)
- Modeling in Separation Science (11/16 PM)
- Young Investigators in Chromatography (11/17 AM)
- Poster Session: Hyphenated Technique - LC/MS and GC/MS (11/17)
- EAS Award for Outstanding Achievements in Separation Sciences, Honoring David Hage, University of Nebraska-Lincoln (11/17 PM)
- New Approaches for Bioanalysis of Small Molecule and Biotherapeutics Beyond Traditional LC-MS/MS (11/17 PM)
- Solving Real-World Problems with Two Dimensional LC (11/18 AM)
- Separation Science for Drugs and Biotherapeutics (11/18 AM)
- Poster Session: Separation Science (11/18)
- Chromatography of Biologics (11/18 PM)

LIQUID CHROMATOGRAPHY (continued)

- Chromatography and Imaging Applications to Medicinal Cannabis and Pharmaceutical Analysis (11/18 PM)

Short Courses

- Troubleshooting Chromatographic Systems (11/15-11/16)
- LC/MS Method Development for Small Molecule Pharmaceuticals (11/15)
- LC/MS: Theory, Instruments, and Applications (11/16-11/17)
- Advanced HPLC/UHPLC Part I and/or Part II (11/16 AM and/or PM)
- How to Develop Validated HPLC Methods: Rational Design with Practical Statistics and Troubleshooting (11/17-11/18)
- HPLC Method Development Made Easy (11/18 AM)
- Practical Guide to Performing HPLC and UHPLC Experiments in Reversed-Phase Mode (11/18)

MASS SPECTROMETRY**Technical Sessions**

- EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry, Honoring Chris Enke, University of New Mexico (11/16 AM)
- The Applications of Tandem Quadrupole Mass Spectrometry in Absolute Quantitation (11/16 PM)
- Poster Session: Hyphenated Technique - LC/MS and GC/MS (11/17)
- New Approaches for Bioanalysis of Small Molecule and Biotherapeutics Beyond Traditional LC-MS/MS (11/17 PM)
- The Best Chromatography is no Chromatography! - LC/MS Without a Column (11/17 PM)
- EAS Award for Outstanding Achievements in Mass Spectrometry, Honoring Emile A. Schweikert, Texas A&M University (11/18 AM)

Short Courses

- LC/MS Method Development for Small Molecule Pharmaceuticals (11/15)
- LC/MS: Theory, Instruments, and Applications (11/16-11/17)
- Getting the most from GC and GC/MS (11/17)
- Interpretation of Mass Spectra with Practical Solutions to Problems (11/18)
- Therapeutic Peptide and Protein Bioanalysis by LC-MS/MS (11/18)
- Making the Transition to GC-MS, GC-MS-MS & GCxGC-MS (11/18 PM)

MICROSCOPY**Technical Sessions**

- Advances and Applications in Imaging Science and Technology (11/16 AM)
- Recent Advances in Forensic Microscopy IX (11/17 AM)

NMR SPECTROSCOPY**Technical Sessions**

- New Developments in Quantitative NMR: From Multinuclear to 2-D Applications (11/16 AM)
- EAS Award for Outstanding Achievements in Magnetic Resonance, Honoring Timothy Cross, Florida State University (11/16 PM)
- Advances in Solid-State NMR (11/17 AM)
- Macromolecular NMR: Probing Structure and Function (11/17 PM)
- Reaction Monitoring by NMR Spectroscopy (11/18 AM)
- NMR - Pharmaceutical and Other Applications (11/18 PM)

PHARMACEUTICAL ANALYSIS**Technical Sessions**

- Pharmaceutical Analysis - From API to Drug Product (11/16 AM)
- Poster Session: Pharmaceutical Analysis I (11/16)
- Spectroscopic Applications in the Pharmaceutical Industry (11/16 PM)
- Recent Advances in Trace Analysis and Process Control of Genotoxic Impurities in Pharmaceuticals (11/17 AM)
- Lifecycle Management of Analytical Validation of Pharmaceutical Products (11/17 AM)
- Poster Session: Pharmaceutical Analysis II (11/17)
- New Approaches for Bioanalysis of Small Molecules and Biotherapeutics Beyond Traditional LC-MS/MS (11/17 PM)
- Critical Issues in Inhalation Product Development (11/18 AM)
- Analytical Testing for the Cannabis Industry: Consumer Safety vs. Regulatory Requirements (11/18 AM)

PHARMACEUTICAL ANALYSIS (continued)

- Separation Science for Drugs and Biotherapeutics (11/18 AM)
- Solving Real-World Problems with Two Dimensional LC (11/18 AM)
- Poster Session: Pharmaceutical Analysis - Dosage Form Analysis and Sample Preparation (11/18)
- Poster Session: Sample Preparation (11/18)
- NMR - Pharmaceutical and Other Applications (11/18 PM)
- Dissolution Testing: New Challenges and Solutions for In-Vitro Predictive Analysis (11/18 PM)
- Chromatography of Biologics (11/18 PM)
- Chromatography and Imaging Applications to Medicinal Cannabis and Pharmaceutical Analysis (11/18 PM)

Short Courses

(Please also see MS and LC listings for additional courses)

- Physical Characterization and Methods of Analysis of Pharmaceutical Solids I & II: Essential Knowledge and Advanced Applications (11/15-11/16)
- Physical Characterization and Methods of Analysis of Pharmaceutical Solids Part I: Essential Knowledge (11/15)
- Impurities In Pharmaceuticals – A Survey Course (11/15)
- LC/MS Method Development for Small Molecule Pharmaceuticals (11/15)
- Polymers: An Introduction and Characterization Techniques (11/16)
- Developing, Validating and Troubleshooting Dissolution Methods (11/16)
- Physical Characterization and Methods of Analysis of Pharmaceutical Solids Part II: Advanced Applications (11/16)
- The Chemistry of Drug Degradation (11/17)
- Sample Preparation: The Chemistry Behind the Techniques (11/17)
- Quality-by-Design (QbD) Fundamentals for Analytical Chemists: A New Paradigm for the Analytical Laboratory
- Drug Quality Fundamentals Part I and/or II (11/17 AM and/or PM)
- Atomic Spectrometry: Applications of Elemental Analysis in the Pharmaceutical Industry (11/18)
- 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 (11/18)

PROTEIN ANALYSIS**Technical Sessions**

- Bioanalysis and Biomarker Discovery (11/16 AM)
- Poster Session: Protein Analysis (11/16)
- Novel Techniques for Characterization of Proteins (11/17 AM)
- Macromolecular NMR: Probing Structure and Function (11/17 PM)
- Chromatography of Biologics (11/18 AM)
- Separation Science for Drugs and Biotherapeutics (11/18 AM)
- Poster Session: Sample Preparation (11/18)

Short Course

- Sample Preparation: The Chemistry Behind the Techniques (11/17)

SURFACE ANALYSIS**Technical Session**

- Surface Functionalization of Nanoparticles and Nanomaterials (11/18 AM)

SPECTROSCOPY**Technical Sessions**

- Celebrating the "International Year of Light" - How Spectroscopists are Helping Save the World (11/16 AM)
- New York Section of the Society for Applied Spectroscopy Gold Medal Award, Honoring John A. Reffner, John Jay College (11/16 PM)
- Spectroscopic Applications in the Pharmaceutical Industry (11/16 PM)
- Light and the Single Molecule - Viewing the Nanoworld (11/17 PM)
- Harnessing Spectroscopy for Inorganic Impurity Characterization (11/17 PM)
- Poster Session: Spectroscopy (11/18)
- Emerging Trends in Near Infrared Spectroscopy (11/18 PM)
- Recent Advances and Applications of Vibrational Spectroscopy (11/18 PM)

Short Courses

- Atomic Spectrometry: Applications of Elemental Analysis in the Pharmaceutical Industry (11/18)

Technical Program

2015 Eastern Analytical Symposium & Exposition

EAS is pleased to announce that Nobel Laureate Professor Kurt Wüthrich will be the Plenary Speaker for EAS 2015. Join us to hear Prof. Wüthrich give the Plenary Lecture titled "From Basic Research in NMR to use in Daily Human Life," on Monday, Nov. 16th at 4:30pm in the Ballroom at the DoubleTree Hotel. This presentation will be followed by a time of networking and complimentary refreshments. We encourage all registrants of EAS to attend this special event.

Monday Morning, November 16, 2015

EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry

Honoring Christie Enke, University of New Mexico

Sponsored by Bristol-Myers Squibb

Chair: Qin C. Ji, Bristol-Myers Squibb

- 9:00 1 Distance-of-Flight Mass Spectrometry: The Joy of Collaborating with Chris Enke, Gary Hieftje, Alexander W Gundlach-Graham, Elise A. Dennis, Indiana University, Christie G. Enke, University of New Mexico, Steven J. Ray, SUNY-Buffalo, David W. Koppenaal, Charles J. Barinaga, Pacific Northwest National Laboratory
- 9:30 2 21 Tesla Fourier Transform Ion Cyclotron Resonance Mass Spectrometer: A National Resource for Ultrahigh Resolution Mass Analysis, Alan G. Marshall, John P. Quinn, Nathan K. Kaiser, Donald F. Smith, Greg T. Blakney, Tong Chen, Chad R. Weisbrod, Christopher L. Hendrickson, Florida State University, Steven C. Beu, S. C. Beu Consulting
- 10:00 Break
- 10:20 3 Mass Spectrometry as a Method of Accelerated Small-Scale Synthesis, R. Graham Cooks, Michael Wlekinski, Yafeng Li, Ryan Bain, Christopher Pulliam, Anyin Li, Xin Yan, Purdue University
- 10:50 *Presentation of the EAS Award in the Fields of Analytical Chemistry*
- 10:55 4 *Comprehensive Analysis and the Theory of Complex Mixtures*, Christie Enke, University of New Mexico, Alexander Gundlach-Graham, Swiss Federal Institute of Technology-Zurich, Alan G. Marshall, Florida State University

American Microchemical Society Benedetti-Pichler Award

Honoring Apryll Stalcup, Dublin City University

Session Chair: Robert Vetrecin

- 9:00 5 Separation of Carbon Nanoparticles, Luis A. Colon, Zuqin Xue, Karina M. Tirado-González, Amaris C. Borges-Muñoz, SUNY - Buffalo
- 9:30 6 Magnetic Ionic Liquids in Bioanalytical Chemistry, Jared Anderson, Iowa State University
- 10:00 Break
- 10:20 7 Membrane Alterations and Additives to Improve Microdialysis Sampling Recovery, Julie Stenken, Sarah J. Phillips, Thaddeus W Vasicek, University of Arkansas

- 10:50 8 Eolaíocht na Deighilte: Putting the Irish in Separation Science, Apryll M. Stalcup, Dublin City University

Forensic Toxicology, Sponsored by the New Jersey Association of Forensic Scientists

Chair: Barry K. Logan, Center for Forensic Science Research and Education

- 9:00 9 The Analytical Investigation of Synthetic Street Drugs Known as "Bath Salts", Amanda Kaspick, Agilent Technologies, Frank Dorman, Philip B. Smith, University of Pennsylvania
- 9:30 10 Development of an Analytical Method for "Nootropic" Smart Drugs in Powders, Capsules and Biological Fluids, Mollie Mares, Karen Scott, Arcadia University, Barry Logan, Donna Papsun, NMS Labs
- 10:00 Break
- 10:20 11 The Detection of Organic Components Found in Gunshot Residue by Use of LC-QQQ-MS to Assess Home Reloaded Ammunition, Kyle Brown, Leah Ali, Holly Castellano, Stephanie J. Wetzel, Duquesne University
- 10:50 12 Application of BioSPME for the Extraction of Illicit Substances from Urine, Kaitlyn Hess, Thomas A. Brettell, Cedar Crest College

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

Chair: Yande Huang, Bristol-Myers Squibb

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- 9:00 13 From "Pure" Substances to Complex Mixtures: Applications of 1D Quantitative ¹H NMR in Medicinal Chemistry and Natural Product Research, Jose G. Napolitano Farina, AbbVie
- 9:30 14 Approaches to Quantitative 1-D and 2-D NMR Spectroscopy, John L. Markley, Hamid R. Eghbalian, Marco Tonelli, William M. Westler, University of Wisconsin-Madison, Roger A. Chylla, HealthMyne, Kaifeng Hu, Kunming Institute of Botany, Ian A. Lewis, University of Calgary
- 10:00 Break
- 10:20 15 Using NMR to Understand Pharmaceutical Drug Dissolution, Andy Phillips, Steven R. Coombes, Leslie P. Hughes, AstraZeneca, Francesco Tres, Jonathan C. Burley, School of Nottingham
- 10:50 16 Circumventing the Pitfalls of Quantitative NMR: An Innovative External Standard-Internal Reference Approach, Yande Huang, Bristol-Myers Squibb

Advances and Applications in Imaging Science and Technology, organized by the New York Microscopical Society

Chair: John R. Reffner, Dow Chemical Company

- 9:00 17 What You can do with Images: Advanced Image Analysis and Processing for Microscopy and Beyond, Gunter Moeller, Arkema
- 9:30 18 Application of Field Microscopy to Emergency Response and Military Analysts, Pauline Leary, Smiths Detection, John A. Reffner, John Jay College
- 10:00 Break
- 10:20 19 Pharmaceutical Glass Vial Interior Surface Defect Characterization Using Microscopy, Robert A. Carlton, GlaxoSmithKlein
- 10:50 20 Problem Solving Using Light and Electron Microscopy, Rich Brown, MVA Scientific Consultants

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

Chair: Albert Redo-Sanchez, Massachusetts Institute of Technology

- 9:00 21 Terahertz in Art and Cultural Heritage Inspection: Present and Future, Albert Redo-Sanchez, Barmak Heshmat, Salman Naqvi, Mingjie Zhang, Ramesh Raskar, Massachusetts Institute of Technology
- 9:40 22 Development of Novel Systems Architecture in THz Imaging for the Analysis of Cultural Heritage Materials, Roxanne Radpour, Shijun Sung, Warren Grundfest, Ioanna Kakoulli, Zachary Taylor, University of California-Los Angeles
- 10:10 Break
- 10:20 23 Terahertz Systems for Cultural Heritage, Philip Taday, TeraView Ltd.
- 10:50 24 Characterization and Imaging of Archival Texts: Let's Have a Word with Terahertz!, Tiphaine Bardon, Matija Strlic, University College London, Robert K. May, Philip F. Taday, TeraView, Gerrit De Bruin, The Nationaal Archief

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

Chair: Brandye Smith-Goettler, Merck

- 9:00 25 Getting Closer: Making Quantitative Molecular Spectroscopy into a Metrical Science, Jerry Workman Jr., Unity Scientific
- 9:30 26 Infrared Microscopy for Practical Cancer Imaging, Rohit Bhargava, University of Illinois at Urbana-Champaign
- 10:00 Break
- 10:20 27 Use of Near-IR and Hyperspectral Imaging in Analysis of Agricultural Commodities, Stephen R. Delwiche, United States Department of Agriculture-Agricultural Research Service
- 10:50 28 NIR with Problem Data Sets, Franklin E. Barton II, James A. de Haseth, Light Light Solutions

Bioanalysis and Biomarker Discovery

Chair: Clementina Mesaros, University of Pennsylvania

- 9:00 29 Transferring Assays to CROs, Strategies and Processes for both Small and Large Molecules, Xiaohui Xu, Bruce Stouffer, Zoe Tzogas, Johanna Mora, Jim Shen, Pathanjali Kadiyala, Dennis Stocker, Dennis Garner, Mark E. Arnold, Bristol-Myers Squibb
- 9:20 30 Method to Improve the Recovery of pH Labile Anti-Drug Antibodies during Acid Dissociation and Extraction, Weifeng Xu, Bristol-Myers Squibb
- 9:40 31 Sol-Gel Capillary Microextraction Coupled to HPLC for the Preconcentration and Analysis of Biologically Important Molecules, Abdul Malik, Abdullah Alhendal, Emre Seyyal, MinhPhuong Tran, Sheshanka Kesani, University of South Florida
- 10:00 Break
- 10:20 32 Proteomics Study to Identify the Protein Differences in Human Breast Milk from Breast Cancer Patients and Controls Using Mass Spectrometry, Devika Channaveerappa, Roshanak Aslebagh, Costel C. Darie, Clarkson University, Kathleen F. Arcaro, University of Massachusetts
- 10:40 33 Mass Spectrometry-Based Protein Biomarker Discovery in Neurodevelopmental Disorders, Kelly L. Wormwood, Armand G. Ngounou Wetie, Emmalyn J. Dupree, Alisa G. Woods, Costel C. Darie, Clarkson University, Laci Charette, Jeanne P. Ryan, SUNY-Plattsburgh
- 11:00 34 A Multi-Class Drug and Metabolite Screen by LC-MS/MS, Sharon Lupo, Restek

Pharmaceutical Analysis - From API to Drug Product

Chair: Zhenyu Wang, Merck

- 9:00 35 Analysis of Electrochemical Oxidation Products of Albendazole, Amos Mugweru, Samantha Gibson, Rowan University, Geoffrey Kamau, University of Nairobi
- 9:20 36 Development of Key Analytical Methods to Define the Control Strategy for Genotoxic Hydrazine Impurities in a Novel Drug Candidate, James Chadwick, Ian Hale, Michelle Haslam, Emma Quirk, Bristol-Myers Squibb
- 9:40 37 The Determination of the Physico-Chemical Properties of Nanoemulsion, Maurice O. Iwunze, Morgan University
- 10:00 Break
- 10:20 38 Mechanistic Understanding of Local pH for Acidified Formulation of Weakly Basic Drug Using Surface Dissolution Imaging, Sanjay Patel, Lei Zhu, Leah Xiong, Merck, Navneet Sharma, St. John University
- 10:40 39 An In-Vitro Evaluation of Micelle-Partitioning Effects Upon Flux Using the Pion® µFlux Platform, Gregory A. Johnson, Walter Wasylaschuk, Justin Pennington, Paul Harmon, Merck
- 11:00 40 Using Experimental and Modeling Approaches to Understand a Blending Process, Savitha S. Panikar, Pallavi Pawar, Fernando Muzzio, Rohit Ramachandran, Rutgers University

- 11:20 41 Quantification of Polysorbate 80 in Biotherapeutic Formulations Using LC-MS, Dilusha S. Dalpathado, Joseph Valente, Kathleen A. Kelly, Mark S. Bolgar, Bristol-Myers Squibb

Column Technology & Method Optimization

Chair: Mariann Neverovitch, Bristol-Myers Squibb

- 9:00 42 The Need for Speed: Efficiency Gains of UHPLC vs. High Performance Column Technology, Jonathan E. Clark, Procter & Gamble
- 9:20 43 The Impact of Different UPLC Sample Managers on Dissolution Results: A Case Study, Vincenc Camaj, Meijia Chen, Yali Sun, Celgene
- 9:40 44 The Impact of Instrument Design Characteristics on Reversed-Phase HPLC and UHPLC Methods Transfer, Paula Hong, Patricia R. McConville, Waters Corporation
- 10:00 Break
- 10:20 45 Modern Particle Designs for U/HPLC, Past, Present and Future, David S. Bell, Supelco, Division of Sigma-Aldrich, Richard A. Henry, Consultant
- 10:40 46 Column Pore-Size as a Critical Variable in HPLC Method Development, Richard A. Henry, Consultant
- 11:00 47 Monolithic Silicas in High-Performance Liquid Chromatography: The Alternative to Conventional Packed-Particle Columns, Egidijus Machtejevas, Merck KGaA

Monday Poster Session: Bioanalysis I

- 12:00-2:00 48 High-Throughput LC-MS-MS Measurement of 17-Hydroxyprogesterone in Human Blood Serum for Research Purposes, Joseph M. Di Bussolo, Thermo Fisher Scientific, Ian White, West Chester University of PA, Raidiri Castillo, Amit Shah, Hashim Othman, Bio-Reference Laboratories
- 12:00-2:00 49 High-Throughput LC-MS-MS Measurement of Pregnenolone in Human Blood Serum for Research Purposes, Joseph M. Di Bussolo, Thermo Fisher Scientific, Ian White, Emily Herman, West Chester University of PA, Raidiri Castillo, Amit Shah, Hashim Othman, Bio-Reference Laboratories
- 12:00-2:00 50 The Analysis of Common Antiepileptic Drugs in Human Urine by LC-MS-MS, Randall L. Romesberg, Sharon Lupo, Cathy Hetrick, Restek Corp.
- 12:00-2:00 51 Direct Analysis of Human C-Peptide from Urine by Two-Dimensional Liquid Chromatography and Mass Spectrometry (LC-MS), Alex Borovoy, Clarkstown North High School, Eduard Rogatsky, Daniel T. Stein, Albert Einstein College of Medicine
- 12:00-2:00 52 Comparison of Chemical Additive Preservation Methods for Total Mercury Analysis in Human Urine by ICP-MS, Shing Nam Lau, Sterling Tomellini, University of New Hampshire, Mamta Dua, Julianne Nassif, NH Department of Health & Human Services

- 12:00-2:00 53 Effect of Cytosine Methylation on the Chemical Selectivity and Rate of Nucleobase Adduction on Exon 7 Fragment of p53 Tumor Suppressor Gene, Spundana Malla, Karteek Kadimisetty, You J Fu, Dharamainder Choudhary, James F. Rusling, University of Connecticut
- 12:00-2:00 54 MALDI-TOF MS Analysis of Sequence Effects on Abiotic RNA Polymerization, Kristin M. Coari, Rebecca C. Martin, Kopal Jain, Linda B. McGown, Rensselaer Polytechnic Institute
- 12:00-2:00 55 Pyrethroid Identification and Quantification by GC- Ion Trap Mass Spectrometric (ITMS) Analysis, Nicole Renkel, Hilly Yang, Min Liu, Brian Buckley, Rutgers University
- 12:00-2:00 56 GC-MS Metabolomics Analysis of Natural and Feruloyl Transferase-Silenced Potato Suberin Non-Polar Extracts, Qing Cai, Wenlin Huang, Ruth E. Stark, City University of New York - City College, Olga Serra, Mercè Figueras, Marisa Molinas, University of Girona
- 12:00-2:00 57 Metabolomic Profiling of FHT-RNAi Silenced Potato Periderm Tissues with LC-MS and Solution NMR, Liqing Jin, Wenlin Huang, Ruth E. Stark, City College of New York, Olga Serra, Mercè Figueras, Marisa Molinas, University of Girona
- 12:00-2:00 58 LC-MS Analysis of Electrochemical Oxidation of Albendazole, Zahilis Mazzochette, Geoffrey Kamau, Amos Mugweru, Rowan University
- 12:00-2:00 59 Method Development for 2C and NBOMe Drugs in Urine via LC-MS-MS, Bria L. Lind, Arcadia University, Mandi Mohr, Fredric Reiders Family Foundation, Barry Logan, NMS Labs
- 12:00-2:00 60 Electrochemical Reduction of Artemisinin: Chromatographic Analysis of the Metabolites, Minxue Shi, Amos M. Mugweru, Rowan University, Geoffrey Kamau, University of Nairobi

Monday Poster Session: Forensic Analysis

- 12:00-2:00 61 Absolute Quantitation of Semen Specific Biomarkers from Post-Coital Samples, Catherine Brown, Masha Signaevsky, Arcadia University, Heather McKiernan, Kevin Legg, The Center of Forensic Science Research and Education, Phillip Danielson, University of Denver
- 12:00-2:00 62 Method Development and Optimization of Detection of Decomposition Products in Soil Using HS-GCMS, Amanda L. Haggerty, Kimberlee Moran, Heather Harris, Kenneth Clarke, Arcadia University
- 12:00-2:00 63 Metabolic Profile Determination of NBOMe's Using Human Liver Microsomes (HLM), Keith-Dane H. Temporal, Arcadia University, Barry K. Logan, Amanda Mohr, The Center for Forensic Science Research and Education

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| 12:00-2:00 | 64 | Identification of Synthetic Cannabinoids Using GC-MS at the NYPD Laboratory, <u>Donald G. Brown</u> , Maria K. Petela, New York Police Department Police Laboratory | 12:00-2:00 | 76 | Utilizing pH as a Method Development Tool to Control Selectivity of Ionizable Compounds with Superficially Porous Columns, <u>Anne E. Mack</u> , William J. Long, Maureen Joseph, Xiaoli Wang, Agilent Technologies |
| 12:00-2:00 | 65 | GC-MS Carrier Gas Conversion from Helium to Hydrogen, <u>Parag K. Shah</u> , Sue Chen, Erika Chen, Michelle Rockwell, New York Police Department Police Lab GC-MS Carrier Gas Conversion from Helium to Hydrogen, Parag K. Shah, Sue Chen, Erika Chen, Michelle Rockwell, New York Police Department Police Lab | 12:00-2:00 | 77 | A Multi-Class Drug and Metabolite Screen of 231 Analytes by LC-MS-MS, <u>Cathy Hetrick</u> , Randall L. Romesberg, Sharon Lupo, Restek Corp. |
| 12:00-2:00 | 66 | Linking Suspects to the Scene of a Crime: Identification of Tear Gas Lachrymators on Clothing, <u>Laura McGregor</u> , Steve Smith, Chris Hall, Charles Haws, Markes International | 12:00-2:00 | 78 | Rapid and Accurate LC-MS-MS Method for the Analysis of Nicotine, Nicotine Metabolites, and Minor Tobacco Alkaloid in Urine, <u>Cathy Hetrick</u> , Randall L. Romesberg, Sharon Lupo, Restek Corp. |
| 12:00-2:00 | 67 | Simultaneous Determination of Prescription Benzodiazepines and Designer Benzodiazepines in Urine by SPE and LC-MS-MS, <u>Tina Fanning</u> , Michael Telepachak, United Chemical Technologies | 12:00-2:00 | 79 | Evaluating Mass Overload on Superficially Porous Particle, <u>Randall L. Romesberg</u> , Sharon Lupo, Cathy Hetrick, Restek Corp. |
| | | | 12:00-2:00 | 80 | Analysis of Vanillin in Maple Sap for the High School Laboratory, <u>Tiffany Hatstat</u> , Elizabeth Brady, Martha Carlson, Barrett N Rock, Stephen Hale, Sterling Tomellini, University of New Hampshire, Douglas Baker, Prospect Mountain High School, Walter Shortle, USDA Forest Service, Martin McCrone, NH Office of Environmental Health and Safety |

Monday Poster Session: Liquid Chromatography

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| 12:00-2:00 | 68 | Validation of the HPLC Method for Determination of Stability of Sodium Pentobarbital in Diluted Marketed Euthanasia Solutions, <u>Oksana Leidy</u> , Hal Grosso, Lara D. Penn, Merck | 12:00-2:00 | 81 | Highly Efficient Purification of Enantiomers Using Polysaccharide Type Chiral Stationary Phases and Recycle Purification Technology, <u>Ernest Sobkow</u> , Keiko Kihara, Hideo Gabari, Takashi Sato, Saoko Nozawa, Noriko Shoji, Noritaka Kuroda, Takatomo Takai, YMC America |
| 12:00-2:00 | 69 | Investigation of Two-Dimensional High-Performance Liquid Chromatography Approaches for Reversed-Phase Resolution of Warfarin and Hydroxywarfarin Isomers, <u>Erik L. Regalado</u> , Christopher J. Welch, Joseph A. Schariter, Merck | 12:00-2:00 | 82 | SFC Analytical Method Development for Vitamin D3 and Related Compounds, <u>Ernest Sobkow</u> , Junko Kawabata, Roland Spaegel, Toshikazu Adachi, Noritaka Kuroda, YMC America |
| 12:00-2:00 | 70 | Analysis of Tri-Lysine by Hydrophilic Interaction Liquid Chromatography with ELS Detection, <u>Timothy Brockman</u> , Steve Bennett, Thomas Twardowski, Integra LifeSciences | 12:00-2:00 | 83 | Simultaneous Determination of Protein and Carbohydrate Used in Bioformulations by High-Performance Liquid Chromatography, <u>Marc Plante</u> , Bruce Bailey, David H. Thomas, Qi Zhang, Rainer Bauder, Daniel Kutscher, Thermo Scientific |
| 12:00-2:00 | 71 | Comparison of Excess Adsorption of Binary Aqueous Organic Mixtures on Classical Packing Material and Core-Shell SBA-15 Modified with Alkylated Ligands, <u>Margaret Figus</u> , Yuri V Kazakevich, Alexander Y. Fadeev, Seton Hall University | 12:00-2:00pm | 84 | Monograph Modernization and Impurity Profiling HPLC Methods for Pharmaceutical Drugs following New United States Pharmacopeia (USP) Guidelines, <u>David Lentz</u> , EMD Millipore, Patrik Appelblad, Gora Sharangi, Merck Millipore |
| 12:00-2:00 | 72 | Sequential Elution Liquid Chromatography-Mass Spectrometry Using a Wide-Range pH Gradient, <u>Catherine Kita</u> , Joe P. Foley, Drexel University | 12:00-2:00 | 85 | Unique Properties of Zirconia Phases for Structurally Similar Compounds and Other Difficult HPLC Separations, <u>Kelly S. Johnson</u> , ZirChrom Separations, Merlin Bicking, ACCTA, Richard A. Henry, Supelco |
| 12:00-2:00 | 73 | Optimization of Assay/Degradation Method for Triple Combo Drug Product Using DryLab, <u>Jagruiti Patel</u> , Ye Tian, Merck | 12:00-2:00 | 86 | Technical Evaluation of Next Generation HPLC Instrument, <u>Weidong Tong</u> , Lin Wang, Merck |
| 12:00-2:00 | 74 | Columns with 2.0- μ m Fused-Core Particles Generate Highest UHPLC Performance, <u>Richard A. Henry</u> , David S. Bell, Hugh Cramer, Gaurang Parmar, Supelco/Sigma-Aldrich | | | |
| 12:00-2:00 | 75 | Transferring and Scaling Methods Among a Variety of Superficially Porous Particle Columns, <u>Anne E. Mack</u> , William J. Long, Maureen Joseph, Xiaoli Wang, Agilent Technologies | | | |

Monday Poster Session: Pharmaceutical Analysis I

- 12:00-2:00 87 The Challenge to Determine Particle Size and Specific Surface Area of an Agglomerated Drug Substance in the Late-Stage Development, Shasad Sharif, Mario Hubert, Bristol-Myers Squibb
- 12:00-2:00 88 Residual Sulfate Analysis of Collagen and Wash Water by Spectroscopy, Chromatography, and Opalescence Methods, Hao Fu, Timothy Brockman, Thomas Twardowski, Integra LifeSciences
- 12:00-2:00 89 Improving Precision and Accuracy of Temperature Measurements in Automatic Refractometers, Mark Canestrano, Anton Paar
- 12:00-2:00 90 Identification of Micro-Particulates in Pharmaceuticals Using a Novel Imaging Guided Spectroscopy System, Mark Sullivan, Kathryn Lee, Markus Lankers, Oliver Valet, Rap.ID Inc.
- 12:00-2:00 91 Container Closure Integrity Testing (CCIT) Method Development for Single-Use Auto-Injectors, Nikunj Vasoya, Joe Koo, Casey Tyrrel-Pawlowic, Antonio Fernandez, Steve Klohr, Bristol-Myers Squibb
- 12:00-2:00 92 Optimizing Dye Ingress for Container Closure Integrity Testing, Elizabeth C. Moroney, Bristol-Myers Squibb, Casey Tyrrel-Pawlowic, Antonio Fernandez, Steven E. Klohr
- 12:00-2:00 93 Unusually High Recovery in Trace Analysis of Acetohydrazide and Hydrazine by Chemical Derivatization due to Sample Matrix Effects, Kaina Jiang, Li Cui, GlaxoSmithKline
- 12:00-2:00 94 Challenge of Small Sample Analysis for Pharmaceutical Products and Foods Using Theoretical Scattered X-Rays, Dan Davis, Hiroaki Furukawa, Naoto Ichimaru, Keiji Suzuki, Shinji Watanabe, Makoto Nishino, Hirotomo Ochi, Shimadzu Scientific Instruments
- 12:00-2:00 95 Molecular Isotopic Engineering (MIE): Industrial Manufacture of Naproxen of Predetermined Stable-Isotopic Compositions for Novel Intellectual Property Coverage As Well as for Identity and Security Protection, John P. Jasper, Nature's Fingerprint / Molecular Isotope Technologies LLC
- 12:00-2:00 96 Strategic Approaches to Method Development and Analysis for Genotoxic Impurities, Zhen T. Yang, Ying Chen, Hangchun H. Hu, Chen Zhao, Feili Tang, Carl Behrens, Hongfeng Chen, Harry Li, Yong Chen, Wilmington PharmaTech Company
- 12:00-2:00 97 Evaluating Amorphous Content in an Active Pharmaceutical Ingredient Using NIR and Raman Spectroscopy, Lili Feng, Boyong Wan, Bristol-Myers Squibb

- 12:00-2:00 98 Investigation of Compaction Induced Amorphization of Crystalline API, Chengbin Huang, Jerry Klinzing, Jie Ren, Fengyuan Yang, Fengyuan Yang, Anthony Leone, Rubi Burlage, Lei Zhu, Adam Procopio, Yongchao Su, Merck

Monday Poster Session: Protein Analysis

- 12:00-2:00 99 Mass Spectrometry Based Proteomics of Oxidative Stress: Investigating of Amino Acids Modifications by 4-hydroxy-2-nonenal (HNE) Using Lysozyme and BSA as Model Proteins, Roshanak Aslebagh, Costel C. Darie, Clarkson University, Steven J. Fliesler, Bruce A. Pfeffer, SUNY-Buffalo
- 12:00-2:00 100 Investigating the pH-Dependent Conformational States and Stabilities of Therapeutic Monoclonal Antibodies (mAbs), Songyan Zheng, Pedro Smith, Ming Chen, Difei Qiu, Mariana Vlad, Monica Adams, Bristol-Myers Squibb
- 12:00-2:00 101 Determination of Isoelectric/Isoionic Point of Collagen via Ion Exchange Resin, Rachel Katz, Bryan M. Vayda, John Kemnitzer, Thomas Twardowski, Integra Life Sciences
- 12:00-2:00 102 Circular Dichroism of Protein-Dye Complexes as a Characterization Tool for Protein Higher Order Structure, Christopher Sucato, Shreyas Laghate, Libo Wang, Mario DiPaola, Blue Stream Laboratories
- 12:00-2:00 103 Label-Free Analysis by HPLC with Charged Aerosol Detection of Glycans Separated by Charge, Size and Isomeric Structure, David H. Thomas, Ian N. Acworth, Marc Plante, Rainer Bauder, Daniel Kutscher, Thermo Fisher Scientific
- 12:00-2:00 104 Label-Free Profiling of O-linked Glycans by UHPLC with Charged Aerosol Detection, David H. Thomas, Ian N. Acworth, Rainer Bauder, Marc Plante, Liz Kast, Thermo Fisher Scientific
- 12:00-2:00 105 Solution Structure of the Microtubule-Targeting COS Domain of MID1, Katharine M. Wright, Haijuan Du, Michael A. Massiah, George Washington University
- 12:00-2:00 106 Spectroscopic Characterization of Abatacept, a Protein-Based Pharmaceutical, Rose Soskind, Rutgers University, John Wasyluk, Bristol-Myers Squibb
- 12:00-2:00 107 VIF-Phosphorylation in HIV Infection, Pratikumar N. Rathod, Hsin-Pin Ho, Abbas Nazir, Ai-Mei Chen, Emeka Nnaji, Manjeet Kaur, Katrina Murtozaeva, Lois Anti, Emmanuel Chang, York College- CUNY, Xu Yu, Mathias Lichterfeld, Ragon Institute of MGH
- 12:00-2:00 108 Proteomic Investigation of Saliva from People with Smith-Lemli-Opitz Syndrome (SLOS) and Controls, Cassia Chapman, Emmalyn J. Dupree, Megan Borland, Kelly L. Wormwood, Alisa G. Woods, Costel C. Darie, Clarkson University

- 12:00-2:00 109 LC-MS Analysis of Monoclonal Antibody Structure Utilizing HALO® BioClass Fused-Core™ Particles; Multilevel Analysis for Proteins and Glycovariants, Benjamin Libert, William Miles, Stephanie Schuster, Barry Boyes, Advanced Materials Technology, Thomas Waeghe, MAC-MOD Analytical

Monday Afternoon, November 16, 2015

EAS Award for Outstanding Achievements in Nuclear Magnetic Resonance

Honoring **Timothy A. Cross**, Florida State University

Sponsored by **Bruker BioSpin and New Era Enterprises**

Chair: **Eduard Chekmenev**, Vanderbilt University

- 2:00 Presentation of the EAS Award for Outstanding Achievements in Nuclear Magnetic Resonance
- 2:05 110 Membrane Protein Structural Biology and Solid State NMR: Past, Present and Future, Timothy A. Cross, Florida State University
- 2:30 111 NMR Methods for Structural Studies of Membrane Proteins, Stanley J. Opella, University of California San Diego
- 3:00 Break
- 3:20 112 Insights into the Mechanism of Action of Antimicrobial Peptide Piscidin: One Peptide Family, Multiple Roles in Host Defense, Myriam Cotten, Hamilton College
- 3:50 113 NMR Sensitivity Enhancement by Hyperpolarization and Molecular Imaging, Eduard Chekmenev, Vanderbilt University

New York Section of the Society for Applied Spectroscopy Gold Medal Award

Honoring **John A. Reffner**, John Jay College

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

- 2:00 114 Some Milestones in Role of Infrared Microspectroscopy as Applied to Microscopic Trace Evidence: A Personal Perspective, Skip J. Palenik, MicroTrace
- 2:30 115 The Synergism between IR and Raman Microscopy, Fran Adar, Horiba Scientific
- 3:00 Break
- 3:20 116 A Novel Integrated Instrumentation Platform that Combines Raman Spectroscopy, Dynamic Light Scattering and Microrheology for Deriving Unique Insights into the Physicochemical Properties of Proteins at High Concentration, Neil Lewis, Wei Qi, Steven Blake, Samiul Amin, Malvern Instruments
- 3:50 117 Uniting Microscopy and Molecular Spectroscopy, John A. Reffner, John Jay College

The Applications of Tandem Quadrupole Mass Spectrometry in Absolute Quantitation, organized by the North Jersey Mass Spectrometry Discussion Group

Chair: **Jim Shen**, Bristol-Myers Squibb

- 2:00 118 Detection of Cathinone and Mephedrone in Plasma by LC-MS/MS Using Standard Addition Quantification Technique, Shu-Yuan Cheng, Theron Ng-A-Qui, Bruce Eng, John Jay College, Jonathan Ho, Shimadzu Scientific Instruments
- 2:30 119 Bioanalysis of 2-Hydroxypyridine N-Oxide (HOPO) in Rat Plasma Using LC-MS/MS with a Simple Derivatization, Guowen Liu, Bristol-Myers Squibb
- 3:00 Break
- 3:20 120 Applications of Tandem Mass Spectrometry in Forensic Toxicology, Thomas Rosano, Albany Medical Center Hospital and College
- 3:50 121 Advances in High Performance Mass Spectrometry for Quantitative Applications and Enhanced Productivity, Keeley Murphy, Thermo Fisher Scientific

Analytical Methods for Cultural Heritage, Part I, organized by the New York Conservation Foundation

Chair: **John Scott**, New York Conservation Foundation

- 2:00 122 Terahertz in Art Culture and Coatings, Irl Duling, Advanced Photonix Inc.
- 2:30 123 Battelle Smart Corrosion Detector® Bead: Self-Healing with Corrosion Detection by Terahertz, Cindy Conner, Ram Lalgudi, Battelle
- 3:00 Break
- 3:20 124 Hybrid Mid-IR OCT System for Imaging and Spectroscopy with New High-Power QC Superluminescent Emitters, Deborah M. Varnell, Mei Chai Zheng, Samantha Lee, Nyan Aung, Ahmed Musse, Claire Gmachl, Princeton University
- 3:50 125 Some Archaeometric Studies on Metallic Artifacts from Anatolian Region in 2014, Irmak G. Yuceil, Tuğçe Pamuk, Laboratory for Restoration and Conservation in Istanbul

Issues About Which Every Manager Should be Thinking, organized by ALMA

Chair: **Dennis Swijter**, International Flavors & Fragrances

- 2:00 126 What is Your Cultural Competence Level as a Laboratory Manager?, Ephraim Muchada Govere, Pennsylvania State University
- 2:30 127 Using Technology to Advance your Lab Through the Use of a LIMS Solution, Kim Charles, Labvantage Solutions
- 3:00 Break
- 3:20 128 Managing the Sandbox: Coaching Toward Collaboration and Teamwork, Richard Durand, Sun Chemical
- 3:50 129 Lab Leadership-Are You a Chemist or a Manager, Jean-François Borny, C B & I

DNA Frontiers, Sponsored by New Jersey Association of Forensic Scientists**Chair: Matthew Wood, Ocean County Sheriff's Office Forensic Laboratory**

- 2:00 130 Wildlife Forensics: Development of In-House Assays for Non-Human Testing with Emphasis on Elephant DNA Testing, Jillian Fesolovich, University of the Sciences, Meredith Rohrbaugh, The Center for Forensic Science
- 2:30 131 Wildlife Forensics: Techniques and Applications, Jane Huffman, East Stroudsburg University 3:00 Break
- 3:20 132 What is RAPID DNA Analysis? Introduction and New Research Directions, Tracey Dawson Cruz, Virginia Commonwealth University
- 3:50 133 Validation and Implementation of the RapidHIT® 200 System in a Crime Lab, Megan M. Boll, Britton Morin, Christian Westring, NMS Labs

Spectroscopic Applications in the Pharmaceutical Industry, organized by the Coblentz Society**Chair: Steve Short, Merck**

- 2:00 134 Quality-by-Control Approaches for Crystallization Systems Using Spectroscopy-Based Feedback Control Technologies, Zoltan Nagy, Purdue University
- 2:30 135 Quantitative Transmission Raman Spectroscopy of Bilayered Tablets, Gary McGeorge, Yan Zhang, Bristol-Myers Squibb
- 3:00 Break
- 3:20 136 Efficient Design of Experiments for Spectroscopic Calibrations Predicting Quality Attributes of Pharmaceutical Products, Carl A. Anderson, Anik Alam, James K. Drennen III, Duquesne University
- 3:50 137 The Role of PAT in Continuous Manufacturing, Jennifer Schubert, Vertex

Modeling in Separation Science**Chair: Irena Maksimovic, Bristol-Myers Squibb**

- 2:00 138 Development of Computational Approaches for the Prediction of Elution Order and Probability of a Successful Separation in Sequential Elution Liquid Chromatography, Erin J. Ennis, Joe P. Foley, Drexel University
- 2:20 139 Modeling HPLC Method Robustness, Imre Molnár, Molnár-Institute for Applied Chromatography
- 2:40 140 Kinetic Model of HPLC Column Re-Equilibration after Gradient Elution, Michael R. Fletcher, Joe P. Foley, Drexel University
- 3:00 Break
- 3:20 141 Relative Cost-Effectiveness Modeling to Understand the Value of Preparative Chiral Separations in Pharmaceutical R&D, Keith Galyan, Jeffrey Kiplinger, Paul Lefebvre, Emily Showell-Rouse, Averica Discovery

- 3:40 142 New HPLC Method Development Workflow by Leveraging State-of-the-Art Software, Lin Wang, Weidong Tong, Merck

Tuesday Morning, November 17, 2015**EAS Award For Outstanding Achievements in Chemometrics Honoring Peter D. Wentzell, Dalhousie University****Sponsored by Eigenvector Research****Chair: David Haaland, Spectral Resolutions**

- 9:00 143 Automating Multivariate Curve Resolution for Success, David M. Haaland, Spectral Resolutions, Howland D.T. Jones, HyperImage Solutions, David M. Melgaard, Jerilyn A. Timlin, Sandia National Laboratories
- 9:30 144 Advancing Multivariate Calibration with Fusion of Multiple Measures of Model Quality, John Kalivas, Brett Brownfield, Alister Tencate, Idaho State University
- 10:00 Break
- 10:20 145 The "Corporate Approach" in Chemometrics: Using a Hierarchy in Classification of Complex Data, Steven D. Brown, University of Delaware
- 10:50 146 Mythbusters - Chemometrics Edition, Christopher Brown, 908 Devices Inc.
- 11:20 Presentation of the EAS Award for Outstanding Achievements in Chemometrics
- 11:25 147 On the Evolution of Data-Driven to Error-Driven Multivariate Analysis, Peter D. Wentzell, Dalhousie University

Business Essentials for Technology Entrepreneurs**Organizer: Lei Lei, Rutgers University Business School****Chair: Yao Zhao, Rutgers University Business School**

- 9:00 148 Technical Entrepreneurship: The Value of a Good Idea, Arturo E. Osorio, Rutgers University Business School
- 9:30 149 Production and Operations Management for Engineering Enterprises, Yao Zhao, Rutgers University Business School
- 10:00 Break
- 10:20 150 Data Driven Marketing Innovations in Pharmaceutical and Healthcare Industries, Lei Wang, Rutgers University Business School
- 10:50 151 Leading Innovation: Getting Everyone on the Same Page!, David Dobrzykowski, Rutgers University Business School

Lifecycle Management of Analytical Validation of Pharmaceutical Products: A Memorial Session in Honor of Dr. Vincent Venturella**Chairs: Domenick Vicchio, United States Pharmacopeia and Kim Huynh-Ba, Pharmalytik**

- 9:00 152 Lifecycle Management of Compendial Monographs through Modernization, Leonel A. Santos, US Pharmacopeia

- 9:30 153 Analytical Method Lifecycle: Recent Updates from USP and FDA, Greg Martin, Compectors Consulting
- 10:00 Break
- 10:20 154 Method Validation through the Phases of Drug Development, Kevin Dobmeier, Merck
- 10:50 155 Lifecycle Management for Method Validation of Biologics from a Compendial Perspective, Anita Szajek, US Pharmacopeia
- 11:20 Memorial Presentation in Honor of Dr. Vincent Venturella, EAS Former President

Advances in Solid-State NMR

Chairs: Yongchao Su, Merck

- 9:00 156 Investigating Viral Membrane Protein Structure and Function by Solid-State NMR, Mei Hong, Massachusetts Institute of Technology
- 9:30 157 Expediting the Cures: The Role of Solid-State NMR, George B. Crull, Bristol-Myers Squibb
- 10:00 Break
- 10:20 158 Recent Development of Magnetic Resonance: Instrumentation, Physics and Applications, Yiqiao Song, Schlumberger-Doll Research
- 10:50 159 Application of Solid-State NMR in the Pharmaceutical Industry, Dirk Stueber, Merck

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'

- 9:00 160 THz Characterization of Corroded Archaeological Bronzes, Ilaria Cacciari, National Research Council - Institute of Applied Physics
- 9:30 161 Contribution of THz-Time Domain Imaging to Multi-Layered Artifact Inspection, Corinna Ludovica Koch Dandolo, Peter Uhd Jepsen, Technical University of Denmark
- 10:00 Break
- 10:20 162 Pulsed Terahertz Spectroscopy and Imaging: A Useful Tool in Art Conservation, Enrique Castro Camus, Alma M. Gomez-Sepulveda, Arturo I. Hernandez-Serrano, Center of Investigations in Optica A.C., Kirsti Krugener, Wolfgang Viol, University of Applied Sciences and Arts, Michael Schwerdtfeger, Stefan F. Busch, Amin Soltani, Martin Koch, Philipps-University Marburg
- 10:50 163 THz Waveform Techniques for Nondestructive Evaluation in Dense Materials, David F. Plusquellic, Shin G. Chou, Paul E. Stutzman, Shuangzhen Wang, Sung Kim, Robert D. McMichael, Virgil Provenzano, Jack Surek, William F. Egelhoff, Edward J. Garboczi, National Institute of Standards and Technology

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

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

- 9:00 164 LC-MS for the Development of Translational Biomarkers for Environmental Exposures and Genetic Diseases, Clementina Mesaros, Andrew J. Worth, Ian A. Blair, University of Pennsylvania
- 9:30 165 A Promising Alternative to SWATH for Biomarker Discovery: An Ion-Current Based Approach for Large-Scale, Accurate and Extensive Proteomic Quantification with Extremely Low Level of Missing Data, Jun Qu, University of Buffalo
- 10:00 Break
- 10:20 166 Biochemical and Biological Characterization of IL-25 Enriched from Primary Human T-Cells, Darryl Davis, Yazen Jmeian, Jansen R&D
- 10:50 167 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, Qing Xiao, Baomin Xin, Wendy Trigona, Adrienne Tymiak, Ashok Dongre, Timothy V. Olah, Bristol-Myers Squibb

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

Chair: Mary Ellen McNally, DuPont Crop Protection

- 9:00 168 Utilizing Computational Predictions to Aid in the Design of Chromatographic and Electrophoretic Separations, Donna Blackney, Erin Ennis, Joe P. Foley, Drexel University
- 9:30 169 Trace Level Impurity Analysis in Project Manufacturing, Andrew P. Kennedy, DuPont Crop Protection
- 10:00 Break
- 10:20 170 Trace Analysis of Dioxins and Dioxin-Like PCBs Utilizing GC/MS/MS with a New Sensitive Source, Jessica Westland, Agilent Technologies
- 10:50 171 2-D-LC: Practical Considerations and Applications, Marcelo Filgueira, The Dow Chemical Company

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

Chairs: Fenghe Qiu, Boehringer Ingelheim and David Q. Liu, Janssen R&D

- 9:00 172 ICH M7 Guideline Implementation Perspectives, Warren Ku, Boehringer Ingelheim
- 9:30 173 Diverse and Sensitivity Enhanced GTI Analysis Applications by HILIC-MS, Mohan Kanthasamy, Bristol Myers Squibb
- 10:00 Break
- 10:20 174 Recovery Issues in Trace Level N-chlorosuccinimide (NCS) Analysis by Chemical Derivatization: Sample Matrix Effect, Lianming Wu, Kevin L. Facchine, GlaxoSmithKline, Hong Cai, United States Food and Drug Administration, David Q. Liu, Janssen R&D

- 10:50 175 Pitfalls and Tips for Accurate Quantification of Genotoxic Pharmaceutical Impurities, Li Cui, Kaina Jiang, Kevin Facchine, GlaxoSmithKline, David Q. Liu, Janssen R&D

Recent Advances in Forensic Microscopy IX, Sponsored by the New York Section of the American Chemical Society and TAKA Instructional Agency

Chair: Thomas Kubic, John Jay College

- 9:00 176 The Use of Confocal Raman Microscopy in Samples of Forensic Interest, Jennifer M. Leonard, City University of New York
- 9:30 177 Assessing the Utility of the Light Mineral Fraction of Soils for Forensic Applications, Jack Hietpas, Garrett McMahon, JoAnn Buscaglia, Libby Stern, Federal Bureau of Investigation
- 10:00 Break
- 10:20 178 Characteristics and Impact Dynamics of Frangible Ammunition, Peter Diaczuk, Xiao Shan Law, John Jay College, Jack Hietpas, D&H Criminalistics Agency
- 10:50 179 Forensic Microscopy Investigations in Civil Litigation, Dale Purcell, SSCI

Novel Techniques for Characterization of Proteins

Chair: Mary Wirth, Purdue University

- 9:00 180 Antibody-Like Biorecognition Sites for Proteins from Surface Imprinting on Nanoparticles, Snehasis Bhakta, Mohammad Saiful Islam Seraji, Steven L. Suib, James F. Rusling, University of Connecticut
- 9:20 181 Electrochemistry/Mass Spectrometry (EC/MS) – A tool for Metabolite Synthesis and Online Disulfide Cleavage for Protein and Peptide Analysis, Huifang Yao, Yong Liu, Merck
- 9:40 182 Mass Spectrometry Analysis of NXS/T Glycosylation Sites in Recombinant Glycoproteins, Costel C. Darie, Izabela Sokolowska, Armand Ngounou Wetie, Alisa G. Woods, Clarkson University
- 10:00 Break
- 10:20 183 Raman Spectral Fingerprinting for Biologics Counterfeit Drug Detection, Anna Luczak, Jeremy Peters, Varsha Ganesh, Ravi Kalyanaraman, Bristol-Myers Squibb
- 10:40 184 Emerging Analytical Diagnostic Tools to Seeing the Unseen, Norberto A. Guzman, Princeton Biochemicals, Daniel E. Guzman, Affinityce

Tuesday Poster Session: Biomarker

- 12:00-2:00 185 Hydrophilic Interaction Chromatography (HILIC) and Enzymatic/Spectrometric Methods for the Determination of Uric Acid and Creatinine in Human Biofluids, Si Zhou, Xiaofei Lu, Yuegang Zuo, University of Massachusetts Dartmouth

- 12:00-2:00 186 Incorporation of Biomarkers Separation Research Projects into Analytical Chemistry Curriculum, Yuegang Zuo, University of Massachusetts Dartmouth
- 12:00-2:00 187 Separation of Vitamin D2 and D3 for Clinical Application, Mark Woodruff, Ken Butchart, Fortis Technologies
- 12:00-2:00 188 Rapid Clean-up Method for Monitoring the Biomarker of Dimethylformamide in Blood by LC-MSMS, Matthew Cleeve, Kinesis Ltd.
- 12:00-2:00 189 Quantification and Profiling of Twenty Three Different Bile Acids, Kyle Buckley, Ill Yang, Grace Guo, Le Zhan, Rutgers University

Tuesday Poster Session: Bioanalysis II

- 12:00-2:00 190 Analytical Method that can Distinguish O vs. N Glucuronides, Rahul Talekar, Adam Beard, Yong Liu, Karen Owens, Zheng Tan, Roy Helmy, Merck
- 12:00-2:00 191 Label-Free Detection and Differentiation of Pathogenic Bacteria Using Synthetic Antimicrobial Peptides, Xiaobo Liu, Dawei Xu, He Dong, Silvana Andreescu, Clarkson University, Mouna Marrakchi, University of Carthage
- 12:00-2:00 192 Two-Dimensional Analysis of Protein Therapeutics and Amino Acid Excipients with Combined UV and Charged Aerosol Detection, Bruce Bailey, Marc Plante, Ian Acworth, Thermo Fisher Scientific
- 12:00-2:00 193 Charging YOYO-1 on Capillary Wall for Online DNA Intercalation and Integrating this Approach with Multiplex PCR and Bare Narrow Capillary-Hydrodynamic Chromatography for On-Line DNA Analysis, Huang Chen, Zaifang Zhu, Joann Juan Lu, Shaorong Liu, University of Oklahoma
- 12:00-2:00 194 A New In-Vitro Method to Estimate Formulation Performance of Subcutaneously Administered Biopharmaceuticals, Jon J. Mole, Karl Box, Sirius Analytical Inc., Hanne M. Kinnunen, Durham University, Randall J. Mrsny, University of Bath
- 12:00-2:00 195 Optimized High Throughput Mixed-mode SPE Method for the Analysis of Arachidonic Acid in Plasma by LC-MS-MS, Matthew Cleeve, Kinesis Ltd
- 12:00-2:00 196 Investigations of Potential Aptamer Interactions Between G4-forming Oncogene Promoter Sequences and Tumor Proteins, Christina M. Albanese, Suttipong Suttapitugsakul, Linda B. McGown, Rensselaer Polytechnic Institute
- 12:00-2:00 197 Sedimentation Velocity Analytical Ultracentrifugation as a Method for Quantifying the Amount of Empty Virion Particles in Adeno-Associated Virus Preparations, Christopher Sucato, Libo Wang, Mario DiPaola, Blue Stream Laboratories

- 12:00-2:00 198 Influence of the "Wire" on the Stability of Enhanced Serum Amine Oxidase Used in Biosensing, Eugene Kang, Mikel Romero, Mihaela D. Leonida, Ish Kumar, Fairleigh Dickinson University
- 12:00-2:00 199 Antibiotic Effects of Essential Oils: Clove and Oregano Oils, On Cariogenic Bacteria As Studied By Microbiological and NMR Techniques, Fernando Commodari, Agnes T. Berki, Marli F. Pimenta, Dohee Han, Christine L. Cordi, Matthew J. Pampin, Alex Paleski, Rira Lee, Caldwell University

Tuesday Poster Session: Environmental Analysis

- 12:00-2:00 200 Examination of Bisphenol A Analogues and their Photodegradation in Natural Water, Yuegang Zuo, Avis L Francis, Mohammed Alshanjiti Alshanjiti, Joseph Michael, University of Massachusetts-Dartmouth
- 12:00-2:00 201 Nano-Impact Electrochemistry for the Routine Characterization of the Chemical Reactivity and Surface Properties of Metal and Metal Oxide Nanoparticles, Anahita Karimi, Daniel Andeescu, Silvana Andeescu, Clarkson University
- 12:00-2:00 202 Simultaneous Direct Analysis of Glyphosate and Aminomethylphosphonic Acid in Surface Water Using UPLC-MS in Selected Ion Recording Mode, Anthony A. Provatias, Naman N. Buch, Steven L. Kolakowski, James D. Stuart, Christopher R. Perkins, University of Connecticut
- 12:00-2:00 203 A New TO-17 Tube for the Investigation of Volatiles and Semi-Volatiles: Are Targets in Soil Gas being Missed?, Bill Hahn, Tom Mancuso, Lee Marotta, PerkinElmer
- 12:00-2:00 204 Benchmarking Real-Time SIFT-MS Analysis of VOCs Against Regulatory GC-MS Analysis, Barry J. Prince, Vaughan S. Langford, Murray J. McEwan, Daniel B. Milligan, Syft Technologies Limited
- 12:00-2:00 205 Preparation Characterization and Application of H₃PO₄ Activated Maize Tassel for Remediation of Eutrophic Phosphorus, Adebayo Am Shofolahan, Nana Nm Agyei, Sefako Makgatho Health Sciences University
- 12:00-2:00 206 Ambient Air Monitoring: What are the Right Tools for the Job?, Chris Hall, Nicola Watson, Caroline Widdowson, Markes International
- 12:00-2:00 207 Carbon Dioxide (CO₂) Conversion into C1 Chemicals Using N-Based Photocatalytic Systems, Sherry-Ann Tim Kee, Xianqin Wang, New Jersey Institute of Technology
- 12:00-2:00 208 Quantification of Pesticides in Fruit and Vegetable Samples in Southwestern Pennsylvania, Kaelyb Suchevis, California University of PA
- 12:00-2:00 209 Methodology for Environmental Assessment of Silver Nanotoxicity, Eduard Dumitrescu, Xiaobo Liu, Kenneth Wallace, Silvana Andeescu, Clarkson University

Tuesday Poster Session: Food Analysis

- 12:00-2:00 210 Kinetics of Oxidation of Maltose and Sucrose by Alkaline Potassium Permanganate, OLufemi E. Adekola, E.O. Odeunmi, University of Ilorin
- 12:00-2:00 211 Hydrophilic Interaction HPLC Method for the Determination of Ascorbic Acid in Citrus Fruits and Pharmaceutical Formulations, Ruiting Zuo, Yiwei Deng, University of Michigan, Yuegang Zuo, Si Zhou, University of Massachusetts Dartmouth
- 12:00-2:00 212 Solid-Phase Micro Extraction of Tea Flavor Components, Anne Jurek, Mike Moses, Kelly Cravenor, EST Analytical
- 12:00-2:00 213 Examination of the Adulteration, Counterfeiting and Contamination of Spices, Botanical Products, and Supplements by ICP-OES and ICP-MS, Patricia L. Atkins, Huifang Lang, SPEX CertiPrep
- 12:00-2:00 214 Cleanup of Fatty Food Matrices Using Zirconia-Based SPE Sorbents, Jennifer Claus, Katherine K. Stenerson, Michael Halpenny, Olga I. Shimelis, Emily Barrey, Patrick Myers, Michael Ye, Supelco, Division of Sigma-Aldrich
- 12:00-2:00 215 Study of Chromatographic Selectivity for Analysis of Multiple Mycotoxins by LC-MS/MS Olga I. Shimelis, Emily R. Barrey, David S. Bell, Michael Ye, Jennifer Claus, Supelco, Division of Sigma-Aldrich
- 12:00-2:00 216 The Use of High Definition TD-GC-TOF-MS for Challenging Analyses in the Food Industry, Nicola Watson, Laura McGregor, Charles Haws, Chris Hall, Markes International Inc.
- 12:00-2:00 217 Withdrawn by the author.
- 12:00-2:00 218 Profiling of Aromas Components in Wine with GC-MS-MS with Full Spectrum Information, Bill Hahn, Tom Mancuso, Sharanya Reddy, PerkinElmer
- 12:00-2:00 219 Analysis of Target Pesticides in Essential Oils Using a Novel GC-MS-MS System, Thomas Dillon, Sharanya Reddy, Samuel Tolley, Perkin Elmer
- 12:00-2:00 220 Vitamin B6 Fluorescence Response Enhanced by Post-Column Photochemical UV Irradiation, Henry Joshua, Aura Industries
- 12:00-2:00 221 Time Domain NMR Study of Triglyceride Oils and Soybean Seeds, Kaitlyn I. Doolittle, John D. Everard, Weilan Pan, Kevin L. Stecca, Elizabeth F. McCord, E. I. DuPont de Nemours & Co.
- 12:00-2:00 222 Development of a Paper-Based Screening Method and Mass Spectral Library for Adulterated Milk Samples by Matrix-Assisted Laser Desorption Ionization Mass Spectrometry (MALDI MS), Jacquelyn Cali, Kean University, Michelle V. Joyce, University of Notre Dame, Kevin Rhoads, Siena College

- 12:00-2:00 223 Headspace Gas Chromatography Mass Spectrometry Analysis of Leachable Compounds in Baby Bottles and Formula, Jacquelyn Cali, Dil Ramanathan, Kean University, Tom Mancuso, Perkin Elmer
- 12:00-2:00 224 Fast and Precise Flavor and Fragrance Analysis in Whisky, Shyam Verma, Rudolf Koehling, Eva Katharina Richter, Sigma-Aldrich
- 12:00-2:00 225 NMR Structure of a Cranberry Xyloglucan with Anti-Escherichia coli Adhesion Activity, Gary D. Strahan, United States Department of Agriculture, Alberto Nunez, Hoa K. Chau, Andre K. White, Christina Khoo, Arland T. Hotchkiss
- 12:00-2:00 226 Headspace GC-MS Analysis of Flavanoids from Cocoa Beans to Chocolate, Katarina Mladenovic, Dil Ramanathan, Kean University, Tom Mancuso, Perkin Elmer

Tuesday Poster Session: Hyphenated Technique - LC-MS and GC-MS

- 12:00-2:00 227 The Use of High Resolution Accurate Mass GC/MS for Metabolomics Workflows, Rafael Acosta, Thermo Fisher Scientific
- 12:00-2:00 228 Characterization and Determination of Irganox 1076 and 1010 in Polyethylene Using Thermal Desorption and Reactive Pyrolysis – GC-MS, Roger Tank, David Randle, I. Itsuko, Akihiko Hosaka, Ichi Watanabe, I. Watanabe, Frontier Laboratories USA, Terry Ramus, Diablo Analytical
- 12:00-2:00 229 Determination and Quantification of Perchlorate in a Fruit Matrix Using Accelerated Solvent Extraction and IC-MS, Kyle B. Renfrew, Amanda Hartman, Nicholas Santiago, Thermo Fisher Scientific
- 12:00-2:00 230 Analysis of Underivatized Steroids Using Cold EI GC-MS, Tom Mancuso, Adam Patkin, Perkin Elmer
- 12:00-2:00 231 Analysis of FAMES Using Cold EI GC-MS for Enhanced Molecular Ion Selectivity, Tom Mancuso, Adam Patkin, Perkin Elmer

Tuesday Poster Session: Pharmaceutical Analysis II

- 12:00-2:00 232 Expansion of Micellar Liquid Chromatography: From Transdermal Permeability Prediction to Bile Salts Studies, Dina S. Shokry, Laura J. Waters, Gareth Parkes, University of Huddersfield
- 12:00-2:00 233 Analysis of Residual Solvents Using a Headspace Syringe Autosampler, Anne Jurek, Mike Moses, Kelly Cravenor, EST Analytical
- 12:00-2:00 234 Simultaneous Determination of Kolliphor HS15 and Miglyol 812 in Microemulsion Formulation by Ultra-High Performance Liquid Chromatography Coupled with Nano Quantity Analyte Detector (UPLCNQAD), Honggen Zhang, Zhenyu Wang, Oscar Liu, Merck

- 12:00-2:00 235 Trace-Level Aliphatic Amines in Cationic Pharmaceutical Ingredients, Stuart J. Procter, Harihara Subramanian, Andrea Wille, Metrohm USA
- 12:00-2:00 236 Quantification of Genotoxic Impurities Benzyl Bromide and Benzyl Chloride in Pharmaceutical Intermediates and API by GC-MS, Jesse Martinez, Abbvie Inc.
- 12:00-2:00 237 Practical Utilization of a Lab Mobile Direct Analysis in Real-Time (DART) Ambient Ionization Mass Spectrometer in Quality Control and Product Authenticity Screening, Brian D. Musselman, Joseph Lapointe, Robert Goguen, Joseph Tice, Emily Dunn, Taylor Feraco, IonSense
- 12:00-2:00 238 Structure Elucidation of Omeprazole Degradants in an Over the Counter Formulation, Cassandra J. Schmitt, Keith A. Rippel, Pfizer Consumer Healthcare
- 12:00-2:00 239 LC-MS Method Development for the Identification of Route Specific MDMA Impurities, Rebecca F. Dunn, Warren Korn, Karen S. Scott, Arcadia University, Heather L. Harris, The Center for Forensic Science Research & Education
- 12:00-2:00 240 Headspace Grade Solvents for Trace Analysis, Subhra Bhattacharya, Eric Oliver, Stephen C. Roemer, Thermo Fisher Scientific
- 12:00-2:00 241 On-Line Supercritical Fluid Extraction-Supercritical Fluid Chromatography: A Novel Approach in Cleaning Validation for Pharmaceutical Manufacturing, William Hedgepeth, Ken Tanaka, Shimadzu Scientific Instruments
- 12:00-2:00 242 Using Headspace and Liquid Autosampler Gas Chromatography Mass Spectrometry to Profile Costa Rican Forest Herbs for Pharmacological Activity, Danielle J. Antonucci, Mirna Giron, Alyssa Bellomo, Jui Chaugule, Dil Ramanathan, Kean University, Tom Mancuso, Perkin Elmer
- 12:00-2:00 243 An Innovative Approach for the Quantitation of Captopril in Industrial Hygiene Monitoring, Sheetal Patel, Hugh Yao, Bristol-Myers Squibb
- 12:00-2:00 244 Practical Advanced Analytical Techniques for Mutagenic Impurity Quantitation, Timothy M. Nowak, Merck

Tuesday Poster Session: Student Awards

- 12:00-2:00 245 Developing Novel Spectroscopic Imaging Methods for Functional and Hybrid Materials Analysis, Joel F. Destino, Andrew K. Craft, Zachary R. Jones, Frank V. Bright, University at Buffalo
- 12:00-2:00 246 Identification and Classification of Botanical Forensic Evidence Using Direct Analysis in Real Time High-Resolution Mass Spectrometry, Ashton D. Lesiak, Justine E. Giffen, Rabi A. Musah, University at Albany-SUNY, Robert B. Cody, A. John Dane, Jeol USA

- 12:00-2:00 247 Developing Magnetic Resonance Imaging (MRI) Techniques for *In-Situ* Physiochemical Tomography of Heterogeneous Reactions, Nanette N. Jarenwattananon, Stefan Glöggler, Trenton Otto, Louis Bouchard, University of California-Los Angeles
- 12:00-2:00 248 Design and Development of a Portable Aptasensor for Toxicity Monitoring of Field Samples, Gonca Bulbul, Akhtar Hayat, Silvana Andreescu, Clarkson University
- 12:00-2:00 249 Reducing Feature Spreading in Contact Pin-Printed Organosilane Arrays on Porous Silicon, Sitora Khodjanizova, Sidney G. Coombs, Frank V. Bright, SUNY-Buffalo
- 12:00-2:00 250 Electrochemical Hydrogen Evolution from Ni and Ni-Mo Composites, Peter M. Csernica, James R. McKone, Francis J. DiSalvo, Héctor D. Abruña, Cornell University
- 12:00-2:00 251 Electromodification of Carbon Nanotubes with Prussian Blue by Cyclic Voltammetry, Thomas O'Connor, Stuart L. Belli, Christopher Smart, Holger Moustakas, Vassar College
- 12:00-2:00 252 A Genome-Inspired Reverse Selection Pathway towards Aptamer Discovery, Suttipong Suttapitugsakul, Christina M. Albanese, Linda B. McGown, Rensselaer Polytechnic Institute

Tuesday Afternoon, November 17, 2015

EAS Award for Outstanding Achievements in Separation Science

Honoring David S. Hage, University of Nebraska-Lincoln

Sponsored by Agilent Technologies

Chair: William Clarke, Johns Hopkins University

- 2:00 253 Affinity Methods in Laboratory Medicine: Novel Tools for Clinical Analyses, William Clarke, Johns Hopkins University
- 2:30 254 Natural Product Screening Using Affinity Chromatography, Ruin Moaddel, National Institute on Aging, NIH
- 3:00 Break
- 3:20 255 Affinity Chromatography as a Probe of Cellular Pharmacology: Current Practice and Future Directions, Irving W. Wainer, Mitchell Woods Pharmaceuticals
- 3:50 Presentation of the EAS Award for Outstanding Achievements in Separation Science
- 3:55 256 Frontiers in Affinity-Based Separations: Exploring New and Unique Tools for the Rapid Analysis of Clinical, Pharmaceutical and Environmental Samples, David S. Hage, University of Nebraska-Lincoln

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

Chair: Benoît Igne, GlaxoSmithKline

- 2:00 257 Identification of Model Parameters in Cell Culture Bioreactor by Raman Spectroscopy via Calibration-Free Way, Nicolas Spegazzini, Massachusetts Institute of Technology
- 2:30 258 The Use of Multi-Dimensional Fluorescence Spectroscopy for the Quantitative Analysis of Liquid Media: From Hydrolysates to Protein Solutions, Alan Ryder, Boyan Li, Radu Groza, National University of Ireland-Galway
- 3:00 Break
- 3:20 259 Insightful Analytical Data from Upstream Bioprocesses with a Real-time In-Situ Monitor, Mark Arnold, University of Iowa
- 3:50 260 Using IR Absorption and Raman Spectroscopy for Characterization of Biomass Hydrolysis, Sergey Mozharov, Brian Marquardt, Charles Branham, University of Washington

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

Chair: Naiyu Zheng, Bristol-Myers Squibb

- 2:00 261 Survivor-Selected Ion Monitoring (Survivor-SIM): Combining High Mass Accuracy, Resolution, and Chemical Noise Elimination to Augment the Quantitative Performance of a Q Exactive Orbitrap, Eugene Ciccimaro, Asoka Ranasinghe, Carrie Xu, Joelle Onorato, Kimberly Snow, Dieter Drexler, Celia Darienzo, Timothy Olah, Bristol-Myers Squibb
- 2:30 262 Ultra-Sensitive and Accurate Analysis of Biotherapeutics Using Low-Flow LC/MS, Jun Qu, SUNY- Buffalo
- 3:00 Break
- 3:20 263 Application of Differential Mobility Spectrometry-Triple Quadrupole Mass Spectrometry to Sensitive and Selective Bioanalysis of Peptides not Suited for MRM Analysis, Mingshe Zhu, Eugene Ciccimaro, Jr., Naiyu Zheng, Bristol-Myers Squibb, Yuan-qing Xia, Sciex
- 3:50 264 Ultrasensitive Quantification of Serum Estrogens Using Pre-ionized Derivatives and LC-MS, Nathaniel W. Snyder, Drexel University, Ian A. Blair, Qingqing Wang, Clementina Mesaros, University of Pennsylvania

Macromolecular NMR: Probing Structure and Function

Chair: Nina Gonnella, Boehringer Ingelheim

- 2:00 265 The Role of Millisecond Conformational Motions in Enzyme Function and Allostery, Patrick Loria, Yale University
- 2:30 266 Use of ¹⁹F NMR to Probe Conformational Heterogeneity and Dynamics of Exchange in Functional RNA Molecules, Nancy L. Greenbaum, Caijie Zhao, Hunter College

- 3:00 Break
- 3:20 267 Hybrid Approaches for Protein Structure Determination Combining Computational Modeling with Sparse NMR Restraints, Gaetano Montelione, Yeufeng Tang, Yuanpeng J. Huang, Rutgers University, Thomas Hopf, Debra Marks, Harvard Medical School, Chris Sander, Memorial Sloan Kettering Cancer Center
- 3:50 268 FBLD Yields Orally Active Brain Penetrant Inhibitors for BACE1 and PDE10A, Daniel F. Wyss, Merck

Light and the Single Molecule - Viewing the Nanoworld

Chair: Linda B. McGown, Rensselaer Polytechnic Institute

- 2:00 269 New Nano Tools for "Follow-that-Molecule" in Single Live Cells, Nancy Xu, Tao Huang, Pavan K. Cherukuri, Preeyaporn Songkiatissak, Old Dominion University
- 2:30 270 Microwell Arrays for Measuring Single Molecules, Barrett Duan, David Walt, Tufts University
- 3:00 Break
- 3:20 271 Single-Molecule Photoelectrocatalysis, Peng Chen, Cornell University
- 3:50 272 Quantitative Single-Molecule Imaging of DNA Hybridization, Joel Harris, Eric M. Peterson, Michael W. Manhart, Frances Morris, University of Utah

Analytical Methods for Cultural Heritage, Part II, organized by the New York Conservation Foundation

Chair: John Scott, New York Conservation Foundation

- 2:00 273 Low-Cost Multispectral Imaging for Art and Archaeology, Antonino Cosentino, Cultural Heritage Science Open Source
- 2:30 274 Revealing the Hidden Writing of a 15th Century Palimpsest Using Hyperspectral Imaging Analyzed by Principal Component Analysis and Generalized Least Squares Weighting, Donald Dahlberg, Lebanon Valley College, Neal Gallagher, Eigenvector, Meghan Wilson, Fenella France, Library of Congress
- 3:00 Break
- 3:20 275 Spectral Imaging: Capturing and Illuminating Cultural History - Scholarly and Scientific Information, Fenella G. France, Library of Congress
- 3:50 276 It Takes a (technological) Village: A Marriage of Traditional and Modern Conservation Methodologies to Reveal Invisible 18th Century Spanish Colonial Frescoes Found on the Sacristy Walls in the Alamo, Michelle M. Bushey, Trinity University, Pamela Rosser, The Alamo, Dennis A. Baltuskonis, Fine Art Conservation Services

Analysis of Chemical Contaminants in Foods

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

- 2:00 277 Pesticide Residue Analysis Using GC/MS/MS for Target Compounds and GC/Q-TOF for Screening, Philip L. Wylie, Agilent Technologies

- 2:30 278 An Improved QuEChERS Method for LC-MS/MS Determination of Multiresidue Mycotoxins in Grains, Michael Young, Kim Van Tran, Dimple Shah, Waters
- 3:00 Break
- 3:20 279 Heavy Metals in Seafood: Let's have a Risk/Benefit Conversation, Marc E. Engel, Florida Department of Agriculture, Donald M. Axelrad, Florida A&M University
- 3:50 280 The Analysis of Pesticide Residues in Foods Using Liquid Chromatography and High Resolution Mass Spectrometry, Brian Eitzer, Walter Krol, Christina Robb, The Connecticut Agricultural Experiment Station

Gas Chromatography & Vacuum Chromatography: From Method Development to Field Application

Chair: Sandra Ferris, Dow Chemical

- 2:00 281 Is Your Method Detecting the Right Analyte? Methanol Created from Carbamate Compound during Headspace GC Analysis, Leih-Shan Yeung, Merck
- 2:20 282 Comparison of Quantitative Approaches for GC Methods to Characterize Solvate Content of Pharmaceutical Substances, Daisy Soares, Yan Zha, Bristol-Myers Squibb
- 2:40 283 An Evaluation of Ionic Liquid Capillary Columns for the FAME Isomer Analysis, Len Sidisky, Greg A. Baney, Jamie L. Desorcie, Dan L. Shollenberger, Gustavo Serrano, Supelco, Division of Sigma-Aldrich
- 3:00 Break
- 3:20 284 Vacuum Chromatography, Kuriakose T. Joseph, Coconut Associates
- 3:40 285 A Model Study of Pseudo-Absolute Quantitative Analysis Using Gas Chromatography - Vacuum Ultraviolet Spectroscopy, Ling Bai, Kevin A Schug, The University of Texas-Arlington, Jonathan Smuts, Phillip Walsh, VUV Analytics
- 4:00 286 Evaluating Deconvolution Capabilities of Vacuum Ultraviolet Detection for Gas Chromatography of Co-Eluting Isomers of Dimethylnaphthalene, Jamie L. Schenk, University of Texas - Arlington

Harnessing Spectroscopy for Inorganic Impurity Characterization

Chair: Lydia Breckenridge, Bristol-Myers Squibb

- 2:00 287 Image Directed ID of Sub-Visible Particles in Protein Based Therapeutics. Classification According USP<787> of Intrinsic, Inherent and Extrinsic Particulate Matter on the Sub-Visible Level, Olga Laskina, Kathryn A Lee, Markus Lankers, Oliver Valet, rap.ID Inc.
- 2:20 288 Raman, IR, and LIB Spectroscopic Particle Identification for Improvement of Pharmaceutical Production, Lin Bui, Kathryn Lee, Markus Lankers, Oliver Valet, rap.ID Inc.
- 2:40 289 Handheld LIBS Instrument Based on High Repetition Rate Laser, Qun Li, Katherine Bakeev, Jing Li, Sean Wang, B&W Tek

- 3:00 Break
- 3:20 290 Applying HPLC-ICP-MS Speciation in Support of ICH Q3-D Risk Assessments, Jonathan L. Sims, Kenneth Neubauer, PerkinElmer
- 3:40 291 Demystifying USP <232>/<233>: Sample Preparation Using Microwave Digestion, Johan Nortje, Milestone
- 4:00 292 USP 232/233 Heavy Metals Testing by WD-XRF: A Simplified Approach, Glenn Williams, Thanh Nguyen, Rigaku Americas Corp.

“The Best Chromatography is no Chromatography!” – LC-MS Without a Column

Chair: Daniel Norwood

- 2:00 293 Ambient Ionization Mass Spectrometry, R. Graham Cooks, Michael Wlekinski, Yafeng Li, Ryan Bain, Anyin Li, Xin Yan, Purdue University
- 2:20 294 Real-Time Analysis of US EPA Method TO-14A Compounds Using Selected Ion Flow Tube Mass Spectrometry (SIFT-MS), Barry Prince, Vaughan S. Langford, Daniel B. Milligan, Syft Technologies, Murray J. McEwan, University of Canterbury
- 2:40 295 Application of Direct Analysis in Real Time Mass Spectrometry (DART-MS) to Investigations of Plant Root Emissions of Organosulfur Compounds into the Environment, Rabi Ann Musah, Ashton D. Lesiak, Max J. Maron, Kristen Fowble, Michael C. Long, SUNY-Albany, Robert B. Cody, David Edwards, A. John Dane Jeol USA
- 3:00 Break
- 3:20 296 A Two-Fold Approach Towards Improved Pu/U Chronometry in Thermal Ionization Mass Spectrometry, Floyd E. Stanley, Benjamin L. Byerly, Khalil J. Spencer, Los Alamos National Laboratory
- 3:40 297 Formation of Molecular Anions from Primary Aliphatic Amides and Oximes under Helium-Plasma Ionization (HePI) Mass Spectrometric Conditions, Isra Hassan, Athula Attygalle, Stevens Institute of Technology

Tuesday Poster Session: MIXER

- 4:00-5:30 298 Improving Precision and Accuracy of Temperature Measurements in Automatic Refractometers, Mark Canestrano, Anton Paar
- 4:00-5:30 299 Application of a Unique Microwave Digestion Technology Coupled with ICP-MS for the Determination of Key Elements in Dietary Supplements, Reynhardt Klopper, Anton Paar USA, Paul Dodson, Bio-Botanica
- 4:00-5:30 300 Ambient Air Monitoring: What are the Right Tools for the Job?, Chris Hall, Nicola Watson, Caroline Widdowson, Markes International
- 4:00-5:30 301 Enhanced Characterization of Allergens in Cosmetics by GC×GC–TOF MS with Soft Electron Ionization, Chris Hall, Charles Haws, Laura McGregor, Steve Smith, Markes International

- 4:00-5:30 302 Monolithic Silicas in High-Performance Liquid Chromatography: The Alternative to Conventional Packed-Particle Columns, Egidijus Machtejevas, Merck KGaA
- 4:00-5:30 303 Are You Compliant to the New USP Guidelines for UV/VIS?, Birgit Pils, Gustavo Sierra, Mettler Toledo
- 4:00-5:30 304 Challenge of Small Sample Analysis for Pharmaceutical Products and Foods Using Theoretical Scattered X-Rays, Dan Davis, Hiroaki Furukawa, Naoto Ichimaru, Keijiro Suzuki, Shinji Watanabe, Makoto Nishino, Hiroto Ochi, Shimadzu Scientific Instruments
- 4:00-5:30 305 Label-Free Analysis by HPLC with Charged Aerosol Detection of Glycans Separated by Charge, Size and Isomeric Structure, David H. Thomas, Ian N. Acworth, Marc Plante, Rainer Bauder, Daniel Kutscher, Thermo Fisher Scientific
- 4:00-5:30 306 Label-Free Profiling of O-linked Glycans by UHPLC with Charged Aerosol Detection, David H. Thomas, Ian N. Acworth, Rainer Bauder, Marc Plante, Liz Kast, Thermo Fisher Scientific
- 4:00-5:30 307 The Use of High Resolution Accurate Mass GC/MS for Metabolomics Workflows, Rafael Acosta, Thermo Fisher Scientific
- 4:00-5:30 308 Absolute Molar Mass and Size in UHPLC, Michelle Chen, Sophia Kenrick, Eric Seymour, Bob Collins, Aym Berges, Wyatt Technology
- 4:00-5:30 309 Highly Efficient Purification of Enantiomers Using Polysaccharide Type Chiral Stationary Phases and Recycle Purification Technology, Ernest Sobkow, Keiko Kihara, Hideo Gabari, Takashi Sato, Saoko Nozawa, Noriko Shoji, Noritaka Kuroda, Takatomo Takai, YMC America
- 4:00-5:30 310 SFC Analytical Method Development for Vitamin D3 and Related Compounds, Ernest Sobkow, Junko Kawabata, Roland Spaegel, Toshikazu Adachi, Noritaka Kuroda, YMC America

Wednesday Morning, November 18, 2015

EAS Award for Outstanding Achievements in Near-Infrared Spectroscopy

Honoring Benoît Igne, GlaxoSmithKline

Sponsored by Metrohm USA

Chair: Carl A. Anderson, Duquesne University

- 9:00 311 Hyperspectral Image Calibrations for Transdermal Delivery Systems, Carl A. Anderson, Benoît Igne, James K. Drennen III, Duquesne University
- 9:30 312 Equivalence among NIR Makes and Models; What Benoît Started, Charles Hurburgh, Samantha McGinnis, Glen Rippke, Iowa State University
- 10:00 Break

- 10:20 313 Successful Calibration Transfer: Technical, Business and Regulatory Considerations, Gary McGeorge, Yan Zhang, Bristol-Myers Squibb, Carl Anderson, Doug Steinbach, James Drennen, Duquesne University, Benoît Igne, Robert W. Bondi, GlaxoSmithKline
- 10:50 Presentation of the EAS Award For Outstanding Achievements In Near Infrared Spectroscopy
- 10:55 314 When the Sample Makes (or Breaks) the Technology, Benoît Igne, Glaxo-SmithKline

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

- 9:00 Presentation of the EAS Award for Outstanding Achievements in Mass Spectrometry
- 9:05 315 Molecular Analysis at the Nanoscale, Emile A. Schweikert, Texas A&M University
- 9:30 316 Micrometer-Scale Ion Traps from Micro-Mass Spectrometry to Quantum Information Processing: Why Instrumentation Still Matters, Matthew Blain, Sandia National Laboratory
- 10:00 Break
- 10:20 317 Characterization of Semiconductor Materials by Secondary Ion Mass Spectrometry, Joe Bennett, National Institute of Standards and Technology
- 10:50 318 Trapped Ion Mobility Mass Spectrometry and the Preservation of Sample Features, Melvin A. Park, Mark E. Ridgeway, Joshua Silveira, Bruker Daltonics

Solving Real-World Problems with Two-Dimensional LC, Sponsored by the Chromatography Forum of the Delaware Valley

Chairs: William Barber, Xiaoli Wang, Agilent Technologies

- 9:00 319 Two-Dimensional Liquid Chromatography Strategies Coupled with Mass Spectrometry for Efficiency, High Resolution Characterization of Therapeutic Monoclonal Antibodies, Dwight Stoll, David Harnes, John Danforth, Gustavus Adolphus College, Elsa Wagner-Rousset, Alain Beck, Center of Immunology Pierre Fabre, Szabolcs Fekete, Davy Guillaume, University of Geneva,
- 9:30 320 Investigation of One and Two-Dimensional Approaches for the Chromatographic Separation of Complex Mixtures of Closely Related Species, Chris Welch, Merck
- 10:00 Break
- 10:20 321 Heart-Cutting Two-Dimensional Ultrahigh-Pressure Liquid Chromatography for Process Development: Asymmetric Reaction Monitoring, Shengli Ma, Nelu Grinberg, Boehringer Ingelheim
- 10:50 322 Microdosing Device and Drug Formulation Compatibility Study by 2-DLC-MS, Lulu Dai, Kelly Zhang, Genentech

Surface Functionalization of Nanoparticles and Nanomaterials

Chair: Andrew Teplyakov, University of Delaware

- 9:00 323 Surface and Interface Nanostructures of Oxide Catalysts for Solar Water Splitting, Bruce E. Koel, Princeton University
- 9:30 324 The Role of Surface Defect Sites of Transition Metal Oxide Nanoparticles in Clean Energy Production, Xianqin Wang, New Jersey Institute of Technology
- 10:00 Break
- 10:20 325 Kinetics of Surface-Assisted Silica Nucleation on Model Biological Interfaces, Adam F. Wallace, University of Delaware
- 10:50 326 Surface Analysis and Correlation to Coating's Adhesion to Metal, Xiaochun Zhang, Venkataram Krishnan, Bruce Fillipo, Ashland, Mackenzie Williams, University of Delaware

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

Chair: Christopher Hudalla, ProVerde Labs

- 9:00 327 Analyzing Cannabis for Physiological Purposes, Jeffrey C. Raber, The Werc Shop
- 9:40 328 Improved Gas Chromatographic (GC) Quantification of Acidic and Neutral Cannabinoids, Amanda Rigdon, Jack Cochran, Restek, Joan Serdar, Tetra Analytics
- 10:00 Break
- 10:20 329 Multi-Residue 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, Kim Tran, Waters Corporation
- 10:50 330 Applications of Supercritical CO₂ for the Analysis and Preparation of Cannabis as a Natural Therapeutic, Christopher Hudalla, ProVerde Labs

NMR Spectroscopy of Pharmaceuticals and Materials

Chair: Gary Martin, Merck

- 9:00 331 Using NMR with Other PAT Instruments for Reaction Characterization and Monitoring, Andreas Kaerner, Eli Lilly
- 9:30 332 Chemical Reaction Development Using NMR, David Foley, Pfizer
- 10:00 Break
- 10:20 333 Kinetic and Mechanistic Studies of Enantioselective Synthesis of Hemiaminals via a Pd-Catalyzed C-N Coupling, Yining Ji, Qinghao Chen, Robert Thomas Williamson, Edward Sherer, Andrew Brunskill, Alan Hyde, Kevin M. Belyk, Hongming Li, Jingjun Yin, Louis-Charles Campeau, Kevin R. Campos, Michael Williams, Ian Davies, Rebecca T. Ruck, Merck
- 10:50 334 Utilization of Low-Field NMR for the Characterization of Chemical Reactions, Brian Marquez, Mestre Lab

Critical Issues in Inhalation Product Development,**Sponsored by MSP Corporation****Organizer: Philippe Rogueda, Inhalation Asia****Chair: Daryl Roberts, MSP Corporation**

- 9:00 335 Recent Advances in In-Vitro Testing Methods for Inhaled Drug Products, Mark Copley, Copley Scientific
- 9:30 336 Experimental Observation of Powder Dispersion Mechanism, Xiang Kou, Novartis, Steven T. Wereley, Purdue University
- 10:00 Break
- 10:20 337 Computational Performance Analysis of Electronic Cigarettes as Nicotine-Delivery Devices, Yu Feng, Clement Kleinstreuer, North Carolina State University
- 10:50 338 Probing the Dynamics of Electrodynamically, or Optically, Trapped Pharmaceutical Aerosol, Allen Haddrell, Jonathan Reid, University of Bristol, Lea Ann Dailey, Kings College London, Darragh Murnane, University of Hertfordshire

3-D Technology: Leveraging Today's Tools for Tomorrow's Applications**Chair: Alex Baranowski, Bristol-Myers Squibb**

- 9:00 339 3-D Technology: A Journey through the Limits of Current Design and Implementation, Alex Baranowski, George Currier, Bristol-Myers Squibb
- 9:30 340 3-D Scanning: Rapid Analytics, Richman Siansimbi, DigitalScan3-D
- 10:00 Break
- 10:20 341 Continuous Liquid Interface Production for Layerless Fabrication, Rima Januszewicz, Sue Mecham, Joseph M. DeSimone, University of North Carolina-Chapel Hill, John Tumbleston, Carbon3-D, Adam Quintanilla, North Carolina State University
- 10:50 342 3-D Technology, Jonathan Teeple, Cimquest

Separation Science for Drugs and Biotherapeutics**Chair: Daisy Richardson, Merck**

- 9:00 343 2-D-LC-SFC: Extending Capabilities of Multi-Dimensional Separations, Meenakshi Goel, Mohammad Al-Sayah, C.J. Venkatramani, Genentech, Guannan Li, University of Illinois-Chicago
- 9:20 344 Analytical Development to Support Low Titer Investigation of a Biologics Drug Substance, Su Pan, Yan Zha, Colleen Alexander, Yueer Shi, Bristol Myers Squibb
- 9:40 345 Using Mobile Phase Modifiers to Improve Reversed Phase and Size Exclusion Separations of Biomolecules, Stacy Shollenberger, Hillel Brandes, Lauren Swiger, David S. Bell, Supelco, Division of Sigma-Aldrich
- 10:00 Break

- 10:20 346 Size Exclusion Chromatography of Reversible Peptide Aggregates, Paul L. Walsh, Jameson Bothe, Claudia Neri, Suzanne D'Addio, Daniel Yin, Yun Mao, Merck
- 10:40 347 Fundamental Investigations of Equilibration Dynamics in Hydrophilic Interaction Liquid Chromatography (HILIC), David S. Bell, Craig Aurand, Supelco, Division of Sigma-Aldrich, Richard A. Henry, Consultant
- 11:00 348 Automating Method Development and Prep Purification in Counter Current Chromatography (CCC), Gary W. Yanik, PDR-Separations

Wednesday Poster Session: Pharmaceutical Analysis - Dosage Form Analysis and Sample Preparation

- 12:00-2:00 349 Dissolution Modeling of a Controlled Release Osmotic Tablet Using Terahertz Pulsed Imaging (TPI) Brian P. Regler, Donna Carroll, Gerard M. Bredael, David Harris, James DiNunzio, Khok-Khiang Chia, Gerard Klinzing, Merck, Alessia Portieri, Phil Today, TeraView
- 12:00-2:00 350 Withdrawn by the author.
- 12:00-2:00 351 Withdrawn by the author.
- 12:00-2:00 352 Withdrawn by the author.
- 12:00-2:00 353 Development of Suitable Dissolution Methods to Assess the Formulation of BMS-986001/ Lamivudine/Efavirenz Fixed-Dosed Regimen Tablets, Adriene Malsbury, Zongyun Huang, Frank Tomasella, Duohai Pan, Bristol-Myers Squibb
- 12:00-2:00 354 Determination of Surcide P Anti-Microbial Preservative in Carbon Black Process by Light Absorption Spectrophotometry Using Schiff's Reagent as Colorimetric Agent, Peter P. Yeh, MacDermid
- 12:00-2:00 355 Investigation of an Oxidative Degradation Mechanism in a Tablet Formulation, Matthew A. Janson, Karthik Nagapudi, Mohammad Al-Sayah, Michael Hayes, Yanzhou Liu, Genentech
- 12:00-2:00 356 Approaches for Measuring Intestinal Precipitation Rates of Oral Drugs, Jon J. Mole, Karl Box, Robert Taylor, John Comer, Rebeca Ruiz, Sirius Analytical
- 12:00-2:00 357 In-Use and Multi-dose Stability of Taxol Injection: Overcoming the Analytical Challenges Associated with Determination of Active Ingredient Stability, Nalini Anand, Peter Tattersall, Thomas Haby, Bristol-Myers Squibb
- 12:00-2:00 358 The Completed Dissolution of Pharmaceuticals Using and Omitting HF, Bob Lockerman, Daniel Iversen, CEM Corp.
- 12:00-2:00 359 In-Vitro Evaluation of Humidity Effects on the Performance of pMDI-VHC combinations – A Full-Factorial DOE Analysis, Xiaofei Liu, Diem Ngo, Changning Guo, Badrul Chowdhury, Peter Starke, Susan Limb, Prasad Peri, Richard Lostritto, Alan Schroeder, William Doub, United States Food and Drug Administration

12:00-2:00 360 Karl Fischer Oven Temperature Ramp: A One-Step Method Development Tool, Sofia Silva, Jorge Moreira, Pedro Serôdio, Constança Cacela, Hovione FarmaCiencia SA

Wednesday Poster Session: Separation Science

12:00-2:00 361 Differentiation of Sugars by Gas Chromatography - Vacuum Ultraviolet Spectroscopy, Jamie L. Schenk, University of Texas - Arlington

12:00-2:00 362 Absorption Cross Section Determinations and Optimization of Detector Characteristics for Optimal Detection Sensitivity in GC-VUV, Ling Bai, Kevin A. Schug, University of Texas-Arlington, Jonathan Smuts, Phillip Walsh, VUV Analytics

12:00-2:00 363 Development of a Mixed-Mode HPLC Method to Simultaneously Separate Neutral and Ionic Pharmaceutical Antimicrobial Preservatives, Parul S. Kadakia, Zhenyu Wang, Oscar Liu, Merck

12:00-2:00 364 Develop a Robust Chiral Method, Jun Chen, Shawn Yang, Ted Chen, GlaxoSmithKline

12:00-2:00 365 Increasing Stability of a Core-Shell Particle, Mark Woodruff, Ken Butchart, Fortis Technologies

12:00-2:00 366 A Novel Diphenyl Stationary Phase for Metabolite Profiling, Mark Woodruff, Ken Butchart, Fortis Technologies

12:00-2:00 367 Fast Radio-Pharmaceutical Analysis by UPLC-MS and Beta-RAM Detector, Van Truong, Roy Helmy, David Waterhouse, Merck

12:00-2:00 368 Overview of the Normal Phase and HILIC Modes of Chromatography in the Analysis of Polar Analytes, Crystal Benner, Atis Chakrabarti, Tosoh Bioscience

12:00-2:00 369 Analysis of Volatiles from PVC Electrical Tapes by Direct Thermal Extraction-Gas Chromatography/Mass Spectrometry, Emily E. Prisaznik, Thomas A. Brettell, Cedar Crest College

12:00-2:00 370 Absolute Molar Mass and Size in UHPLC, Michelle Chen, Sophia Kenrick, Eric Seymour, Bob Collins, Aym Berges, Wyatt Technology

12:00-2:00 371 Observing Intermediates of Peptide Folding Using Capillary Electrophoresis John D. Barr, Alison E. Holliday, Moravian College, Liuqing Shi, David E. Clemmer, Indiana University

12:00-2:00 372 Supercritical Fluid Chromatography in Support of Pharmaceutical Development - A Study of Scale-Up from Analytical to Preparative Scale with Isocratic Conditions, Mirlinda Biba, Jinchu Liu, Lindsey Jacobs, Judy Morris, Ingrid Mergelsberg, Merck

12:00-2:00 373 Acrylic Oligomer Quantification by Size Exclusion Chromatography, Martin Nosowitz, Arkema

12:00-2:00 374 Recent Hardware Advances in Supercritical Fluid Chromatography, Extend the Use of SFC into New Application Areas, Jennifer Van Anda, Rick Wikfors, Agilent Technologies

12:00-2:00 375 Enhanced Characterization of Allergens in Cosmetics by GC×GC-TOF MS with Soft Electron Ionization, Chris Hall, Charles Haws, Laura McGregor, Steve Smith, Markes International

12:00-2:00 376 Hydrogen Production from Solar Water Splitting Over Titanium Dioxide (TiO₂) Based Photocatalysts, Nuree Ha, Xianqin Wang, New Jersey Institute of Technology

12:00-2:00 377 Water Contact Angles in Pores and Pore Size Distribution of Ordered Mesoporous Silicas Using Combined Water and Nitrogen Adsorption Isotherms, Karthik Jayaraman, Alexander Y. Fadeev, Seton Hall University

Wednesday Poster Session: Spectroscopy

12:00-2:00 378 KnowItAll® ATR-IR ID Expert™ Polymer Analysis Applications, Evan Crocker, Dana Garcia, Arkema

12:00-2:00 379 Infrared Thermography and Spectroscopy Emissivity Measurements, Evan Crocker, Dana Garcia, Arkema

12:00-2:00 380 Analysis of Polyatomic Molecules by Use of High-Resolution Coherent Three-Dimensional Spectroscopy (HRC3-DS), Angelar Muthike, Peter Chen, Jessica Robinson, Theresa Wells, Spellman College

12:00-2:00 381 Transmission Raman Spectroscopy as an Alternate Tool to Traditional HPLC to Determine the Content Uniformity of Solid Dosage Forms, Michelle Raikes, Reggie Saraceno, Julia Griffen, Boehringer Ingelheim

12:00-2:00 382 New Methodology for Finding Optimal Spectral Matches in Reference Databases, Gregory M. Banik, Ty Abshear, Karl Nedwed, Bio-Rad Laboratories

12:00-2:00 383 Real-Time Monitoring of Moisture Content in Dryers Using NIR Spectroscopy, Denise Root, Metrohm USA

12:00-2:00 384 Spectral Response of Osmium Carbonyl Imidazole Complexes to Polyanions, Mehrun Uddin, Enju Wang, Elise Megehee, Cody Piotrowski, St. John's University

12:00-2:00 385 Application of Low and Mid Frequency Raman for Characterization of Amorphous-Crystalline Indomethacin, Michaela E. Raglione, University of Delaware

12:00-2:00 386 Setup and Characterization of Synchrotron Radiation Induced Total Reflection X-Ray Fluorescence X-Ray Absorption Near Edge Structures at BESSY II BAMLine, Ursula E. Fittschen, Zac Gotlib, Washington State University, Ana Guilherme, Martin Radtke, Heinrich Riesemeier, BAM, Sebastian Böttger, Dominique Rosenberg, University of Flensburg, Peter Wobrauscheck, Technical Universities of Vienna

12:00-2:00	387	Diagnostic of Li-Ion Electrode Ageing Using None Destructive Elemental and Species Imaging, <u>Ursula E. Fittschen</u> , Zac Gotlib, Owen Neill, Washington State University, Ulrike Boesenberg, DESY Photon Science, Magnus Menzel, University of Hamburg, Juergen Janek, Mareike Falk, University of Giessen, Rolf Simon, Karlsruhe Institute of Technology	12:00-2:00	399	Withdrawn by the author.
12:00-2:00	388	Imaging ATR Analysis of Active Component Distribution in "Soft Chew" Formulations, <u>Ronald L. Rubinovitz</u> , Thermo Fisher Scientific	12:00-2:00	400	An Inexpensive, Programmable System for Prototyping Instruments and Computerizing Outdated Hardware, <u>Scot D. Abbott</u> , Ryan L. Taylor, Phoenix First Response
12:00-2:00	389	A New Calibration Free Powder Blend Monitoring Approach Using Entropy, <u>Shikhar Mohan</u> , Anik Alam, James K. Drennen III, Carl A. Anderson, Duquesne University	12:00-2:00	401	Unattended, Representative Sampling for a Wide Range of Chemical Reactions, <u>Jane Riley</u> , Vaso Vlachos, Mettler Toledo AutoChem
12:00-2:00	390	A New Variable Selection Method for Vibrational Spectroscopy Based on Principal Variables, <u>Yuxiang Zhao</u> , Shikhar Mohan, James K. Drennen III, Carl A. Anderson, Duquesne University	12:00-2:00	402	Accurately Characterizing Materials Showing Edge Fracture, <u>James P. Eickhoff Jr.</u> , Anton Paar
12:00-2:00	391	Structural Analysis of Conjugated Aromatic Compounds Using THz-Raman Spectroscopy, <u>Anjan Roy</u> , James Carriere, Christopher Meyers, Ondax Inc.	12:00-2:00	403	Creation of an Electronic Logbook for GMP/ GLP Laboratories, <u>Robert Falana</u> , Steven Hoffman, John Rumney, Joel Young, Leticia Quinones, Bristol-Myers Squibb
12:00-2:00	392	Application of In-Line and At-Line NIR Spectroscopy for Moisture Content and Particle Size Determination in Fluid Bed Granulation, <u>Ahmed Shawky</u> , Stephen W. Hoag, Ahmed Ibrahim, University of Maryland, Maissa Y. Salem, Eman S. Elzanfaly, Cairo University, Ahmed E. El Gindy, MISR International University, Keith Freel, Metrohm USA	12:00-2:00	404	Simultaneous Determination of Reduced and Oxidized Chemical Species in a Mixture Using Cyclic Voltammetry, <u>Jinmo Huang</u> , The College of New Jersey
12:00-2:00	393	Automated Microwave Sample Preparation of Difficult Petroleum Based Matrices, <u>Bob Lockerman</u> , CEM Corp.	12:00-2:00	405	New Platform for Development of Chiral and Achiral HPLC Methods, <u>Margaret Z. Figus</u> , Fred Mattrey, Frank Bernardoni, Timothy Nowak, Cindy Novicky, Jinjian Zheng, Lin Wang, Weidong Tong, Robert Hartman, Vincent Antonucci, Merck
12:00-2:00	394	A Modular Low Frequency EPR Spectrometer for Studying Objects with Cultural Heritage Significance, <u>Lauren E. Switala</u> , William J. Ryan, Wyatt E. Brown, Joseph P. Hornak, Rochester Institute of Technology, Merlin Hoffman, Oberlin College, Nick Zumbulyadis, Independent Researcher	12:00-2:00	406	Are you Compliant to the New USP Guidelines for UV/VIS?, <u>Birgit Pils</u> , Gustavo Sierra, Mettler Toledo
12:00-2:00	395	Determination of Bisphenol A in Water Using Cloud Point Extraction Coupled with Surface Enhanced Raman Scattering, <u>Uttam Sharma Phuyal</u> , Andrew Callender, Tennessee Technological University	Wednesday Poster Session: Sensors		
12:00-2:00	396	The Versatility of Portable Raman in Reaction Monitoring, <u>Thomas Padlo</u> , Katherine Bakeev, B&W Tek, James K. Murray, Immaculata University	12:00-2:00	407	Gold-Nanoparticle Coated Silica Nanorods for Sensitive Visual Detection of MicroRNA on a Lateral Flow Strip Biosensor, <u>Sunitha Takalkar</u> , Guodong Liu, North Dakota State University
Wednesday Poster Session: Laboratory Management			12:00-2:00	408	Design and Development of an Analytical Method for the Detection of Nanoceria Particles, <u>Ali Othman</u> , Gonca Bulbul, Silvana Andreescu, Clarkson University
12:00-2:00	397	Benefits and Risks to the Laboratory in Buying Pre-Owned Analytical Instrumentation, <u>Jon Welsh</u> , Agilent Technologies	12:00-2:00	409	Simultaneous Microfluidic Assays of CD-62L and IL-6 as Protein Biomarkers for Metastatic Bladder Cancer, <u>Gayatri S. Phadke</u> , Jennifer E. Satterwhite-Warden, Dharamainder Choudhary, John A. Taylor, James F. Rusling, University of Connecticut
12:00-2:00	398	The Impact of Environmental Conditions on Pipetting Performance of an Automated Liquid Handling System, <u>George Rodrigues</u> , John Thomas Bradshaw, Artel	12:00-2:00	410	QCM Gas Sensor Based Blended Polymer Films, <u>Ho Yeon Yoo</u> , Stanley Bruckenstein, Stanley Bruckenstein Chemical Consulting & Services
			12:00-2:00	411	QCM Studies of The Water Vapor Sensitivity of PMMA:PVP Blended Polymer Films, <u>Minseon Ju</u> , Ho Yeon Yoo, Stanley Bruckenstein Chemical Consulting and Services
			12:00-2:00	412	Three-Dimensional Printed Supercapacitor-Powered Electrochemiluminescent Protein Immunosensors for Cancer Diagnostics, <u>Karteek Kadimisetty</u> , Islam Mosa, Spundana Malla, Jennifer E. Satterwhite-Warden, James F. Rusling, University of Connecticut

Wednesday Poster Session: Sample Prep

- 12:00-2:00 413 Microwave Sample Preparation of Infant Formula and Nutritional Supplements, Bob Lockerman, Daniel Iversen, Tina Restivo, Ariel Smith, CEM Corp
- 12:00-2:00 414 New Applications Using PDMS Over-Coated Adsorbent Based Fiber Coatings, Len M. Sidisky, Robert E. Shirey, Katherine K. Stenerson, Olga I. Shimelis, Yong Chen, Tyler Young, Supelco, Division of Sigma-Aldrich
- 12:00-2:00 415 Extraction and Quantification of Polycyclic Aromatic Hydrocarbons in Dried Bloodspots on FTA Cards by UPLC-UV, Anthony A. Provatas, Cory A. King, Alexander V. Yevdokimov, James D. Stuart, Christopher R. Perkins, University of Connecticut
- 12:00-2:00 416 CIC – Combustion Ion Chromatography – Old Wine in a New Bottle, Stuart J. Procter, Kendra Cox, Jay Gandhi, Jay Sheffer, Metrohm USA
- 12:00-2:00 417 Automated On-Line Extraction and Chromatography with Supercritical Fluids, William Hedgepeth, Ken Tanaka, Shimadzu Scientific Instruments
- 12:00-2:00 418 Automated Desorption, SPE Extraction, and LC-MS-MS Analysis of Dried Blood Spots, Fredrick D. Foster, John R. Stuff, Edward A. Pfannkoch, Gerstel
- 12:00-2:00 419 Optimized Supercritical Fluid Extraction of Capsaicinoids from the Capsicum Annuum Cultivar (Red Pepper), Kenneth J. James, Kenneth R. Krewson, Andy Cloud, Supercritical Fluid Technologies
- 12:00-2:00 420 EMR-Lipid: Highly Selective Matrix Removal for Multi-Residue Analysis in Complex Samples, Derick Lucas, Bruce Richter, David Long, Limian Zhao, Agilent Technologies
- 12:00-2:00 421 Application of a Unique Microwave Digestion Technology Coupled with ICP-MS for the Determination of Key Elements in Dietary Supplements, Reynhardt Kloppe, Anton Paar USA, Paul Dodson, Bio-Botanica

Wednesday Afternoon, November 18, 2015**Assuring Water Quality: The Application of Novel Analytical Technologies and Strategies****Chair: Sut Ahuja, Ahuja Consulting**

- 2:00 422 Assuring Water Quality with Advanced Analytical Methods, Sut Ahuja, Ahuja Consulting
- 2:30 423 Novel Cation-Exchange Phases for the Analysis of Alkali Metals and Alkaline Earth Cations in Drinking Water, Chris A. Pohl, Thermo Fisher Scientific
- 3:00 Break
- 3:20 424 Recent Developments in Analyzing Ionic Components in Drinking Water, Kannan Srinivasan, Rong Lin, Thermo Fisher Scientific, Herbert Wagner, Consultant

- 3:50 425 Qualification of On-Line Total Organic Carbon and Conductivity Monitoring for a High Purity Pharmaceutical Water System, Chris Knutsen, Bristol-Myers Squibb
- 4:20 426 Understanding the Mechanism of Drinking Water Disinfection Organic By-Products: Analytical Technology Partners with Organic Chemistry, Daniel Norwood

Dissolution Testing: New Challenges and Solutions for In-Vitro Predictive Analysis**Chairs: Xujin Lu, Bristol-Myers Squibb and Justin Pennington, Merck**

- 2:00 427 In-Vitro In-Vivo Correlation in a QbD Environment, Raimar Loebenberg, University of Alberta
- 2:30 428 Biorelevant Dissolution Measurements at the Drug Solubility Limit: Optimizing Exposure Rankings, Paul Harmon, Merck
- 3:00 Break
- 3:20 429 Practical Approach for Developing Dissolution Methods to Support Clinical Relevant Specifications, Jian-Hwa Han, Patrick Marroum, Greg Webster, Abbvie, Nikolett Fotaki, University of Bath, Limin Zhang, Xujin Lu, Bristol-Myers Squibb
- 3:50 430 Biorelevant Dissolution Media and Applications in Pharma-ceutical Development - Case Studies, Xujin Lu, Bristol-Myers Squibb

Chromatography of Biologics, organized by the North Jersey Chromatography Group**Chair: Landon Greene, North Jersey Chromatography Group**

- 2:00 431 Determinants of Elution Rates in Preparative Ion-Exchange Separations of Proteins, Abraham M. Lenhoff, James M. Angelo, University of Delaware
- 2:30 432 LC of Therapeutic Monoclonal Antibodies Using Submicrometer Particles, Mary Wirth, Xiang Cao, Oyeleye Alabi, Ao Zeng, Purdue University
- 3:00 Break
- 3:20 433 Bio-Chemical Characterization of Therapeutic Protein by Two-Dimensional-LC (2-D-LC) System, Shenjiang Yu, Chen Zhi, Daisy Richardson, Mohammed Shammen, Merck
- 3:50 434 Developing Robust Size-Exclusion Chromatography Methods for the Analysis of Biotherapeutic Proteins, Stephan M. Koza, Waters

Emerging Trends in Near Infrared Spectroscopy, organized by the Coblenz Society**Chair: Franklin E. Barton II, Light Light Solutions**

- 2:00 435 A Fresh Look at the Derivative Quotient Method in Regression, David W. Hopkins, Karl H. Norris, NIR Consultants
- 2:30 436 A Novel Configuration for Near-Infrared Analysis of LPG Composition and Quality Control in a Refinery Setting, Susan Foulk, Terry Todd, Guided Wave, Shashi Mistry, Nate Peters, Dian Wang, Suncor Energy

- 3:00 Break
- 3:20 437 Ultra-Compact Smart Spectrometers for Food, Agriculture, and Pharmaceutical Applications, Lan Sun, Viavi Solutions
- 3:50 438 Derivatives: What Are We Actually Doing?, James A. de Haseth, Franklin E. Barton II, Light Light Solutions Instruments

Recent Advances and Applications of Vibrational Spectroscopy

Chair: Douglas Richardson, Merck

- 2:00 439 Noninvasive Glucose Sensing with Miniaturized Integrating Sphere, Alexandra Werth, Sabbir Laikat, Laura Xu, Kevin A. Bors, Claire Gmachl, Princeton University
- 2:20 440 The Next Generation Handheld Raman Spectrometer: BRAVO for Raw Materials Verification, Yan Wang, Tom Tague, Bruker
- 2:40 441 Drug and Other Finished Product Identification with Handheld Raman, Claire Dentinger, Analytical Devices, Joseph Stoltz, Rigaku, Thomas MacNeil, Pfizer
- 3:00 Break
- 3:20 442 Continuous Gradient Temperature Raman Spectroscopy (GTRS) of Oleic and Linoleic Acids from 100 to +50 °C, Walter F. Schmidt, Leigh Broadhurst, Moon S. Kim, Julie K. Nguyen, Jianwei Qin, Kuanglin Chao, Gary L. Bauman, Daniel R. Shelton, United States Drug Administration
- 3:40 443 Through-Container Raw Materials ID Verification Using Spatially Offset Raman Spectroscopy (SORS), Matthew Bloomfield, Darren Andrews, Cobalt Light Systems, Pavel Matousek, Rutherford Appleton Laboratory
- 4:00 444 Transmission Raman Spectroscopy: An Alternative Technique for Content Uniformity and Polymorph Quantification of Intact Tablets and Capsules, Mark Mabry, Matthew Bloomfield, Julia Griffen, Darren Andrews, Cobalt Light Systems

Chromatography and Imaging Applications to Medicinal Cannabis and Pharmaceutical Analysis

Chair: Anne-Françoise Aubry, Bristol-Myers Squibb

- 2:00 445 Quantitative Determination of Cannabinoids in Cannabis Plant Material Using High Performance Liquid Chromatography - UV Diode Array-Mass Spectrometry (Trap) Detector, Bhupendra R. Patel, Daniel J. Wene, Sherman S. Hom, Bahman Parsa, New Jersey Department of Health
- 2:20 446 Potential Antimicrobial Compounds from Campsis Radicans, Bignoniaceae, Ramya Ayakkad RamKumar, Ish Kumar, Alice Benzecry, Fairleigh Dickinson University
- 2:40 447 Applying an Artifact Conservation Imaging Technique to the Microscopic Analysis of Pharmaceutical Products, Jennifer A. Sandidge, Josephine L. Bermudez, Jason D. Ehrick, Merck
- 3:00 Break

- 3:20 448 Ca, Mg, K and Na Determination in Plant Leaves of Arabidopsis Thaliana Wild Type and a Chloroplast K⁺ Transport Loss-of-Function Mutant, Samaneh Tabatabaei, Ricarda Hoehner, Henning Kunz, Ursula Fittschen, Washington State University
- 3:40 449 Three-Input-Three-Output (3i3o) Continuous Flow Microfluidic Devices as Platforms for Biomineralization Studies, George A. Kumi, Rutgers University-Camden

Identification of Trace Analytes in Forensic & Environmental Analysis

Chair: Kimberly Gorel, New Jersey State Police Office of Forensic Sciences

- 2:00 450 Morphologically Directed Raman Spectroscopic Analysis of Forensic Samples, Brooke W. Kammrath, University of New Haven, Andrew Koutrakos, University of Verona, Josemar Castillo, Joe Wolfgang, Deborah Huck-Jones, Malvern Instruments
- 2:20 451 Forensic Analyses Using Infrared Spectroscopic Imaging, Adam C. Lanzarotta, United States Food & Drug Administration
- 2:40 452 Quantification of Morphine from SR Pharmaceuticals in Gastric Fluid via GCMS, Ulrich English, Tatiana Del-Solar, Syracuse University, Michael Hodgman, Michael Holland, Susan M Wojcik, William D. Grant, SUNY Upstate Medical University, Claudia Koraimann, Erich Leitner, Technical University Graz
- 3:00 Break
- 3:20 453 Analysis of NSAID Residues in Aqueous Samples by SPME Coupled to GCxGC-TOF-MS and GC-MS-MS, Anumeha P. Muthal, Nicholas H. Snow, Seton Hall University
- 3:40 454 Passive Monitoring: A Guide to Sorbent Tube Sampling for EPA Method 325, Nicola Watson, Caroline Widdowson, Charles Haws, Chris Hall, Markes International Inc.
- 4:00 455 Using Direct Mercury Analysis for Mercury Speciation in Marine Environmental Samples, Sumedh Phatak, Milestone
- 4:20 456 X-Ray Fluorescence Elemental Imaging and Speciation of Li-Ion Cell Electrodes and Used for Diagnostics in Total Reflection X-Ray Fluorescence, Ursula E.A. Fittschen, Zachary P. Gotlib, Owen K. Neill, Washington State University, Ulrike Boesenberg, DESY, Jürgen Janek, Mareike Falk, University of Giessen, Magnus Menzel, University of Hamburg, Martin Radtke, Uwe Reinholz, German Federal Institute for Materials Research and Testing, Stanisław Nowak, Institute for Scientific Instruments, Christina Strelt, Atomic Institute, Kathryn McKintosh, George Havrilla, Los Alamos National Laboratory

NMR Pharmaceutical and Other Applications**Chair: Cecil Dybowski, University of Delaware**

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| <p>2:00 457 Homodecoupled 1,1- and 1,n-ADEQUATE: Pivotal NMR Experiments for the Structure Revision of Cryptospirolepine, <u>Josep Sauri</u>, Merck</p> <p>2:20 458 Trace Level Analysis Using Selective Excitation Proton NMR Spectroscopy: A Tool for Genotoxic Impurity Analysis, <u>Frank Rinaldi</u>, Scott A. Miller, Charles Pathirana, Bristol-Myers Squibb</p> <p>2:40 459 Beyond Chemical Shifts: Using NMR Relaxometry (a.k.a. Time Domain NMR) as an Effective Analytical Tool in Materials Science, Pharmaceutical, Biochemical, Food, Engineering, and Medical Applications, <u>Paul J. Giammatteo</u>, Process NMR Associates, Mark Manahan, Cosa Xentaur Corporation</p> | <p>3:00 Break</p> <p>3:20 460 HSQMBBC-TOCSY Experiment: Facilitating Chemical Assignment and Structural Elucidation of Small Molecules and Natural Products, <u>Josep Sauri</u>, Merck</p> <p>3:40 461 Taking NMR Spectroscopy Out of the Lab and Into the "Real World": Applications of Cryogen Free NMR in the Manufacturing, Process Monitoring, Quality Control, and, Adulteration Screening of Dietary and Nutritional Supplements, <u>Paul J. Giammatteo</u>, John C. Edwards, Process NMR Associates</p> |
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2015 EAS Awards

EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry, Sponsored by Bristol-Myers Squibb

On Monday, November 16, 2015, **Dr. Christie Enke**, *University of New Mexico*, will receive the 2015 EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry.



Chris Enke is currently Professor Emeritus of Chemistry at Michigan State University and The University of New Mexico and Adjunct Professor at Indiana University. He received the BA degree from Principia College in 1955 and the Ph.D. from the University of Illinois in 1959. His thesis, with Herbert Laitinen, concerned the formation of surface oxide films on platinum electrodes. Prior to his move to The University of New Mexico in 1994, he was Instructor and Assistant Professor at Princeton University and then Associate Professor, Professor, and Professor Emeritus at Michigan State University. Sixty-nine students received their Ph.D.'s under his direction. Alone and with them, he has published over 140 papers, 18 book chapters, and obtained 13 patents, these works now cited over 3000 times.

Throughout his career, Chris has remained active in both fundamental research and the development of new teaching materials and methods. His research interests have included electroanalytical chemistry (high-speed charge transfer kinetic studies, introduction of operational amplifiers and computer control in electrochemical instrumentation), conductance (invention of the bipolar pulse conductance method now universally employed), computer-based instrumentation (including distributed microprocessor control systems), array detector spectroscopy (one of the first vidicon applications), and mass spectrometry (discovery of low-energy ion fragmentation and co-invention of the triple quadrupole mass spectrometer, interpretation of MS/MS spectra, and the equilibrium partition theory of electrospray ionization).

His most recent accomplishments have been the invention of distance-of-flight mass spectrometry and the discovery that the distribution of component concentrations in complex mixtures is very likely lognormal. He is currently

immersed in the study of epistemology, trying to sort out the facts that scientists know and use from the explanations we make up to explain them. In teaching, he is best known for the series of text and lab books on Electronics for Scientists which he coauthored with Howard Malmstadt and Stan Crouch.

Chris has served as Chair of the Analytical Division of the American Chemical Society, President of the American Society for Mass Spectrometry and Chair of the Computers in Chemistry Division of ACS. He has served on many professional society and journal advisory boards. Chris received the ACS awards for Scientific Instrumentation (1974), Computers in Chemistry (1989), and Analytical Chemistry (2011), the ASMS award for Distinguished Contribution to Mass Spectrometry (1993). The Analytical Chemistry Division of the American Chemical Society has awarded him the J. Calvin Giddings Award for Excellence in Education (2003) and The Distinguished Service Award (2014). He is a Fellow of ACS and AAAS.

EAS Award for Outstanding Achievements in Nuclear Magnetic Resonance, Sponsored by Bruker BioSpin and New Era Enterprises

On Monday, November 16, 2015, **Prof. Timothy A. Cross**, *Florida State University*, will receive the 2015 EAS Award for Outstanding Achievements in Nuclear Magnetic Resonance.



Timothy A. Cross is the Earl Frieden Professor of Chemistry and Biochemistry at Florida State University and he is the NMR and MRI Program Director at the National High Magnetic Field Lab in Tallahassee, Florida. He received his B.S. degree from Trinity College, Hartford, CT in 1976 and Ph.D. from the Department of Chemistry at the University of Pennsylvania, Philadelphia in 1981 working with Prof. Stanley Opella on bacteriophage protein structure with solution NMR spectroscopy. He stayed in Philadelphia for a short postdoctoral effort to develop oriented sample solid state NMR before spending 15 months at the University of Basel, Switzerland with Prof. Joachim Seelig working on the development of MRI imaging and in vivo spectroscopy.

From Basel, Dr. Cross and his family moved to Tallahassee in 1984. His research group has focused on solid state NMR development for

the structural, dynamic and functional characterization of membrane proteins. Since native protein structures are not dictated alone by their amino acid sequence, but by their sequence in their native environment it is important to characterize membrane proteins in an environment that matches as closely as possible their native environment. Through solid state NMR his group has demonstrated that it is possible to characterize membrane protein structure and dynamics in liquid crystalline lipid bilayer environments. This has led to the novel characterization of a functional mechanism for the M2 proton channel a proven drug target for Influenza A. Recently, his group has characterized a structure of CrgA, a central protein of the cell division apparatus of *Mycobacterium tuberculosis*, the causative agent for TB.

While at Florida State he helped write the NSF grant proposal that brought the Magnet Lab to Florida and he has been a major driving force in developing a Chemistry and Biology mission for the Lab, while heading up its NMR and MRI User Program.

Prof. Cross's research group at Florida State has graduated 24 doctoral students, many of whom are faculty at academic institutions, or head up research labs in industry and academia, and three are patent lawyers. Many postdocs have participated in the student's training and gained further training before moving on to a variety of positions that aid our society. Prof. Cross's group has published more than 200 papers and benefited from continuous NIH funding for the past 29 years as well as grants from NSF including an NSF Presidential Young Investigator Award, the year after arriving at Florida State. He is also an Alfred P. Sloan Fellow, a Fellow of the American Association for the Advancement of Science, and a Fellow of the Biophysical Society. In 2010 he received the Florida Award from the Florida Section of the American Chemical Society.

EAS Award for Outstanding Achievements in Separation Science, Sponsored by Agilent Technologies

On Tuesday, November 17, 2015, **Prof. David S. Hage**, *University of Nebraska-Lincoln*, will receive the 2015 EAS Award for Outstanding Achievements in Separation Science.



David S. Hage is the James Hewett University

Professor, and a Full Professor of Analytical and Bioanalytical Chemistry, at the University of Nebraska (Lincoln, Nebraska). He received a B.S. in both Chemistry and Biology from the University of Wisconsin-La Crosse, and his Ph.D. in Analytical Chemistry from Iowa State University. He was then a postdoctoral fellow in Clinical Chemistry and the Department of Laboratory Medicine at Mayo Clinic before joining the faculty in the Chemistry Department at the University of Nebraska as an Assistant Professor in 1989.

Dr. Hage's general research interests involve the design and use of affinity-based separations in high-performance liquid chromatography, capillary electrophoresis and other systems for clinical, pharmaceutical, and environmental analysis. Some of his specific interests include the theory and development of chromatographic-based immunoassays, the study of biological interactions by employing affinity-based separation methods, the behavior of protein-based chiral separations, the production of novel supports or immobilization schemes for affinity-based methods, and the creation and behavior of hybrid or miniaturized affinity separation platforms. He is also interested in the use of affinity-based separations, both alone and in combination with mass spectrometry, as tools for personalized medicine and functional proteomics.

Dr. Hage is the author of over 240 research publications, reviews and book chapters, as well as six patents, in the field of separation science. He was the editor for the Handbook of Affinity Chromatography, 2nd edition, which was published in 2006, and he is the lead author on a college textbook entitled Analytical Chemistry and Quantitative Analysis. He has been a co-author on several other textbooks and books in the areas of chemistry and separation science. In his research program, he has personally trained over 54 graduate students who have received Ph.D. or M.S. degrees and has mentored over 65 undergraduates, post-doctoral fellows and visiting scientists. He is a member of the American Chemical Society, the American Association for Clinical Chemistry, and the American Association for the Advancement of Science, and he is a fellow in the National Academy of Clinical Biochemistry. He is currently an editor for the Journal of Chromatography B and serves on the editorial board for Bioanalysis.

Previous awards that Dr. Hage has received include the Young Investigator Award from the American Association for Clinical Chemistry, an Excellence in Graduate Education Award from the University of Nebraska, and a University of Nebraska College of Arts and Sciences Outstanding Research and Creative Achievement Award. He has received two top-cited article awards, each spanning a time period of five years, from the Journal of Chromatography. He was named a Charles Bessey Pro-

fessor at the University of Nebraska in 2006, and he became the James Hewett University Professor in 2012.

EAS Award for Outstanding Achievements in Chemometrics, Sponsored by Eigenvector Research

On Tuesday, November 17, 2015, **Dr. Peter D. Wentzell**, *Dalhousie University*, will receive the 2015 EAS Award for Outstanding Achievements in Chemometrics.



Peter D. Wentzell is a Professor of Chemistry at Dalhousie University in Halifax, Nova Scotia, Canada. He obtained his B.Sc. in Chemistry from Dalhousie University in 1982 and his Ph.D. in Analytical Chemistry from Michigan State University (East Lansing, MI) in 1987, working under the direction of Prof. Stanley Crouch. He then worked as a Natural Sciences and Engineering Research Council (Canada) Post-doctoral Fellow with Dr. Adrian Wade at the University of British Columbia (Vancouver, BC, Canada) before taking up his current position at Dalhousie. He also spent sabbatical leave periods at the Center for Process Analytical Chemistry (CPAC) at the University of Washington with Prof. Bruce Kowalski in 1996, and in the Biology Department at the University of New Mexico with Prof. Margaret Werner-Washburne in 2003.

Dr. Wentzell's general research interests are in the area of chemometrics, with a focus on the study of the experimental measurement errors, signal processing, bioinformatics, and exploratory data analysis. The role of measurement errors in multivariate data analysis has been a central theme of his research, with an emphasis on the characterization of measurement error structure and the development of methods to make optimal use of measurement error information in chemometric methods. This led to the development of maximum likelihood principal components analysis (MLPCA) which provided a general framework for the optimal estimation of subspace models in multivariate analysis. These principles have been extended to a variety of applications within the field of chemistry and beyond. More recently, alternative approaches to exploratory data analysis, including projection pursuit methods.

Dr. Wentzell served as the North American Editor for the journal Chemometrics and Intelligent Laboratory Systems from 1998 to 2006

and was awarded the 2014 Kowalski Prize for the Best Theoretical Paper in the Journal of Chemometrics (2012-2013) for his paper entitled "Exploratory Data Analysis with Noisy Measurements". In recognition of his academic achievements at Dalhousie University, he was named a Faculty of Science Killam Professor (2009-2014), and presented with the Faculty of Science Award for Excellence in Teaching (2010) and the Outstanding Faculty Advisor Award in 2011.

EAS Award for Outstanding Achievements in Near-Infrared Spectroscopy, Sponsored by Metrohm USA

On Wednesday, November 18, 2015, **Dr. Benoît Igne**, *GlaxoSmithKline*, will receive the 2015 EAS Award for Outstanding Achievements in Near-Infrared Spectroscopy.



Benoît Igne received his Bachelor and Master degrees in Agricultural engineering at Ecole d'Ingénieur de Purpan, in Toulouse, France. He continued his academic career at Iowa State University in Ames Iowa, USA, where he obtained a Ph.D. in Agricultural Engineering in 2009 under the direction of Dr. Charles R. Hurburgh, Jr. Benoît joined Duquesne University, Pittsburgh, Pennsylvania, USA, as a post-doctoral student and subsequently a program coordinator in the Duquesne Center for Pharmaceutical Technology. In these positions, he worked to explore how NIR could be used to better control pharmaceutical manufacturing processes. He also served as an adjunct faculty in the Duquesne University School of Pharmacy, teaching graduate chemometrics. In 2010, Benoît joined, in parallel of his academic activities, Strategic Process Control Technologies, LLC, a consulting firm addressing industry needs in implementing process analytical technologies. Benoît currently holds a principal scientist position at GlaxoSmithKline, King of Prussia, Pennsylvania, USA.

Benoît has worked on numerous aspects of the use of NIR in the agricultural and pharmaceutical industries. Improving calibration transfer methodologies and using more advanced algorithms to extract the most relevant information for NIR data have been at the core of his work. Benoît is also particularly interested in model maintenance and the understanding of what makes a laboratory experiment become a tool of choice in manufacturing environments.

Benoît has authored or co-authored numerous scientific papers and a book. He is the Council for Near Infrared Spectroscopy President-elect and served two terms as Board member.

EAS Award for Outstanding Achievements in Mass Spectrometry, Sponsored by Thermo Fisher Scientific

On Wednesday, November 18, 2015, **Prof. Emile A. Schweikert**, *Texas A&M University*, will receive the 2015 EAS Award for Outstanding Achievements in Mass Spectrometry.



Emile A. Schweikert is Professor of Chemistry at Texas A&M University and Director of the University's Center for Chemical Characterization & Analysis. His research in secondary ion mass spectrometry, SIMS, focuses on advancing the fundamentals of the technique and on innovations in instrumentation and methodology. He has pioneered the bombardment of surfaces with clusters instead of atomic ions and demonstrated SIMS performance enhanced by several orders of magnitude. He has since shown that nanoparticles e.g. C₆₀, Au₄₀₀ impacting at hypervelocity generate still higher emission of surface ions. An intriguing consequence is the ability to observe ion and electron emission from single "nanoprojectile" impacts. Under these conditions the ejecta are from a nanoscopic volume (10-15 nm in diameter, ≤ 10 nm in depth). They originate from co-located molecules, thus enabling molecular surface analysis at the nanoscale. These studies required the assembly of unique custom-designed instrumentation, provided new insight into massive cluster-solid interactions and have led to numerous applications in surface analysis. Recent efforts are dealing with the characterization of individual nano-objects and 2-D materials. Schweikert has authored and co-authored over 260 papers on surface and ultratrace analysis. To date he has served as thesis/dissertation advisor or mentor to 88 graduate students and postdoctoral fellows. His work has been recognized with the award of the George Hevesy Medal, the Texas A&M University Excellence in Innovation Award and most recently the Eastern Analytical Symposium Award for Outstanding Achievements in Mass Spectrometry.

New York Society for Applied Spectroscopy Gold Medal Award

On Monday, November 16, 2015, **Dr. John A. Reffner**, *John Jay College*, will receive the 2015 New York Society for Applied Spectroscopy Gold Medal Award.



Dr. John A. Reffner is currently a Professor of forensic science at John Jay College, CUNY in New York, NY. His scientific interests are focused on uniting microscopy with spectroscopy and applying novel technologies to advancing materials and forensic science. He pioneered the development of infrared microspectrometers, accessories and innovative applications infrared microprobe technology. Dr. Reffner's scientific accomplishments are recognized by his receiving the American Academy of Forensic Sciences, Paul L. Kirk Award (2004), the New York Microscopical Society's, Abbe Memorial Award (2002), the Georgia Microscopical Society's, Honorary Achievement Award (2002), the Coblenz Society's Williams-Wright Award (2000), and the Illinois State Microscopical Society, Emile M. Chamot Award (1993). In 2011, Dr. Reffner received a Fellows Award by the Society of Applied Spectroscopy. He authored more than 80 papers, four book chapters and is the inventor on ten patents. He served as a consultant to the Connecticut State Police for over twenty-five years, and testified as an expert witness in criminal, civil and patent litigations.

American Microchemical Society Benedetti Pichler Award

On Monday, November 16, 2015, **Prof. Apryll Stalcup**, *Irish Separation Science Cluster, Dublin City University*, will receive the 2015 American Microchemical Society Benedetti Pichler Award.



Apryll Stalcup is currently Director of the Irish Separation Science Cluster and Professor of Chemical Sciences at Dublin City University in Ireland. She received a BS in Chemistry

from California State University-Sacramento in 1979. She obtained her PhD in Chemistry from Georgetown University in Washington, DC, working under the direction of Daniel Martire in 1988. During her graduate studies, she was a Co-op Fellow at the National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland working with Stephen Wise and Lane Sander. After a Postdoctoral Fellowship at the University of Missouri-Rolla with Daniel Armstrong, she joined the faculty at the University of Hawaii-Manoa in 1990. In 1996, she moved to the University of Cincinnati and was promoted to Full Professor in 2001. In 2012, she moved to Dublin City University.

Dr. Stalcup's general research interests are in the area of separation science with an emphasis on understanding chromatographic and electrophoretic separation mechanisms, exploring new separation methods, characterizing complex carbohydrates and nuclear forensics. Her group was the first to use sulfated- β -cyclodextrin, heparin and quinine as chiral additives in capillary electrophoresis. Pioneering work in her group in the application of surface-confined ionic liquids (SCIL) demonstrated the wide range of potential separation modes (reversed phase, normal phase, ion exchange and ion exclusion) obtainable with these materials. Her group has more recently demonstrated that the Linear Solvation Energy Relationship Model (LSER) can simultaneously account for the retention of neutrals as well as anions and cations on SCIL phases in liquid chromatography.

Dr. Stalcup is the author of over 100 publications, reviews, book chapters and one patent. She has served as the thesis/dissertation advisor or mentor to 32 graduate students and Postdoctoral Fellows. She is a Fellow of the Institute of Chemistry of Ireland, a member of the American Chemical Society, the American Association of the Advancement of Science, Sigma Xi, the University of Cincinnati Graduate Fellows and a Charter member of the University of Cincinnati Chapter's National Academy of Inventors. In 2011, she was awarded the Cincinnati Chemist of the Year by the Cincinnati Section of the American Chemical Society. She served on the Greater Cincinnati Water Works Water Quality Advisory Board and currently serves on the Editorial Board of Trends in Analytical Chemistry and Journal of Liquid Chromatography and Related Techniques and is the Co-Chair (with Prof. Jeremy Glennon, University College Cork) of the 31st International Symposium on Chromatography in 2016.

2015 EAS Student Awards

EAS continues to actively support a Student Awards program to recognize students involved in research in the broad field of analytical chemistry. In the spring of each year, we encourage professors to identify undergraduate Juniors in college and graduate students who demonstrate special talent in research. Nomination criteria include excellent grades, appraisals of how the students handle their investigations, their approach and how they resolve problems and publicly disseminate their work.

In 2015, four undergraduate and four graduate students have been selected based on these criteria to receive EAS Student Awards. The following outstanding students have been chosen from a very worthy field of candidates:

UNDERGRADUATE STUDENTS

Peter Csernica

Cornell University

*Nominated by Prof. Hector D. Abruña***Sitora Khodjanliyazova**

SUNY - Buffalo

*Nominated by Prof. Frank V. Bright***Thomas O'Connor**

Vassar College

*Nominated by Prof. Stuart Belli***Suttipong "Jay" Suttapitugsakul**

Rensselaer Polytechnic Institute

Nominated by Prof. Linda McGown

GRADUATE STUDENTS

Gonca Bulbul

Clarkson University

*Nominated by Prof. Silvana Andreescu***Joel F. Destino**

SUNY - Buffalo

*Nominated by Prof. Frank V. Bright***Nanette Jarenwattananon**

University of California – Los Angeles

*Nominated by Prof. Louis Bouchard***Ashton Lesiak**

SUNY - Albany

Nominated by Prof. Rabi Musah

**The Governing Board of the 2015 EAS congratulates
these awardees for their outstanding achievements.**

**The Student Awardees' posters will be presented on Tuesday, November 17, 2015
in the Poster Area in the Exhibit Hall from 12:00 PM – 1:30 PM**

2015 EAS Short Courses

Complete descriptions of all EAS Short Courses are available on our website: www.EAS.org

— Two-Day Courses —

Code	~ Two-Day Courses ~ Sunday, Nov. 15 – Monday, Nov. 16 8:30am -5:00pm (Holiday Inn)	Instructor(s)
E15-01	Practical Gas Chromatography	Dr. Eugene F. Barry, University of Mass-Lowell Dr. Thomas Brettell, Cedar Crest College
E15-02	Troubleshooting Chromatographic Systems	Dr. Merlin K.L. Bicking, ACCTA, Inc. Dr. Douglas E. Raynie, South Dakota State University
E15-03	Chemometrics Without Equations I & II (<i>combined course</i>)	Dr. Donald Dahlberg, Lebanon Valley College Dr. Neal Gallagher, Eigenvector Research
E15-06	Physical Characterization and Methods of Analysis of Pharmaceutical Solids I & II: Essential Knowledge and Advanced Applications	Dr. Xiaoming (Sean) Chen, Shionogi Inc. Dr. Steve Byrn, Purdue University

Code	~ Two-Day Courses ~ Monday, Nov. 16 – Tuesday, Nov. 17 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E15-14	LC/MS: Theory, Instruments, and Applications	Dr. Guodong Chen, Bristol-Myers Squibb Dr. Ragu Ramanathan, Pfizer

Code	~ Two-Day Courses ~ Tuesday, Nov. 17 – Wednesday, Nov. 18 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E15-21	How to Develop Validated HPLC Methods: Rational Design with Practical Statistics and Troubleshooting	Dr. Brian A. Bidlingmeyer, Agilent Technologies Dr. Stanley N. Deming, Statistical Designs

— One-Day Courses —

Code	~ One-Day Courses ~ Sunday, November 15 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E15-04	Introduction to Chemometrics Without Equations I	Dr. Donald Dahlberg, Lebanon Valley College Dr. Neal Gallagher, Eigenvector Research
E15-07	Physical Characterization and Methods of Analysis of Pharmaceutical Solids I: Essential Knowledge	Dr. Xiaoming (Sean) Chen, Shionogi Inc. Dr. Steve Byrn, Purdue University
E15-09	Impurities In Pharmaceuticals – A Survey Course	Dr. Bernard Olsen, Olsen Pharmaceutical Consulting
E15-11	LC-MS Method Development for Small Molecule Pharmaceuticals	Dr. Perry Wang, LC-MS Technical Expert

Code	~ One-Day Courses ~ Monday, November 16 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E15-05	Intermediate Chemometrics Without Equations II	Dr. Donald Dahlberg, Lebanon Valley College Dr. Neil Gallagher, Eigenvector Research
E15-08	Physical Characterization and Methods of Analysis of Pharmaceutical Solids II: Advanced Applications	Dr. Xiaoming (Sean) Chen, Shionogi Inc. Dr. Steve Byrn, Purdue University
E15-15	Polymers: An Introduction and Characterization Techniques	Dr. Diep Nguyen, Illinois Institute of Technology

— One-Day Courses (continued) —

Code	~ One-Day Courses ~ Monday, November 17 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E15-16	Developing, Validating and Troubleshooting Dissolution Methods	Mr. Gregory Martin, Complectors Consulting
E15-18	Advanced HPLC/UHPLC Part I & Part II	Dr. Michael W. Dong, MWD Consulting

Code	~ One-Day Courses ~ Tuesday, November 18 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E15-22	Getting the most from GC and GC/MS	Dr. Gregory Slack, Clarkson University Dr. Nicholas Snow, Seton Hall University
E15-24	Sample Preparation: The Chemistry Behind the Techniques	Dr. Merlin K. L. Bicking, ACCTA, Inc. Dr. Douglas E. Raynie, South Dakota State University
E15-25	The Chemistry of Drug Degradation	Dr. Christopher Foti, Pfizer Dr. Gregory Sluggett, Pfizer Dr. Todd Zelesky, Pfizer
E15-26	Drug Quality Fundamentals I & II (combined half-day courses)	Dr. Michael W. Dong, MWD Consulting
E15-36	Quality-by-Design (QbD) Fundamentals for Analytical Chemists: A New Paradigm for the Analytical Laboratory	Dr. Zenaida Otero Gephardt, Rowan University

Code	~ One Day Courses ~ Wednesday, November 18 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E15-29	Atomic Spectrometry: Applications of Elemental Analysis in the Pharmaceutical Industry	Dr. Timothy L. Shelbourn, Eli Lilly Dr. Michael DeLeon, Spectro Analytical Instruments
E15-30	Interpretation of Mass Spectra with Practical Solutions to Problems	Dr. Mike Lee, Milestone Development
E15-31	Therapeutic Peptide and Protein Bioanalysis by LC-MS/MS	Dr. Faye Vazvaei, Roche Dr. Jianing Zeng, Bristol-Myers Squibb Dr. Jun Qu, SUNY-Buffalo Dr. Yan Zhang, Bristol-Myers Squibb
E15-32	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	Mr. Gregory Martin, Complectors Consulting
E15-33	Practical Guide to Performing HPLC and UHPLC Experiments in Reversed-Phase Mode	Dr. Merlin K. L. Bicking, ACCTA, Inc. Dr. Richard A. Henry, Consultant

— Half-Day Courses —

Code	~ Half-Day Course ~ Monday, November 16 8:30am - 12:00pm (Holiday Inn)	Instructor(s)
E15-19	Advanced HPLC/UHPLC I: Concepts and Instruments	Dr. Michael W. Dong, MWD Consulting

— Half-Day Courses (continued) —

Code	~ Half-Day Course ~ Monday, November 16 1:00- 4:30pm (Holiday Inn)	Instructor(s)
E15-20	Advanced HPLC/UHPLC II: Columns and Practices	Dr. Michael W. Dong, MWD Consulting

Code	~ Half-Day Course ~ Tuesday, November 17 8:30am - 12:00pm (Holiday Inn)	Instructor(s)
E15-27	Drug Quality Fundamentals Part 1: Introduction to Drug Discovery and Development Processes	Dr. Michael W. Dong, MWD Consulting

Code	~ Half-Day Course ~ Tuesday, November 17 1:00- 4:30pm (Holiday Inn)	Instructor(s)
E15-28	Drug Quality Fundamentals Part 2: Quality Control of Small Molecule Drugs and Recombinant Biologics	Dr. Michael W. Dong, MWD Consulting

Code	~ Half-Day Course ~ Wednesday, November 18 8:30am - 12:00pm (Holiday Inn)	Instructor(s)
E15-34	HPLC Method Development Made Easy	Dr. Michael W. Dong, MWD Consulting

Code	~ Half-Day Course ~ Wednesday, November 18 1:00- 4:30pm (Holiday Inn)	Instructor(s)
E15-25	Making the Transition to GC-MS, GC-MS-MS and GCxGC-MS	Dr. Nicholas Snow, Seton Hall University Dr. Gregory Slack, Clarkson University

All short courses take place in the Holiday Inn which is located across the street from the Garden State Exhibit Center. EAS provides free shuttle bus service to/from the GSEC and the Holiday Inn and DoubleTree.

THE COBLENTZ SOCIETY

Attention Coblentz Members

Please join us at the Coblentz reception
Monday evening, November 16 from 6:00pm to 8:30 pm
in Parlor 166 at the Doubletree.

We invite all Coblentz members to join us to celebrate the "International Year of Light."

140th
ANNIVERSARY



140 Years of Scientific Excellence

For 140 years, Shimadzu has been developing instrumentation for a broad range of applications in a variety of markets. This history is rivaled only by the passion we have for the future. We encourage you to visit us at EAS 2015 to discover our extensive portfolio of innovative, proven products designed to address your specific laboratory workflows.

Visit Booth **243** to learn about our
wide range of innovative instruments:

- | | | | |
|-------------------|----------------|-----------------|--------------------|
| ■ AA / ICP | ■ Fluorescence | ■ HPLC / UHPLC | ■ Testing Machines |
| ■ Balances | ■ FTIR | ■ LC-MS/MS | ■ Thermal |
| ■ Biotech / MALDI | ■ GC | ■ Particle Size | ■ TOC / TN / TP |
| ■ EDX / XRF / XRD | ■ GC-MS/MS | ■ Software | ■ UV-VIS-NIR |

Find out more at Booth #243

www.ssi.shimadzu.com

PLENARY LECTURE

Join us to hear Prof. Wüthrich give the Plenary Lecture titled
“From Basic Research in NMR to use in Daily Human Life”:

Monday, November 16, 2015, 4:30 pm

DoubleTree Hotel, Ballroom

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



Professor Kurt Wüthrich is a Swiss chemist/biophysicist and Nobel Chemistry laureate, known for developing Nuclear Magnetic Resonance (NMR) methods for studying biological macromolecules. Prof. Wüthrich is a Cecil H. and Ida M. Green Professor of Structural Biology at the Scripps Research Institute, La Jolla, CA, USA and a Professor of Biophysics at the Swiss Federal Institute of Technology (ETH Zürich), Zürich, Switzerland. In 2002 Professor Wüthrich was awarded Nobel Prize in Chemistry “for his development of nuclear magnetic resonance spectroscopy for determining the three-dimensional structure of biological macromolecules in solution.” His specialty is nuclear magnetic resonance (NMR) spectroscopy with biological macromolecules, where he contributed the NMR method of three-dimensional structure determination of proteins and nucleic acids in solution. Kurt Wüthrich’s achievements have been recognized by the Prix Louis Jeantet de Médecine, the Kyoto Prize in Advanced Technology, the Nobel Prize in Chemistry, and by a number of other awards and honorary degrees.

2015 EAS Technology Tour

Your Technology Tour Passport is included with your Final Program which includes the names, booth locations, and logos of the Technology Tour sponsors. If you visit 10 of the participating companies and get your Passport marked, you are eligible to redeem it for your choice of a special gift at the EAS Souvenir Booth in the 700 aisle. If you visit all 20 of the participating companies, in addition to the special gift, you will be eligible to enter a daily drawing to win a Visa gift card. The drawings take place in the Exhibit Hall daily at 2:30 PM.

Be sure to have your Passports validated at the Souvenir Booth prior to that time.

Exhibitors participating in the 2015 Technology Tour are:

Anton Paar USA
 CEM Corporation
 Chemglass Life Sciences
 DigiPol Technologies
 GERSTEL
 Kinesis
 Mac-Mod Analytical
 Metrohm
 Mettler Toledo
 MicroLiter



Milestone
 Nanalysis
 Parker Hannifin
 Sannova
 Shimadzu Scientific Instruments
 Sotax
 Supelco
 Thermo Scientific
 Wyatt Technology
 YMC America

Highlights in the Exposition Area












Take time out to relax and meet with colleagues and exhibitors in our pleasant courtyard area in the center of the Exhibit Hall


Free Light Lunch for all Conferees and Exhibitors:

Monday, Tuesday and Wednesday, 12:00 PM and 12:45 PM and 1:30 PM


Have lunch or a snack and see the latest offerings from our exhibitors.


Food Carts are sponsored by CEM Corp and Cosa Xentaur




A Special Mixer in the Exposition Hall






Tuesday, November 17, 2015
















4:00 to 5:30 pm



You are invited to a Mixer and special poster session in the center of the exposition floor. Mix, mingle, and socialize with your colleagues! Enjoy refreshments (first drink is on us!) and snacks while visiting our exhibitors to learn about the latest in analytical instrumentation, supplies, and services. This event is sponsored by the 2015 EAS and the following exhibitors:

Anton Paar	Markes International
CEM Corporation	MicroLiter
Dissolution Technologies	Shimadzu Scientific Instruments
Distek	Solvias
EMD Millipore	Thermo Scientific

This Mixer is open to all registered attendees.

"EAS & Expo 2015" Mobile App!

- Create and review your own schedule
- Search and find your favorite technical topics and speakers
- Easy access to all the abstracts
- Search the directory of all exhibitors
- Find a map of the Expo Hall

Be sure to download our **FREE Mobile App** for the ultimate event experience! It allows you to have critical show information right at your fingertips. Simply visit the App Store or Google Play to download the FREE app. Just search the keyword **EAS & Expo 2015** - then login using your email address and password used for registration or your last name and 6 digit registration number (located on your name badge).

The app allows you to schedule sessions and speakers, read abstracts, browse the list of exhibitors, manage exhibitor appointments, create and review your event calendar, view a map of the show floor and record notes on exhibitors you visit. EAS will also be able to send updates in real-time so you can keep up with what's happening and where.

2015 EAS Exhibitors

Last updated November 3, 2015

Acanthus Research	GenTech Scientific	Peak Scientific Instruments
Agilent Technologies Inc.	GERSTEL, Inc.	PerkinElmer
Airgas USA LLC	Glas-Col	Polytec, Inc.
American Chemical Society's New York Section	HI Scientific Services	Quantum Analytics
AmericanLab/Labcompare	Honeywell Burdick & Jackson	Rap. ID Inc.
American Pharmaceutical Review	I. Miller Precision Optical	Reaction Analytics
ANA Solutions	Innovations United	Restek
Andrew Alliance USA	JEOL USA, Inc.	Rigaku Americas
Anton Paar USA	Joule Scientific	Rudolph Research Analytical
AquaLab by Decagon	Kinesis	Sannova Analytical Inc.
Axiom Analytical	LabCompare/PharmaCompare	Sciex
B&W Tek	Lab Manager Magazine	SCP SCIENCE
Baseline Service LLC	Laboratory Equipment	Shimadzu Scientific Instruments, Inc.
Biocompare	Lab Support	Sino-American Pharmaceutical Professionals Association
BioScreen Testing Services	LabX	Sirius Analytical
Biotage	LCGC America	S-Matrix Corporation
Bruker	LC*GC/Spectroscopy	Solvias AG
Carltex, Inc.	LGC Standards	Sonnatek, Inc.
CAS	LLC Laboratories	Sotax Corporation
Case Laboratories, Inc.	Logan Instruments	Spectro Analytical Instruments
CEM Corporation	Mac-Mod Analytical	Spectroscopy Magazine
Cerilliant Corporation	Macherey-Nagel, Inc.	Spectrum Chemicals
Chemglass Life Sciences	Markes International	SPEX SamplePrep
Chromatography Forum of the Delaware Valley	Metrohm USA	SSCI, A Division of AMRI
Clearsynth Canada Inc.	Mettler Toledo	Students 2 Science
Coblentz Society	MicroLiter Analytical Supplies, Inc.	Supelco/Sigma-Aldrich
Compco Analytical	MicroSolv Technology	TA Instruments
Cosa Xentaur Corporation	Milestone	Thermo Scientific
Defiant Technologies	Minitab	Tovatech
DigiPol Technologies	Molnar Institute	Tri-State Chinese American Chemical Society
Dissolution Technologies	Nanalysis	USP (U.S. Pharmacopeia)
Distek, Inc.	NanoMagnetics	VUV Analytics
Elemental Scientific	Neopharm Labs	Waters Corporation
Elementar Americas	New Era Enterprises, Inc	Wiley
EMD Millipore	New Jersey Mass Spec Discussion Group	Wilmaad-LabGlass
ES Industries	New York Microscopical Society	Wilmington PharmaTech
EST Analytical	New York Section of SAS	Wyatt Technology
Extrel	NexTech Science Innovations	YMC Co., Ltd.
Fortis Technologies Ltd.	North Jersey Section of ACS	Zef Scientific
FreeThink Technologies	Omicron Scientific	ZirChrom Separations, Inc.
Gateway Analytical	Pace Analytical	
	PANalytical	
	Parker Hannifin	

Extended Expo Hours on Tuesday, November 17, 2015

Don't miss the mixer on the expo floor from 4:00 to 5:30 pm

Free food, beverages, a special poster session, and the opportunity to visit our exhibitors in a relaxed setting.

EAS 2015 Workshops

EAS is committed to professional development, as well as enhancement of knowledge. Workshops on topics to develop professional skills and other tools for success are open to EAS attendees. A Full Conferee registration is required, and space is limited so advanced registration for each workshop is requested. Any remaining spots will be on a first come, first serve basis.

Getting Hired - Secrets of a Contingency Recruiter

Monday, November 16, 9:30 AM to 11:30 AM

Donald Truss, The Solidus Services Group, LLC

Borrowing from leaders in the field including Stephen Covey, Michael Gerber, Dale Carnegie, and Zig Ziglar, Recruiter Donald Truss will guide us through the mysterious world of the hiring manager's decision making process. Come and learn the secrets to an effective resume. Learn best practices for job searching and how to make the interviewer comfortable and capable of understanding you during the interview. Learn how the proper use of patience and timing will increase your interviewing success rate. This will be a highly interactive session, so bring your questions. Don't miss this opportunity to get an insider's view of the subliminal processes involved between hiring managers and candidates. During this interactive session, we will discuss:

- How the selling process is more than just an exchange of information
- How to understand what the buyer is thinking and feeling during the interview process
- How to present your skills and work history in a way that the hiring manager will understand and remember

Come with an open mind and be prepared to be surprised!

Using LinkedIn® Professional Networking Services to Network Your Way to a Job and More

Tuesday, November 17, 9:30 AM to 11:30 AM

Katie DeVito, Katie DeVito, LLC

Social media is a powerful tool that enables us to make and maintain professional contacts. A well-structured profile that is effectively posted can optimize visibility, result in new contacts, create interest in our postings and attract future employers. However, there are existing knowledge gaps about how to use social media most effectively, especially in the search for a new job. In this workshop, you will learn the best practices for using social media: from creating an effective profile, to knowing how to appropriately make new contacts, determining how frequently to add postings and learning how to effectively network online.

Sharpening your Presentation Skills – an Interactive Workshop

Wednesday, November 19, 9:30 AM to 11:30 AM

Jana Casey, Bristol-Myers Squibb

At any scientific conference, there are speakers we remember years later; we remember the science, the topic, the style of presentation but also the energy, enthusiasm and personality of the presenter. These speakers not only have interesting topics but they are also great communicators. How do we become more memorable at a conference, an interview or even when networking? Good presentation skills allow us to effectively showcase and market our ideas, research and career. The first part of this workshop will focus on how to improve your public speaking. The second part will concentrate on how to prepare and deliver an effective presentation and answer questions from the audience. Attendees are encouraged to actively participate in the workshop by preparing short speeches or presentations that will draw on the audience to critique and improve them. This process will allow us to gain perspective of what other see when we present and equip us with new skills for the future.

2015 EAS Seminars

Eastern Analytical Symposium has refocused and expanded its Outreach program for undergraduates and high school teachers. Each seminar has outstanding presenters from academia and industry who will demonstrate the advantages of a career in chemistry.

The Best Way to Teach Forensic Science is to Teach Science

Sunday, November 15, 2015

Registration Limited to Middle and High School TEACHERS ONLY

1:00 PM to 4:00 PM

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" (3rd 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. **New for 2015** - The lecture will emphasize the utilization of forensic virtual lab experiments to demonstrate analytical instrumentation applicable to solving forensic science problems.

Mass Spectrometry and Microbiology

Monday, November 16, 2015

Registration for Qualified Teachers and Students

10:00 AM to 1:00 PM

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 Qualified Teachers and Students

10:00 AM to 1:00 PM

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 Qualified Teachers and Students

10:00 AM to 12:00 AM

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!

2015 EAS EMPLOYMENT BUREAU

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.

The Employment Bureau will operate from 9:00 AM until 4:00 PM on Monday and Tuesday. On Wednesday, the hours will be 9:00 AM to **1:00 PM**. Job postings will be available for applicant review beginning at 11:00 AM on Monday morning. Interview booths will be available for Employers to schedule interviews. Job postings are continually updated during EAS and applicants are expected to visit the Job Posting bulletin boards on a regular basis.

NEW for 2015!

- **All resumes must be submitted in a SEARCHABLE PDF file format.** This is to make it easier and faster for employers to find prospective applicants.
- Employers will be given access to EAS's secure portal to search and review resumes on-line.

Applicant Instructions

- **NEW** for 2015 – In order for employers to find you faster you must supply the Employment Bureau with a copy of your resume in a **PDF file** on a FLASH DRIVE (*paper copies will NOT be accepted*). Your resume should be no longer than two (2) pages in length. Your flash drive will be returned to you once the file has been downloaded.
- Advance registration for the EAS Employment Bureau is not permitted. You must bring your resume on a FLASH DRIVE (*paper copies will not be accepted*) to the Employment Bureau Applicant Registration desk when you arrive at the symposium.
- Postings of current job openings will be available for your review in the Job Posting Area. Access to these postings is offered to all attendees registered for EAS.
- If you wish to contact an employer regarding a job posting, you may contact them directly or leave a note for that employer using the Employer ID# that appears on the posting; *be sure to list your mobile phone number and/or email address for them to contact you*. Notes should be placed in the appropriate envelope under the job posting.
- Interested employers will contact you directly via the email address or phone number listed on the resume, so be sure to list your mobile phone number.
- If you wish, you may purchase a copy of the 2015 EAS Employment Bureau job postings for \$20. Please inquire at the Employment Bureau Registration desk. The job postings will be mailed after the close of EAS.

2015 EAS EMPLOYMENT BUREAU

Employer Instructions

- When you arrive at the Employment Bureau, check-in at the Employer Registration desk. You will receive your Employer identification number at this time. A number will be assigned for each job opening. These numbers will be used for all communications with prospective applicants, as well as with the Employment Bureau. Job postings may be submitted on your Company stationery (please include job title, description, location, and contact information) or by filling out the EAS Job Opening form. If advance submission of Job openings is not possible, these may be submitted after you register with the Employment Bureau on site.
- **NEW for 2015:** Resumes of prospective applicants will be available for your review on-line through EAS's **secure portal**. Each employer will receive their access code on-site through the Employment Bureau. Access to resumes will be restricted to employers with job openings registered with the Employment Bureau and the portal will close at the end of EAS on Wednesday, November 18. Note: No hard copies of resumes will be printed.
- If you wish to contact an applicant regarding their qualifications you may contact them **directly** by using the email address or phone number listed on the resume.
- Throughout each day be sure to check for responses and other communications from prospective applicants in the envelope under the job posting. Messages will be labeled with the Employer ID# for the specific job opening desired and contact information.
- Employers registered with the EAS Employment Bureau may purchase an **electronic PDF file** of the 2015 EAS Employment Resume book. The cost for the Resume book will be \$200. Please inquire at the Employment Bureau Registration desk.

Please Note: Access to the secure portal with all the resumes will be closed down at the end of EAS on Wednesday, November 18th

Special Events in the 2015 EAS Expo Area

The following special exhibitor events will take place in the Garden State Exhibit Center during the 2015 Eastern Analytical Symposium. Attendance at these events is limited to EAS attendees only.

Monday, November 16, 2015

Anton Paar

McDivitt Room, Garden State Exhibit Center Lobby

10:00 am to 3:45 pm

Basics in density and good density measurements - 10:00-10:45 am (45 min)

Measurement of density requires taking care of some special considerations in terms of cleaning, sample treatment, etc. In this presentation we will go through all these recommendations for successful density measurements and in addition we will give a basic explanation of the basics in the theory of measuring density and concentration.

Modulyzer, the perfect combination for success - 11:15 am to 12:00 pm (45min)

Current laboratories are more and more in the direction of automation the process of measurement to increase precision, efficiency, save time and space in the lab. We will present our solution to increase the productivity of every laboratory.

Thixotropy, the key when you need to know more about your products - 3:00 pm to 3:45 pm (45 min)

We find the time dependence behavior of samples in our daily life as well as in the production process and storage of products. This presentation will give a general overview of this interesting phenomenon and evaluate the different possibilities for measuring it in an easy, fast and precise way.

Presenter Biography:



Ariel Santorio studied chemistry at Escuela Superior de Buenos Aires, and has been involved in the world of measuring technologies for more than 20 years working more specifically in the field of rheology since 2001.

He taught rheology for more than 10 years at Universidad de Buenos Aires, Faculty of Pharmacy & Biochemistry in the Master of Cosmetic Production.

He is currently responsible for Technical Education & Training at Anton Paar.

For additional information regarding the content of the above presentations please contact ariel.santorio@anton-paar.com

There's no need to sign up in advance for these seminars, but please contact Dennis Meyers (dennis.meyers@anton-paar.com) to receive your complimentary EAS 2015 "Invited Customer Voucher" (Voucher is good for Expo-Only Guest Registration).

Bruker Corporation

Davis Room, Garden State Exhibit Center Lobby

9 a.m. to Noon

The state-of-the-art in infrared and Raman analysis

Tom Tague, Ph.D., Applications Manager, Bruker Corporation

The latest advances in the FTIR and Raman instrumentation and applications will be reviewed in this seminar with a thorough discussion of the following topics:

- Authentication of art objects
- Fluorescence free rapid portable Raman analysis
- Simultaneous mid and far IR analysis
- Reverse engineering using vibrational microscopy
- Chemical imaging and depth profiling

Special Events in the 2015 EAS Expo Area

(Continued)

Examples of applications will include the authentication of a newly discovered Leonardo Da Vinci, Raman analysis of previously challenging samples with fluorescence interference, and the identification of layers in multilayer polymer films. The seminar will include a live demonstration of the new Bruker hand-held Raman system and the novel Lumos FTIR microscope. Attendees are encouraged to bring samples for analysis.

Presenter Biography

Thomas Tague is the Applications Manager for Bruker Corporation. He is also a member of the Visiting Scientists Committee of the Metropolitan Museum of Art in New York and the Board of Corporators of the Worcester Art Museum. Dr. Tague received his Ph.D. from the University of Utah in Physical Chemistry and his B.S. in Chemistry from the University of Texas at San Antonio. He is a member of the American Physical Society, Optical Society of America, American Chemical Society, and the Microscopy Society of America. Tom has more than 50 publications and 5 Patents.

For additional information and to register for this event:

<http://marketing.brukeroptics.com/acton/form/4159/0031:d-0001/0/index.htm>

Tuesday, November 17, 2015

Agilent Technologies

McDivitt Room, Garden State Exhibit Center Lobby

9 am to Noon

For additional information, please contact Brittany Ogden at Brittany_ogden@agilent.com

Supelco

Davis Room, Garden State Exhibit Center Lobby

9 am to noon

Optimizing SPME for a Variety of Applications

Bob Shirey, Yong Chen, Craig Aurand and Len Sidisky

Solid phase microextraction (SPME) is a solvent free extraction technique developed in 1993 that can be utilized in a variety of applications. This versatile extraction technique is used to extract volatile, semi-volatile and non-volatile analytes from gas, liquid or solid matrices. A portion of this presentation will focus on how to select the appropriate fiber for your application and provide techniques for improving the extraction efficiency of target analytes. Guidelines will be given on how to quantify analytes using SPME.

In addition to coverage of traditional SPME applications, this presentation will highlight new developments in SPME. The use of over-coated SPME fibers for extraction of analytes out of more complex matrices will be shown. Also, a new SPME platform for biological applications has been developed. Biocompatible SPME fibers can be used for extraction of small molecules such as drugs out of biological matrices. For these applications, the extracted nonvolatile analytes are either solvent desorbed followed by LC-MS, or the fibers can be directly coupled with a mass spec source using DESI or DART interface devices.

Solid Phase Extraction (SPE): An introduction to basic theory, method development, and applications

Since its discovery nearly 40 years ago, solid phase extraction (SPE) has become one of the most popular and powerful sample preparation tools for the analytical chemist. The effective removal of matrix interferences by SPE greatly improves both qualitative and quantitative analysis by increasing sensitivity and accuracy, as well as extending the lifetime of chromatographic systems. In addition, the increased specificity, efficiency, reproducibility, and high throughput amenability of SPE offers a unique advantage over other sample preparation techniques. This workshop will introduce the basic theory of SPE, walk through the key steps involved in method development, discuss specific SPE applications, and provide an overview of Supelco SPE products.

Special Events in the 2015 EAS Expo Area

(Continued)

CEM Corporation
McDivitt Room, Garden State Exhibit Center
1 pm to 4 pm

For information please contact Matthew Nigro at matthew.nigro@cem.com

Thermo
Davis Room, Garden State Exhibit Center Lobby
12:30 pm to 4 pm

Join Thermo Fisher Scientific for an informative workshop on chromatography, mass spectrometry and trace elemental analysis.

12:30 PM Register, Buffet lunch

12:45 PM A New Chapter in GC-MS: Beyond a Limited Past

Until now, GC-MS has been limited in its ability to collect comprehensive qualitative and quantitative sample information with high levels of selectivity, sensitivity and confidence, especially in highly complex samples. However, the recent introduction of Thermo Scientific™ GC Orbitrap™ technology offers the potential to go beyond previous limitations to provide a more comprehensive look at samples in fields ranging from metabolomics to food safety, industrial, clinical, and pharmaceutical analysis.

1:45 PM Revolutionize Your UHPLC Experience

The Thermo Scientific™ Vanquish™ UHPLC system takes high-end UHPLC to a new level, offering better separations, more results and easier interaction to help solve your toughest chromatographic challenges. No longer fear the deadline — rely on the Vanquish system to take it head on.

2:45 PM Implementing USP Chapters <232> & <233>: Be Prepared for the Changes to Come

Discover how streamlined ICP-OES and ICP-MS workflows ensure that your laboratory can measure and report elemental impurities in compliance with the new USP requirements.



A Special Mixer in the Exposition Hall

Tuesday, November 17, 2015

4:00 to 5:30 pm



You are invited to a Mixer and special poster session in the center of the exposition floor. Mix, mingle, and socialize with your colleagues! Enjoy refreshments (first drink is on us!) and snacks while visiting our exhibitors to learn about the latest in analytical instrumentation, supplies, and services. This event is sponsored by the 2015 EAS and the following exhibitors:

Anton Paar
 CEM Corporation
 Dissolution Technologies
 Distek
 EMD Millipore

Markes International
 MicroLiter
 Shimadzu Scientific Instruments
 Solvias
 Thermo Scientific

This Mixer is open to all registered attendees.



Eastern Analytical Symposium Presidents

Year	Conference Number	President
1959.....	1.....	William S. Levine
1960.....	2.....	George H. Morrison
1961.....	3.....	Saul Gordon
1962.....	4.....	Arnold Mowitz
1963.....	5.....	James F. Cosgrove
1964.....	6.....	Paul Lublin
1965.....	7.....	Charles W. Pifer
1966.....	8.....	David W. Robertson
1967.....	9.....	Edward G. Brame, Jr.
1968.....	10.....	Harold J. Pazdera
1969.....	11.....	George E. Heinze
1970.....	12.....	David A. Green
1971.....	13.....	Ivor L. Simmons
1972.....	14.....	Richard J. Knauer
1973.....	15.....	Louis M. Brancone
1974.....	—.....	Hal Ferrari
1975.....	16.....	Alexander N. Prezioso
1976.....	—.....	—
1977.....	17.....	Kenneth D. Fleischer
1978.....	—.....	—
1979.....	18.....	David L. Nash
1980.....	19.....	Melvin Goodman
1981.....	20.....	Arnold D. Lewis
1982.....	21.....	Hal Ferrari
1983.....	22.....	Concetta M. Paralusz
1984.....	23.....	J. P. Luongo
1985.....	24.....	Hal Ferrari
1986.....	25.....	Walton B. Caldwell
1987.....	26.....	S. David Klein
1988.....	27.....	Harvey S. Gold
1989.....	28.....	Richard Saferstein
1990.....	29.....	James McDivitt
1991.....	30.....	Stephen Scypinski
1992.....	31.....	Neil D. Jespersen
1993.....	32.....	Vincent Venturella
1994.....	33.....	Hercules Felder
1995.....	34.....	Karl Bratin
1996.....	35.....	Edward R. Davis
1997.....	36.....	Robert Femia
1998.....	37.....	Susan Kirby Friedman
1999.....	38.....	Julia Vasta-Russell
2000.....	39.....	Bruce McPherson
2001.....	40.....	Nicholas Snow
2002.....	41.....	Mary A. Kaiser
2003.....	42.....	Henrik Rasmussen
2004.....	43.....	Robert Ianniello
2005.....	44.....	Penelope Moore
2006.....	45.....	John L. Martin
2007.....	46.....	Robert Geise
2008.....	47.....	Kate Jackson Fletcher
2009.....	48.....	Donald O’Leary
2010.....	49.....	Julie Tinklenberg
2011.....	50.....	David A. Russell
2012.....	51.....	Cecil Dybowski
2013.....	52.....	Kim Huynh-Ba
2014.....	53.....	Anne-Françoise Aubry
2015.....	54.....	Oscar Liu
2016.....	55.....	Daryl Cobranchi

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1990.....	Dr. Allen J. Bard
1991.....	Dr. Alan G. Marshall
1992.....	Dr. Gary M. Hieftje
1993.....	Dr. Peter W. Carr
1994.....	Dr. Henry Freiser
1995.....	Dr. Royce Murray
1996.....	Dr. James Winefordner
1997.....	Dr. Richard N. Zare
1998.....	Dr. Edward S. Yeung
1999.....	Dr. Catherine Fenselau
2000.....	Dr. Isiah Warner
2001.....	Dr. Milos Novotny
2002.....	Dr. Charles L. Wilkins
2003.....	Dr. William R. Heineman
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2006.....	Dr. Andrew G. Ewing
2007.....	Prof. M. S. Burnaby Munson
2008.....	Prof. Milton L. Lee
2009.....	Dr. M. Bonner Denton
2010.....	Dr. Richard D. Smith
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2012.....	Dr. Mary Wirth
2013.....	Dr. Irving Wainer
2014.....	Dr. Joseph Caruso

The recipients of the Eastern Analytical Symposium Award for Outstanding Achievements in Separation Science are:

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1991.....	Dr. Robert L. Grob
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1993.....	Dr. J. Jack Kirkland
1994.....	Dr. Lloyd R. Snyder
1995.....	Dr. James W. Jorgenson
1996.....	Dr. Fred Regnier
1997.....	Dr. Barry L. Karger
1998.....	Dr. William H. Pirkle
1999.....	Dr. Milton L. Lee
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2006.....	Dr. Phyllis R. Brown
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1991.....	Dr. W. Fred McClure
1992.....	Dr. Lois G. Weyer
1993.....	Dr. Ernest H. Baughman
1994.....	Dr. Heinz W. Siesler
1995.....	Dr. William G. Fateley
1996.....	Dr. Harvey S. Gold
1997.....	Dr. Svante Wold
1998.....	Dr. Franklin E. Barton, II
1999.....	Dr. Phil Williams
2000.....	Dr. A.M.C. Davies
2001.....	Dr. Yukihiro Ozaki
2002.....	Dr. Jerome J. Workman
2003.....	Dr. Howard Mark
2004.....	Emil W. Ciurczak
2005.....	Dr. Donald J. Dahm
2006.....	Prof. Gabor Patonay
2007.....	Prof. Graeme Batten
2008.....	Dr. David W. Hopkins
2009.....	Mr. Edward Stark
2010.....	Dr. James B. Reeves III
2011.....	Dr. Charles E. Miller
2012.....	Dr. Joseph T. Hodges
2013.....	Ms. Susan Foulk
2014.....	Mr. Mark Westerhaus

The recipients of the Eastern Analytical Symposium Award for Outstanding Achievements in Magnetic Resonance are:

1990.....	Dr. David Hoult
1991.....	Dr. John D. Roberts
1992.....	Dr. Richard R. Ernst

1993.....	Dr. James Shoolery
1994.....	Dr. Costantino S. Yannoni
1995.....	Dr. Ad Bax
1996.....	Dr. John Waugh
1997.....	Dr. Paul C. Lauterbur
1998.....	Dr. Michael F. Summers
1999.....	Dr. Frank A. L. Anet
2000.....	Dr. Hans Wolfgang Spiess
2001.....	Dr. Raymond Freeman
2002.....	Dr. Aksel Bothner-By
2003.....	Dr. Stephen Fesik
2004.....	Dr. Gerhard Wagner
2005.....	Dr. Ann McDermott
2006.....	Prof. Angela M. Gronenborn
2007.....	Prof. Robert Griffin
2008.....	Prof. Warren S. Warren
2009.....	Prof. Lyndon Emsley
2010.....	Prof. Cecil Dybowski
2011.....	Prof. Roderick Wasylshen
2012.....	Prof. Jeffrey Reimer
2013.....	Dr. Dennis A. Torchia
2014.....	Dr. Robert Tycko

The recipients of the Eastern Analytical Symposium Award for Outstanding Achievements in Chemometrics:

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1998.....	Dr. Edmund R. Malinowski
1999.....	Dr. Harald Martens
2000.....	Dr. Svante Wold
2001.....	Dr. Barry Wise
2002.....	Dr. Paul Geladi
2003.....	Dr. Paul J. Gemperline
2004.....	Dr. Rasmus Bro
2005.....	David M. Haaland
2006.....	Dr. Age K. Smilde
2007.....	Prof. Philip Hopke
2008.....	Prof. John F. MacGregor
2009.....	Prof. Roma Tauler
2010.....	Prof. Johan A. Westerhuis
2011.....	Dr. Beata Walczak
2012.....	Prof. Lutgarde Buydens
2013.....	Dr. Olav Martin Kvalheim
2014.....	Dr. Marcel Maeder

The recipient of the EAS Award for Outstanding Achievements in Mass Spectrometry:

2007.....	Prof. Graham Cooks
2008.....	Prof. Jack Henion
2009.....	Prof. Alan G. Marshall
2010.....	Prof. Richard M. Caprioli

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 2012..... Dr. Fred W. McLafferty
 2013..... Dr. Michael L. Gross
 2014..... Dr. Catherine Fenselau

**The recipient of the Eastern Analytical
 Symposium New Faculty Award in
 NMR Spectroscopy is:**

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 2013..... Prof. Patrick van der Wel
 2014..... Prof. Megan Macnaughtan

**The recipients of the New York Section
 of the Society for Applied Spectroscopy
 Gold Medal Award are:**

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 1953..... Dr. William W. Coblenz
 1954..... Dr. George R. Harrison
 1955..... Dr. Norman Wright
 1956..... Mr. Frank Twyman
 1957..... Dr. Herbert Friedman
 1958..... Dr. Wallace Brode
 1959..... Dr. Gerhard Herzberg
 1960..... Dr. George Buc and
 Dr. Frederick Strong, III
 1961..... Mr. Bourdon F. Scribner
 1962..... Dr. Mary Warga
 1963..... Dr. Earle K. Pyle
 1964..... Dr. Velmer A. Fassel
 1965..... Dr. Melvin G. Mellon
 1966..... Dr. Ralph A. Sawyer
 1967..... Mr. LaVerne S. Birks
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 1969..... Dr. Robert H. Bell
 1970..... Dr. John R. Ferraro
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 1973..... Dr. David N. Kendall
 1974..... Dr. Klaus Biemann
 1975..... Dr. George H. Morrison
 1976..... Dr. Marvin Margoshes
 1977..... Dr. Darwin L. Wood
 1978..... Dr. Bernard J. Bulkin
 1979..... Dr. N. J. Harrick
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 1981..... Dr. Ron Jenkins
 1982..... Dr. C. Comar N. Patel
 1983..... Dr. Abraham Savitzky
 1984..... Dr. Richard F. Jarrell
 1985..... Dr. Linda J. Cline Love
 1986..... Dr. Paul C. Lauterbur
 1987..... Dr. William G. Fateley
 1988..... Dr. Tuan Vo-Dinh

1989..... Dr. James D. Winefordner
 1990..... Dr. D. Bruce Chase
 1991..... Dr. Isiah M. Warner
 1992..... Dr. Jack L. Koenig
 1993..... Dr. Michael D. Morris
 1994..... Dr. Linda B. McGown
 1995..... Dr. Peter W. Griffiths
 1996..... Dr. Charles Wilkins
 1997..... Dr. Koichi Nishikida
 1998..... Dr. Alan G. Marshall
 1999..... Dr. Chieu D. Tran
 2000..... Dr. James Robinson
 2001..... Dr. Karl Norris
 2002..... Dr. Joel M. Harris
 2003..... Dr. Crana V. Bright
 2004..... Dr. Gary M. Hieftje
 2005..... Dr. Mary J. Wirth
 2006..... Dr. Ira W. Levin
 2007..... Dr. Paul Wilks
 2008..... Prof. John F. Rabolt
 2009..... Dr. Isao Noda
 2010..... Prof. Cecil Dybowski
 2011..... Dr. Gary Blanchard
 2012..... Prof. Richard Mendelson
 2013..... Prof. Stephen P. Cramer
 2014..... Dr. Laurence A. Nafie

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 Microchemical Society
 Benedetti-Pichler
 Memorial Award are:**

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 1967..... Dr. Felix L. Schneider
 1968..... Dr. W. Kirsten
 1969..... Dr. B. B. Cunningham
 1970..... Dr. Walter C. McCrone
 1971..... Dr. L. T. Skeggs
 1972..... Dr. L. C. Craig
 1973..... no award given
 1974..... Dr. E. Sawicki
 1975..... Dr. Petr Zuman
 1976..... Dr. T. S. Ma
 1977..... Dr. George H. Morrison
 1978..... Dr. Joseph Jordan
 1979..... Dr. A. Steyermark
 1980..... Dr. H. Alber
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 1982..... Dr. Peter F. Lott
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 1985..... Dr. Lockhart "Buck" Rogers
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1987..... Dr. David M. Hercules
 1988..... Dr. Richard F. Browner
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 1990..... Dr. Peter W. Carr
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 2012..... Prof. Luis A. Colon
 2013..... Dr. Mark A. Hayes
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2006..... Dr. John C. Russ
 2007..... Prof. Watt Webb
 2010..... Dr. Dale Newbury
 2011..... Dr. E. Neil Lewis
 2012..... Mr. Skip Palenik
 2014..... Dr. Alexandre Dazzi

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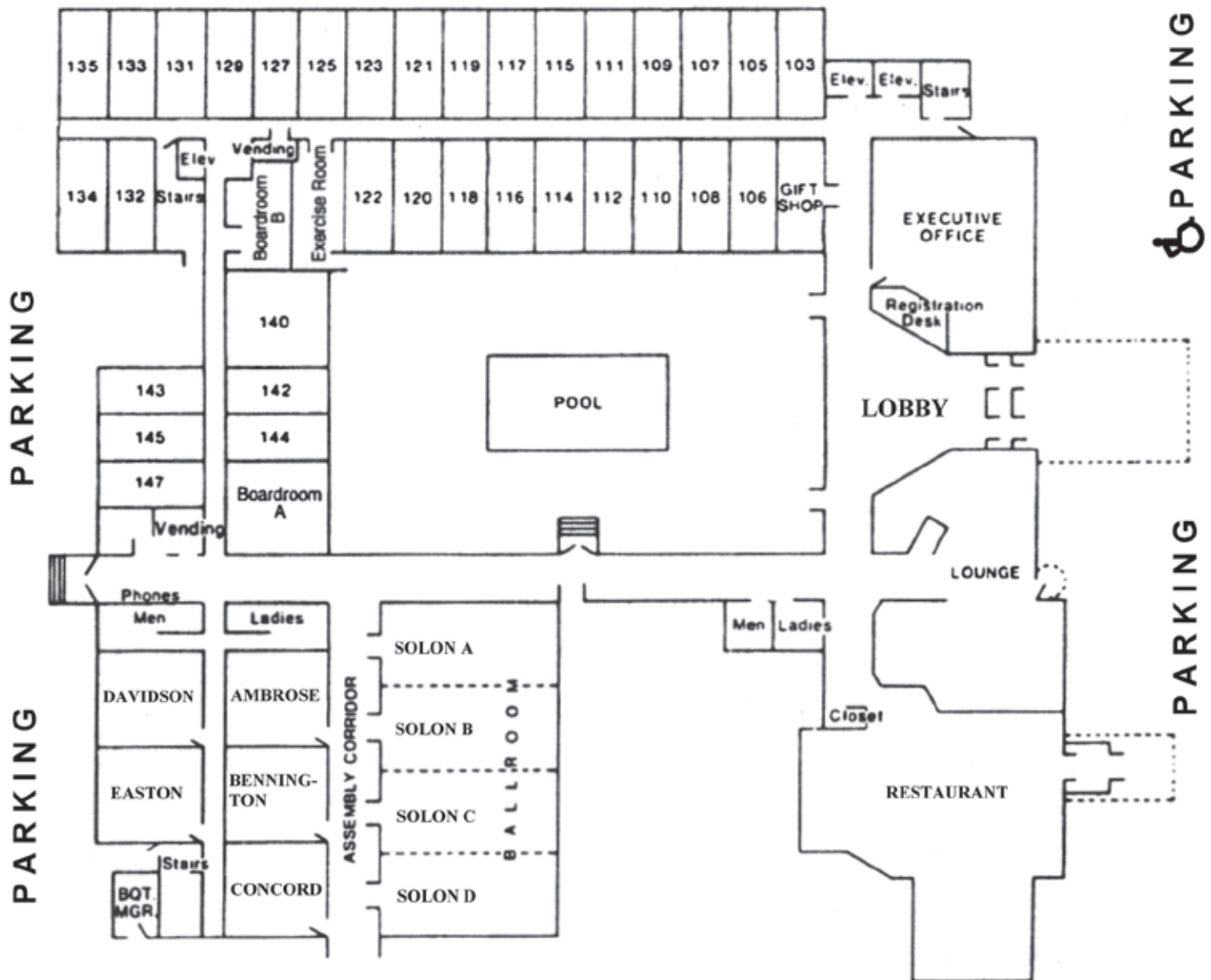
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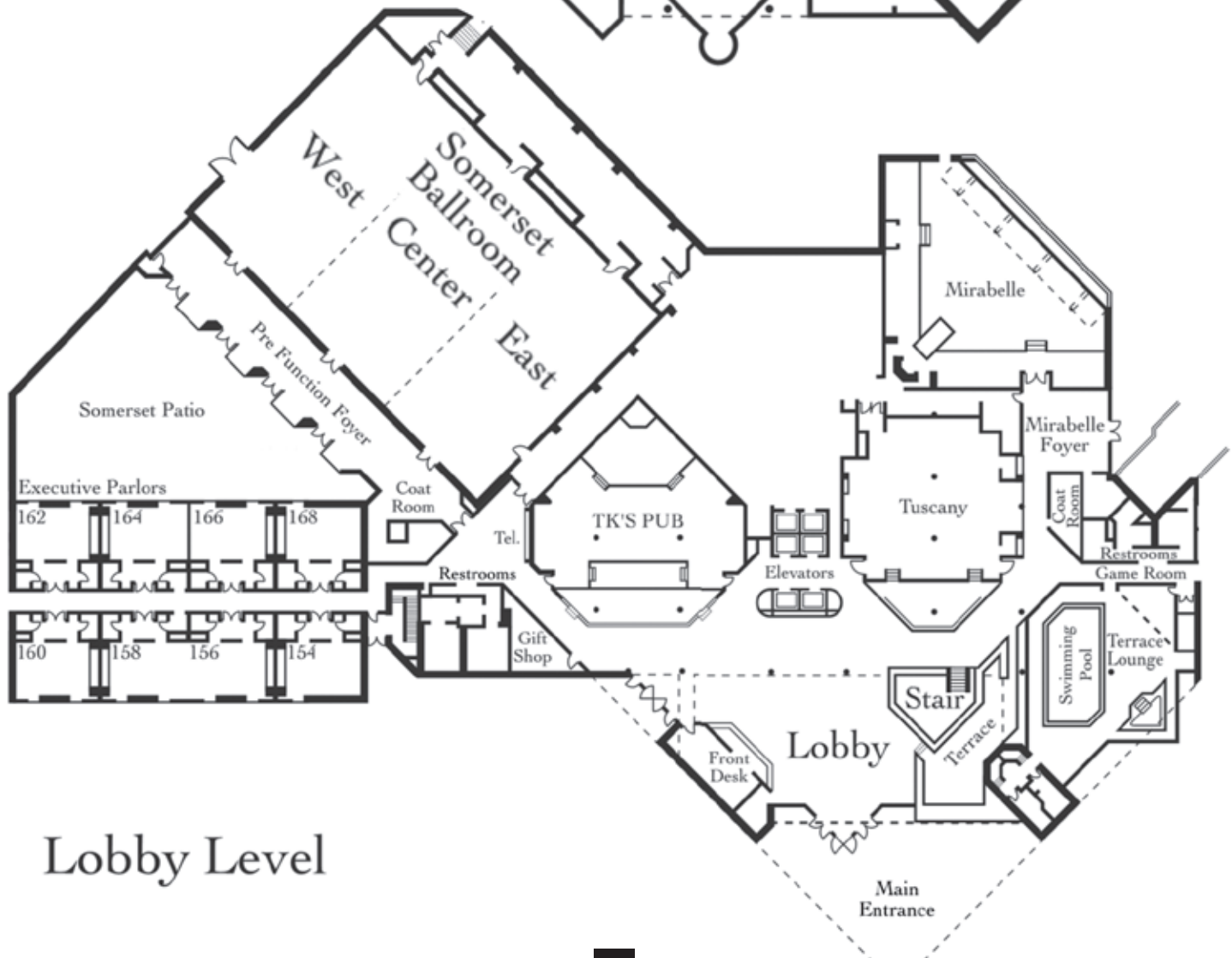
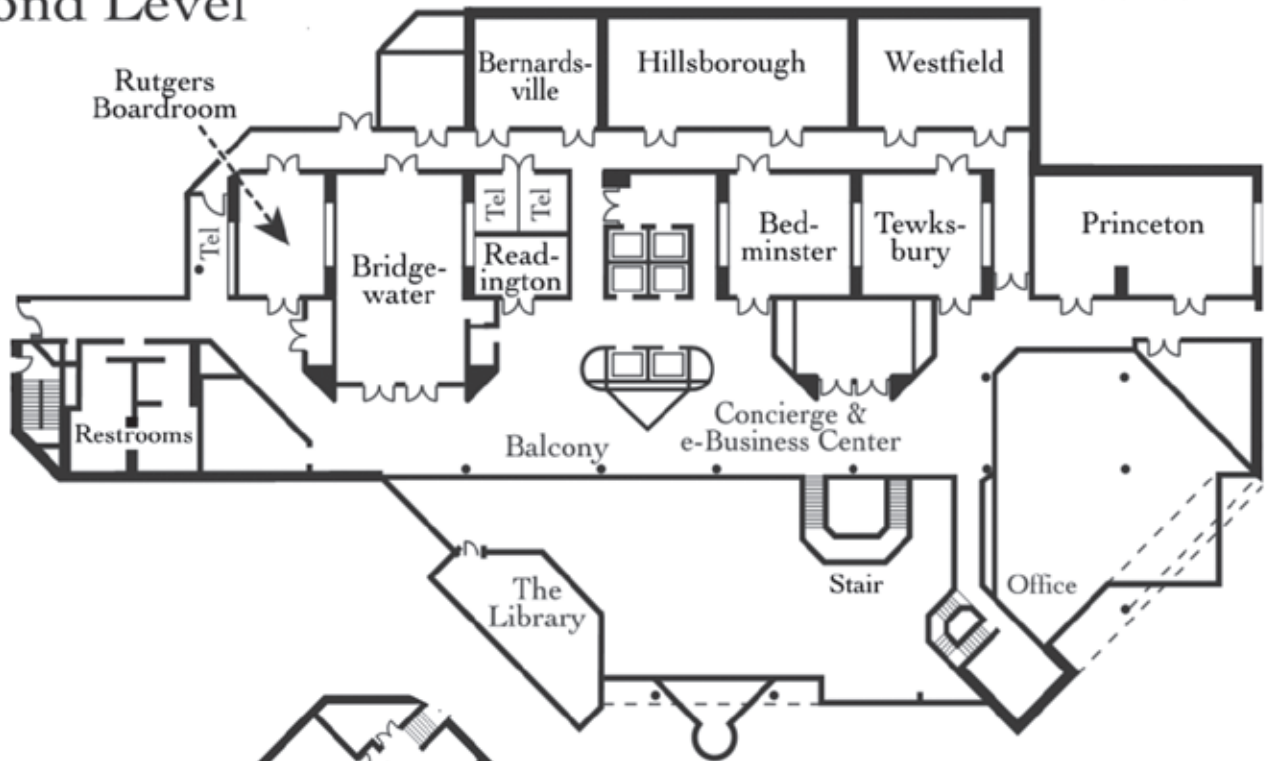
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FLOOR PLAN OF THE DoubleTree SOMERSET HOTEL

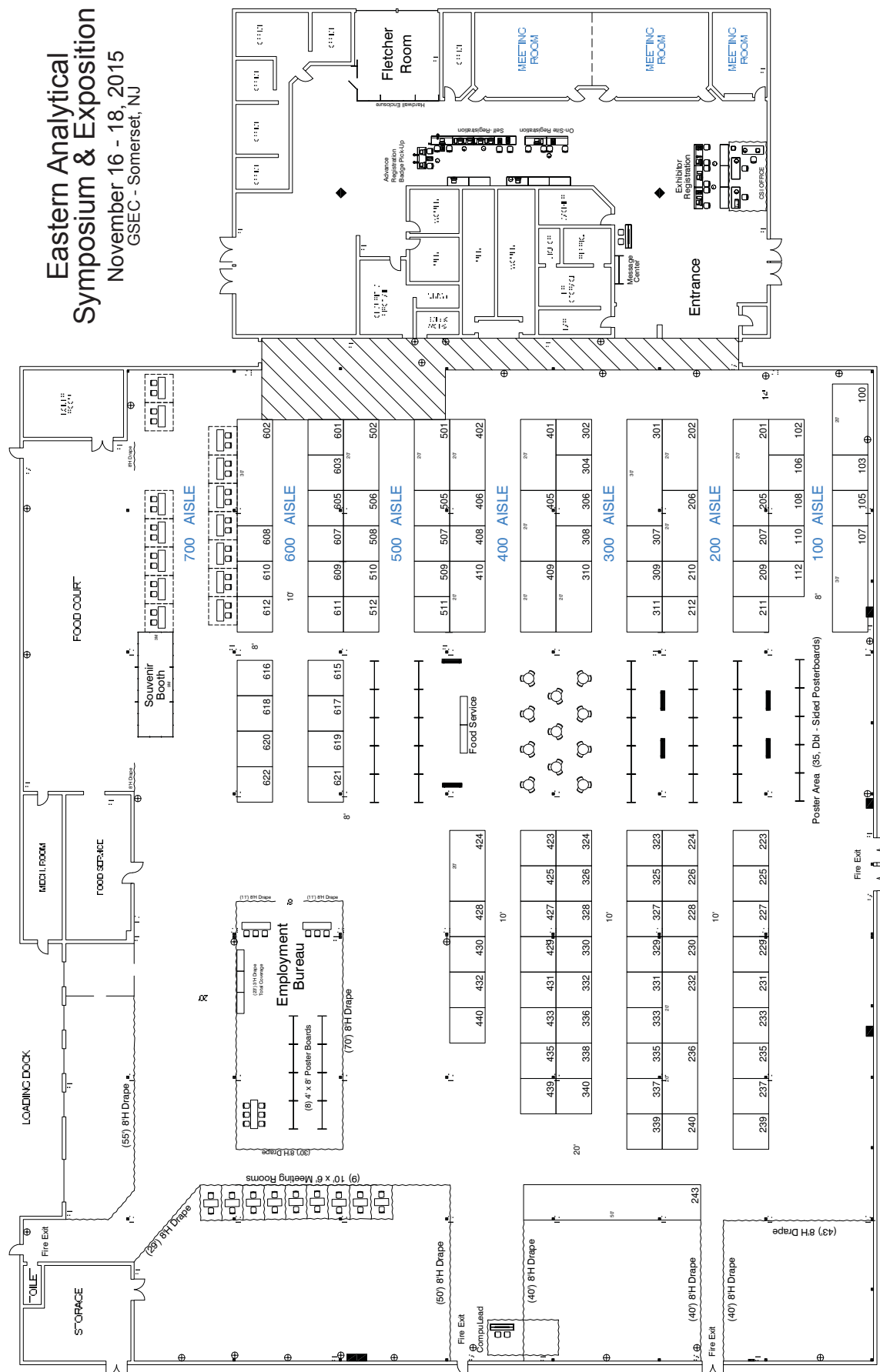
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Lobby Level

2015 Eastern Analytical Symposium & Exposition Floor Plan

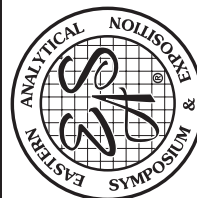
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- ▲ Quality/Regulatory/Compliance
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