



# Expand Your Analytical Horizons

2010 Eastern Analytical  
Symposium and Exposition

Garden State Exhibit Center  
Somerset, New Jersey

November 15-18, 2010

## Final Program

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# Message from the President of the Governing Board

November 15 - 18, 2010

**Dr. Julie A. Tinklenberg**  
**2010 EAS President**



Welcome to EAS 2010, I hope you are ready to Expand your Analytical Horizons. This year's conference is once again sure to enhance your knowledge and build your skills to have an immediate impact in your work. We are offering a variety of short courses, seminars, technical sessions and a new workshop format to help each participant make the most of their time spent at EAS.

I'd like to start with a big THANK YOU to all who are contributing to this year's program. We count on our speakers, instructors and exhibitors to build a conference that is cutting edge, yet grounded in the practice of good science. To complement our typically strong sessions in chromatography, spectroscopy, microscopy and pharmaceutical sciences, we have extended the program to include more novel topics being explored to help the end-user save time and money. We are also continuing to grow in some of the interest areas that were started in recent years including analytical methods in art conservation, forensic science and surface science. It is our intention to deliver the program that you need to further your career PLUS provide you with features that are of interest to you outside of your day-to-day job requirements. I recommend you take a look at the conferences-in-miniature portion on page 6 of this Program. This is a great way to look at sessions and courses that are being offered in a topical area, and should be your first stop to help you make the most of your week at EAS.

This year we are once again recognizing an accomplished list of award winners that are sure to provide very engaging sessions. Award sessions typically offer an extra advantage because they bring current leaders in the field together into the same room to present their research interests in a forum that is positive and well-focused. Topics presented and discussions that occur during these sessions help you bring back innovative ideas that can be applied within your own laboratory research.

I invite you to explore the outstanding exposition. This year, in addition, to all our returning exhibitors, we also have a number of new exhibitors this year. I would like to extend a welcome to all exhibitors and thank you for joining us this year. The exposition is a great way for you, the attendee, to build your skills, find out about the latest innovations, and get answers to your current questions by talking with experts in the technology. This year we will, once again, be offering light lunches in the Exhibit Hall, the return of the highly successful "Technology Tour" that debuted last year, and daily raffles for great prizes. The Exhibit Hall is the easiest and most economical way for your company to explore the latest and greatest technology available.

On behalf of the Governing Board, I would like to thank our sponsors for their generous support which allows us to offer a variety of programs. I would also like to thank you for your participation at EAS! Enjoy all we have to offer and "Expand your Analytical Horizons."

# 2010 EAS Corporate Sponsorship

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

## SPONSORS OF THE 2010 EAS AWARDS PROGRAM

EAS AWARD FOR  
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IN THE FIELDS OF  
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Corporate Sponsors actively participate in the Eastern Analytical Symposium and Exposition. There are numerous opportunities for corporate sponsorship and co-sponsorship of technical sessions, awards, and other activities at EAS. For more information, please contact the EAS Executive Secretary at [askeas@eas.org](mailto:askeas@eas.org)

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*The Eastern Analytical Symposium & Exposition is sponsored by the Analytical Division and the North Jersey and 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; and the Delaware Valley, New England, and New York Sections of the Society for Applied Spectroscopy.*

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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.

# 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 through Thursday

9:00 AM to NOON (Mon-Thurs)  
2:00 PM to 5:00 PM (Mon-Wed)  
1:00 PM to 4:00 PM (Thurs)

## Schedule

### Poster Sessions

Posters are displayed only on the day of the poster session

#### Sunday

No poster sessions

#### Monday & Tuesday

Poster Set-Up: 10:00-11:00 AM  
Posters on display: 11:00 AM-3:30 PM  
Authors Available: NOON-2:00 PM  
Posters Removed: 3:30-4:00 PM

#### Wednesday

Poster Set-Up: 10:00-11:00 AM  
Posters on display: 11:00 AM-2:00 PM  
Authors Available: NOON-2:00 PM  
Posters Removed: 2:00-3:00 PM

#### Thursday

No poster sessions

## Exposition

The Exposition is located in the Garden State Exhibit Center. A floor plan of the Exhibition is provided on page 75 of this Final Program.

## Exposition Schedule

#### Sunday

Open for exhibitor set-up only

#### Monday, Tuesday & Wednesday

Hours: 9:00 AM to 4:00 PM  
Free light lunch: 11:30 AM to 1:00 PM

#### Thursday

Exposition closed

## Employment Bureau

The Employment Bureau is located in the Garden State Exhibit Center at the end of Aisle 600.

## Employment Bureau Hours

#### Monday & Tuesday

9:00 AM to 4:00 PM

#### Wednesday

9:00 AM to 1:00 PM

#### Thursday

Employment Bureau closed

## EAS Short Courses

EAS Short Courses are held in the Somerset Holiday Inn, located across Davidson Avenue from the Garden State Exhibit Center.

#### Sunday through Thursday

8:30 AM to 5:00 PM

## Seminars

Seminars are held in the Doubletree Hotel, which is located behind the Garden State Exhibit Center.

#### Sunday

1:00 PM to 4:00 PM

#### Monday, Tuesday & Wednesday

10:00 AM to 3:30 PM

## Registration Hours

#### Sunday

Exhibitors –  
8:00 AM to 5:00 PM

All Others –  
3:00 PM to 5:00 PM

*Note: Special Registration Desk for Sunday Short Courses – Please report directly to EAS Short Course Office at the Holiday Inn*

#### Monday & Tuesday

7:30 AM to 5:00 PM

#### Wednesday

7:30 AM to 4:00 PM

#### Thursday

8:00 AM to 2:00 PM

## 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 2010 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.

## EAS Shuttle Service

EAS Shuttle Buses will run between the Garden State Exhibit Center and the Holiday Inn Monday-Thursday. 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 Fax line: 732-612-1123  
EAS e-mail: [askEAS@EAS.org](mailto:askEAS@EAS.org)

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# The 2010 Eastern Analytical Symposium Program

## *“Expanding Your Analytical Horizons”*

**Dr. Shirley Fischer-Drowos**  
2010 Program Chair



Welcome to EAS 2010! Another exciting and diverse program has been assembled for this 49th meeting. Several new sessions are being introduced in addition to providing updates and ongoing developments in traditional areas. From Art Conserva-

tion to Green Chemistry to Quality-by-Design, from Pharmaceuticals to Polymers, from Benchtop to Hand-held, from Innovations in Teaching to Managing Outsourcing, from Automation to Data Analysis, from Sample Preparation to Safety and Compliance, the applications and topics are varied and numerous, designed to expand your capabilities, your networks, and “Expand your Analytical Horizons;” our theme for this year.

Highlights of this year’s program include a special session dedicated to the memory of Connie Paralusz, a former president of EAS. A wide array of sessions pertinent to pharmaceuticals are presented ranging from dried blood spot analysis to working with complex formulations and increasing throughput. A multitude of separations topics are presented encompassing microfluidics, two-dimensional GC, HPLC, UPLC, HILIC, CE and CEC. This year, for the first time, we are offering several sessions on Green Chemistry. Synchrotron radiation, media preservation, and polymer deterioration are focal points of the cultural heritage sessions offered in conjunction with the New York Conservation Foundation. Surface science characterization of nanopar-

ticles, as well as, imaging and interfacial analysis are presented. Microscopy, both forensic and industrial, is also offered. Forensics is a hot topic with information about trace analyses and a new session from the Vidocq Society highlighting their experiences in solving cold cases. A broad spectrum of spectroscopy, including IR, Raman, and UV/Vis fill out the program. Magnetic resonance sessions, some with a spin on biological systems, are presented. Additionally, mass spectrometry with developments in the tandem arena, and applications to a variety of arenas using multiple configurations are offered.

In addition, there are six EAS award sessions honoring exemplary work in a number of areas. These include the prestigious Fields Award, covering multidisciplinary areas of analytical chemistry; as well as, awards representing chemometrics, magnetic resonance, mass spectrometry, near-infrared spectroscopy, and separation science. Also, the NYSAS Gold Medal, AMS Benedetti-Pichler, and NYMS Ernst Abbe award sessions are presented.

To complement the program, opportunities to advance skills via another venue exist through the substantive short course offerings that have been assembled. A comprehensive selection is available.

From just the sampling of topics listed here, the navigation of these many options is made easier through the conferences-in-miniature, which is provided in this Program for your convenience.

As you can see, there is a lot going on at EAS2010. Opportunities to learn and network abound. I look forward to your attendance and participation at EAS 2010 and another successful conference focused on “Expanding your Analytical Horizons”.

# 2010 EAS Conferences-in-Miniature

## ART CONSERVATION

### Technical Sessions

- Synchrotron Radiation for Cultural Heritage (11/15, AM, PM)
- Digital Media in Cultural Heritage: New Preservation Technologies (11/16, AM)
- Plastics and Synthetic Polymers in Cultural Heritage: Recent Advances in Identifying and Monitoring Deterioration (11/16, PM)
- Plastics, Acid Vapor: Historic and Contemporary Optical Media (11/17, PM)
- Applications of Hand-Held Spectrometers (11/18, AM)

### Short Course

- PLAstics-State of the Art Techniques Important in Cleaning their Surfaces (11/17 and 11/18)

## AUTOMATION/DATA ANALYSIS

### Technical Sessions

- New Developments of Automation within the Analytical Laboratory (11/15, AM)
- Poster Session: Diverse Solutions to Solve Analysis Problems (11/17)

### Short Courses

- Advanced Excel®: Write Your Own Functions and Macros (11/14)
- Chemometrics without Equations (11/14)
- Enhanced Productivity by Design in the Analytical Laboratory: Design of Experiments for Analytical Chemists (11/14)
- Laboratory Data Analysis Using Excel®: New Uses for a Familiar Tool (11/15)
- Data Analysis for Improved Productivity in the Analytical Laboratory (11/16)

## BIOANALYSIS

### Technical Sessions

- EAS Award for Outstanding Achievements in Magnetic Resonance, Honoring Cecil Dybowski (11/15, AM)
- Tandem Mass Spectrometry (11/15, AM)
- UHPLC and Alternatives: Continued Developments (11/15, AM)
- Poster Session: Bioanalytical Method Development (11/15)
- EAS Award for Outstanding Achievements in Mass Spectrometry, Honoring Richard M. Caprioli (11/15, PM)
- Magnetic Resonance of Biological Systems (11/15, PM)
- Mass Spectrometry: A Tool for Analysis of Biologics, Pharmaceutical, Environmental Samples (11/16, PM)
- Chromatographic Method Development: Motion, Speed and Velocity (11/17, PM)
- Bioanalytical Tools and Sample Preparation Methodologies (11/18, AM)
- Vibrational Spectroscopy in the Biomedical Field (11/18, PM)

### Short Courses

- Modern HPLC for DMPK, Bioanalytical, and Analytical Development Scientists: Essentials, Best Practices, and Recent Developments (11/15)
- The Role of Chromatography in the Analysis and Characterization of Protein Therapeutic Drugs (11/16)
- The Analysis and Characterization of Protein Therapeutic Drugs (11/16 and 11/17)

## CHEMOMETRICS

### Technical Sessions

- Chemometrics for Chemical Sensing (11/17, AM)
- EAS Award for Outstanding Achievements in Chemometrics, Honoring Johan A. Westerhuis (11/17, PM)
- Chemometrics - Methods, Calibration Transfer and Applications (11/18, AM)

### Short Course

- Chemometrics without Equations (11/14)

## CHROMATOGRAPHY

- See *Separation Sciences*

## EDUCATION

### Technical Sessions

- Poster Session: Science Education: Investing in the Future (11/16)
- Innovations in Teaching Analytical Chemistry (11/17, PM)

### Short Courses

- Advanced Excel®: Write Your Own Functions and Macros (11/14)
- Laboratory Data Analysis Using Excel®: New Uses for a Familiar Tool (11/15)
- Putting Organic Chemistry into Perspective - A Review of Sophomore Organic Chemistry (11/15 and 11/16)
- How to Create a More Effective Lab Safety Program (11/16)
- Authoring High Quality Technical Reports (11/18)

### Seminars

- Teaching Green Chemistry in High School (11/14, PM)
- What Does an Analytical Chemist Do in Industry (11/15)
- Analytical Chemistry and Forensic Science (11/16)
- Evolution of Industrial Careers for Chemists: Diversity, Technology
- Advancements and Job Security (11/17)

## ENVIRONMENTAL

### Technical Sessions

- Green Science: How Analytical Chemists Do It (11/15, AM, PM)
- Poster Session: Environmental Analysis: Clean it Up; Green it Up: Multiple Approaches to Environmental Analysis of Materials (11/15)
- Food Analysis (11/16, AM)
- Mass Spectrometry: A Tool for Analysis of Biologics, Pharmaceutical, and Environmental Samples (11/16, PM)
- Poster Session: Diverse Solutions to Solve Analysis Problems (11/17)
- New Horizons in *In-Situ* Remote Sensing (11/17, AM)

### Short Course

- Sample Preparation: The Chemistry Behind the Techniques (11/16)

### Seminar

- Teaching Green Chemistry in High School (11/14; PM)

## FORENSIC ANALYSIS

### Technical Sessions

- Solving Cold Cases: Experiences from The Vidocq Society (11/16, AM)
- Trace Analysis in Forensic Chemistry (11/16, PM)
- A "Trip" Through the Forensic Realm (11/17, AM)
- Forensic Microscopy IV "What is it? Who does it?" (11/17, PM)

### Seminar

- Analytical Chemistry and Forensic Science (11/16)

## GAS CHROMATOGRAPHY

### Technical Sessions

- Toward Comprehensive Two-Dimensional Gas Chromatography Separations (11/15, PM)
- Gas Chromatography: An Old Friend with New Tricks (11/16, AM)
- Poster Session: Problem Solving Through Better Chromatography (11/16)

### Short Course

- Practical Gas Chromatography: Packed and Capillary Columns (11/14 and 11/15)

## INFRARED SPECTROSCOPY

### Technical Sessions

- Good Vibrations: Finding Out What is in Material with IR and Raman Spectroscopy (11/15, AM)



**INFRARED SPECTROSCOPY (continued)**

- New Advances in Instrumentation and Pharmaceutical Analysis (11/16, AM)
- Counterfeit Pharmaceutical Detection Using Vibrational Spectroscopy (11/16, AM)
- EAS Award for Outstanding Achievements in NIR, Honoring James B. Reeves (11/17, AM)
- Quantitative Vibrational Analysis, Remembering Connie Paralusz (11/17, AM)
- Near-Infrared Spectroscopy (11/17, PM)
- Applications of Hand-Held Spectrometers (11/18, AM)
- Vibrational Spectroscopy in the Biomedical Field (11/18, PM)

**Short Courses**

- Infrared Spectral (IR) Interpretation I (11/15)
- Infrared Spectral (IR) Interpretation II (11/16)
- Infrared Spectral (IR) Interpretation I and II (11/15 and 11/16)
- An Introduction to Near-Infrared Spectroscopy: Applications in the Pharmaceutical Industry (11/16)

**LABORATORY MANAGEMENT****Technical Sessions**

- What Does it Take to Run a Laboratory: Current Issues (11/16; PM)
- Managing Outsourcing (11/18, PM)

**Short Courses**

- Effective Laboratory Audits and Inspections (11/14)
- Analytical Laboratory Techniques for Pharmaceutical Chemists (11/15)
- How to Create a More Effective Lab Safety Program (11/16)
- Critical cGMP and ICH Guidances for Analytical Laboratories (11/16)

**LIQUID CHROMATOGRAPHY****Technical Sessions**

- UHPLC and Alternatives: Continued Developments (11/15, AM)
- HPLC Retention Mechanism (11/16, AM)
- Poster Session: Problem Solving Through Better Chromatography (11/16)
- Poster Session: Analytical Problem Solving with HPLC Applications (11/16)
- Poster Session: HPLC: Columns for Specific HPLC Analysis (11/16)
- EAS Award for Outstanding Achievements in Separation Science, Honoring Brian A. Bidlingmeyer (11/16, PM)
- Innovations in Chromatographic Stationary Phases: Solid Core to Ion Exchange (11/17, AM)
- Fast HPLC Analysis (11/18, AM)

**Short Courses**

- Modern HPLC Method Development in Pharmaceutical Analysis (11/14)
- LC/MS: Theory, Instruments, and Applications (11/14 and 11/15)
- Modern HPLC for DMPK, Bioanalytical, and Analytical Development Scientists: Essentials, Best Practices, and Recent Developments (11/15)
- How to Develop Validated HPLC Methods: Rational Design with Practical
- Statistics and Troubleshooting (11/17 and 11/18)
- Theory and Practice of Ultra High-Pressure Liquid Chromatography (UHPLC) (11/18)

**MASS SPECTROMETRY****Technical Sessions**

- Tandem Mass Spectrometry (11/15, AM)
- EAS Award for Outstanding Achievements in Mass Spectrometry, Honoring Richard M. Caprioli (11/15, PM)
- Poster Session: Challenges and Solutions using Mass Spectroscopy (11/15)
- EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry, Honoring Richard D. Smith (11/16, AM)
- Mass Spectrometry: A Tool for Analysis of Biologics, Pharmaceutical, and Environmental Samples (11/16, PM)
- Vibration and Spins: Spectroscopic Analysis of Materials (11/17, AM)

**Short Courses**

- LC/MS: Theory, Instruments, and Applications (11/14 and 11/15)
- Interpretation of Mass Spectra with Practical Solutions to Problems (11/16)

**MASS SPECTROMETRY (continued)**

- Impurities and Degradants Identification: Strategies for Structure Elucidation via Chromatography, MS and NMR (11/17)
- Application of Mass Spectrometry for Characterizing and Profiling Impurities/Degradation Products and Potential Genotoxic Impurities of Drug Substances and Drug Products (11/18)

**MICROSCOPY****Technical Sessions**

- Forensic Microscopy IV "What is it? Who does it?" (11/17, PM)
- Industrial Microscopy (11/18, AM)
- New York Microscopical Society Ernst Abbe Award, Honoring Dale Newbury (11/18, PM)

**NMR SPECTROSCOPY****Technical Sessions**

- EAS Award for Outstanding Achievements in Magnetic Resonance, Honoring Cecil Dybowski (11/15, AM)
- Magnetic Resonance of Biological Systems (11/15, PM)
- Vibration and Spins: Spectroscopic Analysis of Materials (11/17, AM)
- New York Section of the Society for Applied Spectroscopy Gold Medal Award, Honoring Cecil Dybowski (11/17, PM)

**Short Course**

- Impurity and Degradant Identification: Strategies for Structure Elucidation via Chromatography, MS and NMR (11/17)

**PHARMACEUTICAL ANALYSIS****Technical Sessions**

- Dried Blood Spot Analysis in Pharmaceutical Discovery and Development (11/15, AM)
- Good Vibrations: Finding Out What is in Material with IR and Raman Spectroscopy (11/15, AM)
- Poster Session: New Trends in Hyphenated Spectroscopy (11/15)
- Poster Session: Challenges and Solutions using Mass Spectroscopy (11/15)
- Increasing Throughput in Ligand Binding Assays used to Enable Therapeutic Programs (11/15, PM)
- PAT Concepts and Applications for Pharmaceutical Products (11/15, PM)
- New Advances in Instrumentation and Pharmaceutical Analysis (11/16, AM)
- Counterfeit Pharmaceutical Detection using Vibrational Spectroscopy (11/16, AM)
- Mass Spectrometry: A Tool for Analysis of Biologics, Pharmaceutical, and Environmental Samples (11/16, PM)
- Quality-by-Design Approach to Analytical Development (11/16, PM)
- Poster Session: New Advances in Pharmaceutical Analysis (11/17)
- Electrochemistry in Drug Development, Design, and Testing (11/17, PM)
- Near-Infrared Spectroscopy (11/17, PM)
- Analytical Challenges in Pharmaceutical Analysis - Working with Products with Complex Formulations (11/18, AM)
- Dissolution Applications in Pharmaceutical Development (11/18, PM)
- Improving Pharmaceutical Properties, Formulations and Support (11/18, PM)
- Managing Outsourcing (11/18, PM)

**Short Courses**

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

- Physical Characterization and Analytical Test of Pharmaceutical Solids (11/14)
- Modern HPLC for DMPK, Bioanalytical, and Analytical Development Scientists: Essentials, Best Practices, and Recent Developments (11/15)
- The Chemistry of Drug Degradation (11/15)
- Drug Development Process for Chemists (11/16)
- The Role of Chromatography in the Analysis and Characterization of Protein Therapeutic Drugs (11/16)
- The Analysis and Characterization of Protein Therapeutic Drugs (11/16 and 11/17)
- Leachables and Extractables in Pharmaceutical Development (11/17)
- Impurity and Degradant Identification: Strategies for Structure Elucidation via Chromatography, MS and NMR (11/17)
- Application of Mass Spectrometry for Characterizing and Profiling Impurities/Degradation Products and Potential Genotoxic Impurities of Drug Substances and Drug Products (11/18)

**PHARMACEUTICAL ANALYSIS (continued)**

- Dissolution: A Rational Approach to Developing and Validating Methods for a Variety of Purposes (11/18)

**POLYMERS/PLASTICS****Technical Sessions**

- Poster Session: New Trends in Hyphenated Spectroscopy (11/15)
- Advanced Polymer Characterization Techniques (11/15, PM)
- Plastics and Synthetic Polymers in Cultural Heritage: Recent Advances in Identifying and Monitoring Deterioration (11/16, PM)
- Quantitative Vibrational Analysis, Remembering Connie Paralusz (11/17, AM)
- Plastics, Acid Vapor: Historic and Contemporary Optical Media (11/17, PM)

**Short Course**

- PLAstics-State of the Art Techniques Important in Cleaning their Surfaces (11/17 and 11/18)

**RAMAN SPECTROSCOPY****Technical Sessions**

- Good Vibrations: Finding Out What is in Material with IR and Raman Spectroscopy (11/15, AM)
- Raman Spectroscopy: From the Laboratory to the Process Line (11/16, PM)
- Counterfeit Pharmaceutical Detection Using Vibrational Spectroscopy (11/16, AM)
- Quantitative Vibrational Analysis, Remembering Connie Paralusz (11/17, AM)
- Applications of Hand-Held Spectrometers (11/18, AM)

**Short Course**

- Practical Introduction to Raman Spectroscopy (11/18)

**SAFETY AND COMPLIANCE****Short Course**

- How to Create a More Effective Lab Safety Program (11/16)

**SAMPLE PREPARATION****Technical Sessions**

- Poster Session: Environmental Analysis: Clean it Up; Green it Up: Multiple Approaches to Environmental Analysis of Materials (11/15)
- Poster Session: Sample Preparation Techniques: Get it Right Before You Get it Wrong (11/17)
- A Variety of Sample Preparation in Today's Laboratory (11/18, AM)
- Bioanalytical Tools and Sample Preparation Methodology (11/18, AM)

**Short Course**

- Sample Preparation: The Chemistry Behind the Techniques (11/16)

**SEPARATION SCIENCES****Technical Sessions**

- Microfluidics: Current State, Applications and Future Directions (11/15, AM)
- UHPLC and Alternatives: Continued Developments (11/15, AM)
- High Performance Chromatography Specialties: HILIC, CE, CEC (11/15, PM)
- Toward Comprehensive Two-Dimensional Gas Chromatography Separations (11/15, PM)
- HPLC Retention Mechanism (11/16, AM)
- Gas Chromatography: An Old Friend with New Tricks (11/16, AM)
- Poster Session: Problem Solving Through Better Chromatography (11/16)
- Poster Session: Analytical Problem Solving with HPLC Applications (11/16)
- Poster Session: HPLC: Columns for Specific HPLC Analysis (11/16)
- EAS Award for Outstanding Achievements in Separation Science, Honoring Brian A. Bidlingmeyer (11/16, PM)
- Innovations in Chromatographic Stationary Phases: Solid Core to Ion Exchange (11/17, AM)
- Poster Session: Diverse Solutions to Solve Analysis Problems (11/17)
- Chromatographic Method Development: Motion, Speed and Velocity (11/17, PM)
- Fast HPLC Analysis (11/18, AM)
- Supercritical Fluid Chromatography: Current Progress (11/18, PM)

**SEPARATION SCIENCES (continued)****Short Courses**

- Modern HPLC Method Development in Pharmaceutical Analysis (11/14)
- LC/MS: Theory, Instruments, and Applications (11/14 and 11/15)
- Practical Gas Chromatography: Packed and Capillary Columns (11/14 and 11/15)
- Modern HPLC for DMPK, Bioanalytical, and Analytical Development Scientists: Essentials, Best Practices, and Recent Developments (11/15)
- The Role of Chromatography in the Analysis and Characterization of Protein Therapeutic Drugs (11/16)
- The Analysis and Characterization of Protein Therapeutic Drugs (11/16 and 11/17)
- Practical Headspace Gas Chromatography (11/17)
- How to Develop Validated HPLC Methods: Rational Design with Practical Statistics and Troubleshooting (11/17 and 11/18)
- Quantitative Analysis for Chromatographers (11/17 and 11/18)
- Troubleshooting Chromatographic Systems (11/17 and 11/18)
- Theory and Practice of Ultra High-Pressure Liquid Chromatography (UHPLC) (11/18)

**SPECTROSCOPY****Technical Sessions**

- Good Vibrations: Finding Out What is in Material with IR and Raman Spectroscopy (11/15, AM)
- Poster Session: New Trends in Hyphenated Spectroscopy (11/15)
- New Advances in Instrumentation and Pharmaceutical Analysis (11/16, AM)
- Counterfeit Pharmaceutical Detection Using Vibrational Spectroscopy (11/16, AM)
- Raman Spectroscopy: From the Laboratory to the Process Line (11/16, PM)
- Poster Session: Diverse Solutions to Solve Analysis Problems (11/17)
- EAS Award for Outstanding Achievements in NIR, Honoring James B. Reeves (11/17, AM)
- Quantitative Vibrational Analysis, Remembering Connie Paralusz (11/17, AM)
- Vibration and Spins: Spectroscopic Analysis of Materials (11/17, AM)
- New York Section of the Society for Applied Spectroscopy Gold Medal Award, Honoring Cecil Dybowski (11/17, PM)
- Near-Infrared Spectroscopy (11/17, PM)
- American Microchemical Society Benedetti-Pichler Award, Honoring Joel M. Harris (11/18 AM)
- Applications of Hand-Held Spectrometers (11/18, AM)
- Vibrational Spectroscopy in the Biomedical Field (11/18, PM)

**Short Courses**

- Infrared Spectral (IR) Interpretation I (11/15)
- Infrared Spectral (IR) Interpretation II (11/16)
- Infrared Spectral (IR) Interpretation I and II (11/15 and 11/16)
- Introduction to Near-Infrared Spectroscopy: Applications in the Pharmaceutical Industry (11/16)
- Practical Introduction to Raman Spectroscopy (11/18)

**SURFACE ANALYSIS****Technical Sessions**

- Imaging Techniques in Surface and Interface Analysis (11/16, AM)
- Advanced Materials and Nanoparticles Characterization (11/17, AM)
- Chemical Reactions at Surfaces (11/16, PM)

# Technical Program

## 2010 Eastern Analytical Symposium & Exposition

### Monday Morning, November 15, 2010

#### EAS Award for Outstanding Achievements in Magnetic Resonance

Honoring Cecil Dybowski, University of Delaware

Sponsored by Bruker BioSpin and New Era Enterprises

Chair: Anita Brandolini, Ramapo College of New Jersey

#### Ballroom East

- 9:00 1 Five Decades of Dipolar Couplings in Soft Matter, Edward T. Samulski, University of North Carolina-Chapel Hill
- 9:25 2 Prospects for Greatly Enhancing NMR Sensitivity, Jeffrey A. Reimer, University of California-Berkeley
- 9:50 3 NMR Studies of Enhanced Nuclear Polarization in InP, Joel B. Miller, Christopher A. Klug, Karen L. Sauer, James P. Yesinowski, Naval Research Laboratory
- 10:15 Break
- 10:35 4 Sodium-23 MR Techniques: Biomedical Applications, Navin Bansal, University of Indiana
- 11:00 5 Solid-State NMR Studies of Protein Assemblies, Tatyana Polenova, University of Delaware
- 11:25 Presentation of the EAS Award for Outstanding Achievements in Magnetic Resonance
- 11:30 6 Solving Problems with Magnetic Resonance: Applications and Fundamental Developments, Cecil Dybowski, University of Delaware

#### Synchrotron Radiation for Cultural Heritage I

Organized in cooperation with New York Conservation Foundation

Chair: Hannelore Roemich, NYU Institute of Fine Arts Conservation Center

#### Tewksbury

- 9:00 7 Beyond the Surface: Analysis of Cracked Archaeological Glass, Hannelore Roemich, NYU Institute of Fine Arts Conservation Center, Franco Zanini, Sincrotrone Trieste, Katrin Wittstadt, Fraunhofer ISC, Carola Mueller-Weinitschke, Dombauverwaltung
- 9:30 8 Rust, Nails, Armors and X-Rays: Examples of Studies about Corrosion and Provenance of Archaeological Iron Objects, Philippe Dillmann, CNRS
- 10:00 9 Alteration of Glass, Inks and Pigments Studied by Means of Synchrotron Radiation Based Methods, Koen Janssens, Geert Van Der Snickt, Letizia Monico, Matthias Alfeld, Simone Cagno, Gert Nuyts, University of Antwerp, Joris Dik, Peter Reishig, Delft University of Technology, Marine Cotte, Lucas Helfen, European Synchrotron Radiation Facility
- 10:30 Break
- 10:50 10 Sound at the Speed of Light: Non-Destructive Structural Analysis of Historical Musical Instruments with Synchrotron Radiation, Franco Zanini, Sincrotrone

Trieste, Diego Dreossi, Nicola Sodini, Emanuele Marconi, Culturali e Paesaggistici della Lombardia

- 11:20 11 Recent Results and Perspectives for Synchrotron-Based Research on Archaeological and Historical Materials. Development of the IPANEMA Research Platform at SOLEIL, Loïc Bertrand, Marie-Angélique Languille, Serge Cohen, Laurianne Robinet, IPANEMA

#### Tandem Mass Spectrometry

Chair: Barbara S. Larsen, DuPont

#### Ballroom West

- 9:00 12 MALDI TOF/TOF Mass Spectrometry for Rapid Structural Analysis of Biomolecules, Plamen A Demirev, Johns Hopkins University
- 9:30 13 Total Solvent-Free Analysis, Charge Remote Fragmentation, and Structures of Highly Charged Laserspray Ions using IMS/MS/MS, Sarah Trimpin, Wayne State University
- 10:00 14 Development of a LC/MS/MS Method for Determining VX Concentration from DAAMS Air Sampling Tubes, Ronald A. Evans, Wendy L. Smith, US Army ECBS
- 10:30 Break
- 10:50 15 Application of LTQ/Orbitrap MS to Small Molecule Structure Elucidation, Bogdan Szostek, DuPont
- 11:20 16 GC/Q/TOF: Tandem MS for Target, Non-Target and Unknown Compounds, Terry Sheehan, Agilent Technologies

#### Green Science: How Analytical Chemists Do It, Session I

Chairs: Douglas Raynie, South Dakota State University and Alvin Bober

#### Westfield

- 9:00 17 Green Analytical Chemistry, Jennifer L. Young, ACS Green Chemistry Institute
- 9:30 18 Microflow UHPLC: Sensitivity and Performance with a Fraction of the Solvent, David W. Neyer, Steve Hobbs, Phillip H. Paul, Don W. Arnold, Eksigent Technologies
- 10:00 19 Greener Chelating Agents for Analytical Titrations, Douglas Raynie, Ganesh Degam, Brad Anderson, Kalli J. Odegaard, South Dakota State University
- 10:30 Break
- 10:50 20 The Green Solvent - Supercritical Carbon Dioxide - Not Just for Extractions Anymore, Rolf Schlake, Applied Separations
- 11:20 21 Alternative Recycling of Post-Consumer PLA Waste at a Molecular Level, Richard Gurney, Jennifer Boice, Jessica Haffner, Cassandra Cacoq, Amanda Taylor, Nancy Lee, Simmons College

### Increasing Throughput in Ligand Binding Assays used to Enable Therapeutic Programs

Chair: **Johanna R. Mora, Bristol-Myers Squibb**

*Bridgewater*

- 9:00 22 Bead Array-Based Detection - Theory and Experiment, Jason A. Thompson, Haim H. Bau, University of Pennsylvania
- 9:30 23 The Validation of a Method for the Analysis of Meplizumab using the Gyros Platform, Lee Abberley, Matthew Szapacs, Charles S. Hottenstein, David Citerone, GlaxoSmithKline
- 10:00 24 Multiplexed Antibody Isotyping Assays to Characterize the Immune Response to Vaccines, Mark T. Esser, Katie Matys, Greg Kulnis, Paul Liberator, PPD Vaccines and Biologics Center of Excellence
- 10:30 Break
- 10:50 25 Automation of Biomarker Immunoassays, Allen (Oi) Wong, Yan J Zhang, Paul Rhyne, Bristol-Myers Squibb
- 11:20 Round Table Discussion, Johanna R. Mora, Bristol-Myers Squibb

### Dried Blood Spot Analysis in Pharmaceutical Discovery and Development

Sponsored by **Covance and GE HealthCare**

Chair: **Qin Ji, Bristol-Myers Squibb**

*Hillsborough*

- 9:00 26 Advances in Direct Analysis Techniques for Dried Blood Spots, Jonathan Kehler, GlaxoSmithKline
- 9:30 27 Exploring the Feasibility of Applying Dried Blood Spots (DBS) as an Alternative Matrix to Support Drug Metabolism Studies in Drug Development, Lijuan Wang, Zhaopie Zeng, Sanofi-Aventis
- 10:00 28 Practical Aspects of Dried Blood Spots (DBS) Bioanalysis: Importance of Assay Sensitivity, Fumin Li, Covance
- 10:30 Break
- 10:50 29 Bioanalytical Strategies Utilizing Dried Blood Spot Sampling and LC/MS/MS in Drug Discovery, Celia J. Darienzo, Bristol-Myers Squibb
- 11:20 30 A Sample Dilution Strategy for DBS LC/MS/MS Assays, Guowen Liu, Bristol-Myers Squibb

### New Developments of Automation within the Analytical Laboratory

Chair: **Elizabeth Galella, Bristol-Myers Squibb**

*Bedminster*

- 9:00 31 Using Automation to Enable Real-Time Release: A Near-Infrared Case Study, Boyong Wan, Gary McGeorge, Douglas Both, Bristol-Myers Squibb
- 9:40 32 Development of the Hatch Cetus 840m: A Novel Automated Dissolution System Designed to Support Research Scientists in Their Quest to Improve Formulation Selection, Christopher T. John, Christina M. Bacci, Merck
- 10:20 Break

- 10:40 33 Automated Forced Degradation in the ARD Laboratory: Current uses and Future Direction, Adriene Malsbury, Anthony Alexander, Thomas F. Hooker, Scott Jennings, Bristol-Myers Squibb
- 11:20 34 Automating the Dissolution Laboratory; a Case Study, Anthony J. Iarriccio, Novartis

### Good Vibrations: Finding Out What is in Materials with IR and Raman Spectroscopies

Chair: **Susanne Moyer, Agilent**

*Princeton*

- 9:00 35 Dynamic Infra-Red Spectroscopy of Electrically Conductive Polymers, Frank S. Weston, Varian, Georgia A. Arbuckle-Keil, Rutgers University, Isao Noda, Procter & Gamble
- 9:20 36 LC/IR Analysis to Characterize Polymeric Excipients for Lot-to-Lot Variations, Degradation and Stability in Pharmaceutical Formulation, Ming Zhou, Bill Carson, Sidney Bourne, David Dunn, Tom Kearney, Spectra Analysis Instruments
- 9:40 37 Benefits of using Diamond Windows for IR Transmission Flow Cells, Milan Milosevic, Violet Milosevic, Durasens
- 10:00 38 Portable PPM Level Biodiesel Detection, Dylan Wilks, Sandra Rintoul, Wilks Enterprise
- 10:20 Break
- 10:40 39 Pharmaceutical Analysis from Start to Finish by Raman Spectroscopy, Stuart Farquharson, Michael Donahue, Michael Patient, Wayne Smith, Carl Brouillette, Real-Time Analyzers
- 11:00 40 Routine Flexible Analysis using Raman Spectroscopy, Paulette Guillory-Gardner, Thermo Fisher Scientific
- 11:20 41 Developing a Method for Monitoring Content Uniformity using a Transmission Raman Spectrometer, Eunah Lee, Fran Adar, Sergey Mamedov, Andrew Whitley, HORIBA Scientific
- 11:40 42 High-Throughput Trace Analysis using SERS-Active Microplates, Stuart Farquharson, Real-Time Analyzers, David Drapcho, Digilab

### Microfluidics: Current State, Applications and Future Directions

Sponsored by **the Chromatography Forum of Delaware Valley**

Chair: **Mary Ellen McNally, DuPont**

*Bernardsville*

- 9:00 43 Comparison of the Dual-Opposite-Injection Separation Mode in Capillary and Microchip Electrophoresis, Joe P. Foley, Donna M. Blackney Beckett, Drexel University
- 9:40 44 Application of Microfabricated HPLC Technologies to Complex Sample Analysis, Don W. Arnold, Nicole Hebert, Bryce Young, Remco van Soest, David Neyer, Eksigent
- 10:20 Break
- 10:40 45 Microfluidics: Current State, Applications and Future Directions in Chemical Analysis, Gerald Rozing, Karsten K. Kraiczek, Fritz Bek, Kevin Killeen, Hongfeng Yin, Maggie Bynum, Reid Brennen, Tom van de Goor, Agilent Technologies

- 11:20 46 Microfluidics: The Killer Applications of Today and Tomorrow, Wyatt Vreeland, National Institute of Standards and Technology

#### UHPLC and Alternatives: Continued Developments

Chair: Mike Huang, Johnson & Johnson

##### Ballroom Center

- 9:00 47 Development of Fast HPLC Methods using Fused-Core™ Particle Technology: An Alternative Approach to UPLC, Eugene R. Reynolds, Prabodha Wijetunge, Zhaoying Zhang, Craig D. Oakum, James Lim, Bharati Vyas, MicroDose Therapeutx
- 9:25 48 Ultra High-Pressure LC (UHPLC) in Quality Control: Issues and Mitigation Strategies, Michael W. Dong, Derrick T. Yazzie, Nik P. Chetwyn, Genentech
- 9:50 49 New Advances in Ultra High-Performance Liquid Chromatography, Sergio A. Guazzotti, Thomas Preiswerk, Thermo Fisher Scientific
- 10:15 Break
- 10:35 50 Determination of Iodide and Iodate in Saline Matrices by Anion Exchange Chromatography and HPLC, Richard Kornfeld, Deanna Hurum, Brian de Borba, Jeffrey S. Rohrer, Dionex
- 11:00 51 Withdrawn by the author.
- 11:25 52 Ultra Performance Liquid Chromatography for the Separation and Characterization of Intact Proteins, Kenneth J. Fountain III, Paula Hong, Hillary B. Hewitson, Damian Morrison, Waters

#### Monday Poster Session: Bioanalytical Method Development

##### Poster Area in the Exhibit Hall

- 12:00-2:00 53 An LC/MS/MS Method for Quantitation of CEP-26401 in Human Urine, Yuexin Su, Elizabeth Aaron, Steve Gorman, Philmore Robertson, Cephalon
- 12:00-2:00 54 Evaluation of the Dried Blood Spots Technique for the Determination of a Potent and Selective DGAT1 Inhibitor, Tapan K. Majumdar, Paradise Nouri, Shari Wu, Matthew Bryant, Novartis
- 12:00-2:00 55 A Selective SPE/LC/MS/MS Assay for Simultaneous Quantitation of Multiple Amyloid Beta Peptides in Cerebrospinal Fluid, Erin E. Chambers, Diane M. Diehl, Waters, Mary E. Lame, Yanhua Zhang, Pfizer
- 12:00-2:00 56 The Application of Electrochemistry to the Measurement of Polyphenols in Plants and Animals, Ian N. Acworth, Paul Gamache, Marc Plante, Bruce Bailey, Christopher Crafts, David Clark, ESA – A Dionex Company
- 12:00-2:00 57 Superficially-Porous Fused-Core™ Particles for the Rapid Separation of Polypeptides and Small Proteins, Stephanie A. Schuster, Brian M. Wagner, Barry E. Boyes, Joseph J. Kirkland, Advanced Materials Technology
- 12:00-2:00 58 Withdrawn by the author.
- 12:00-2:00 59 A Novel Sample Preparation Device for Improved Protein Precipitation in Discovery Bioanalytical Assays, Jessalynn P. Wheaton, Erin E. Chambers, Diane M. Diehl, Waters

- 12:00-2:00 60 Leveraging E-WorkBook to Streamline Operational, Quality Assurance and Reporting Processes in the Bioanalysis Laboratory, Scott Weiss, IDBS
- 12:00-2:00 61 Withdrawn by the author.
- 12:00-2:00 62 Antimicrobial Activity of Crude Extracts of *Cissus Vitifolia* Linn, Kalaiselvi Balasubramanian, Cis Pharma, Umasankar Ramasamy, Novel Laboratories, Suseela Mahadevan, Madras Medical College

#### Monday Poster Session: Environmental Analysis: Clean it Up; Green it Up: Multiple Approaches to Environmental Analysis of Materials

##### Poster Area in the Exhibit Hall

- 12:00-2:00 63 Micro Solid-Phase Extraction using Carbon Nanotubes as Sorbents for Monitoring Pharmaceutical Residues in Water, Madhuleena Bhadra, Ornithida Sae Khaw, Somenath Mitra, New Jersey Institute of Technology
- 12:00-2:00 64 EPA Method 3546: Microwave Accelerated Extraction as a "Green" Approach to Environmental Sampling, David Gunn, Milestone
- 12:00-2:00 65 Automated Extraction and Dynamic Clean-Up of Environmental Samples, David E. Knowles, Richard E. Carlson, Brian C. Dorich, Brett J. Murphy, Bruce E. Richter, Eric S. Francis, Dionex
- 12:00-2:00 66 Simultaneous Determination of Airborne Ozone and Carbonyls using a Two-Bed Sampling Cartridge Containing Trans-1,2-Bis(2-pyridyl)ethylene and 2,4-Dinitrophenylhydrazine, Leonard Sidisky, James L. Desorcie, Supelco/Sigma-Aldrich, Shigehisa Uchiyama, National Institute of Public Health
- 12:00-2:00 67 Compendium Method TO-17 for Analysis of Volatile Organic Compounds (VOCs) in Air: Optimized Instrument Parameters and Method Validation, Laura Chambers, Trent Sprenkle, Gary Engelhart, OI Analytical
- 12:00-2:00 68 Substantially Improved Yield During Safe Sample Concentration Prior to Analysis, Rob H. D. Darrington, Ian N. Whitehall, Genevac, Glenn T. Pickett, Aardvark Action Marketing
- 12:00-2:00 69 Analysis of Biodiesel and its Blends with Petroleum Diesel as an Alternative "Green" Fuel According to ASTM Methods, James D. Stuart, Christopher R. Perkins, Richard S. Parnas, Anthony A. Provatas, University of Connecticut
- 12:00-2:00 70 Quality Control of Biodiesel Fuel Utilizing Inductively Coupled Plasma Optical Emission Spectrometry and Energy Dispersive X-Ray Fluorescence Spectrometry, James D. Stuart, Christopher R. Perkins, Snieguole Stapcinskaite, Anthony A. Provatas, University of Connecticut
- 12:00-2:00 71 Direct Mercury Analysis: A Fast, Effective, and Environmentally Safe Technique for Determination of Mercury in Soils, Sediments and Sludges, Johan Nortje, Milestone

- 12:00-2:00 72 Withdrawn by the author.
- 12:00-2:00 73 Determination of Hazardous Substances in Electrical and Electronic Equipment, Hari Subramaniam, Jay Gandhi, Anne Shearrow, Metrohm USA
- 12:00-2:00 74 Heavy Metals in New Jersey Sanitary Biosolids that are used as Fertilizer, Tsanangurayi Tongesayi, Patricia DaSilva, Katherine Dilger, Tristan Hollingsworth, Monmouth University
- 12:00-2:00 75 Total Organic Carbon Analysis of Solid Samples for Environmental and Quality Control Applications, Jeffrey R. Lane, Trent Sprenkle, Gary Engelhart, OI Analytical
- 12:00-2:00 76 A Microscopical Characterization of Fluoro-Edenitic Amphibole from Catania Region of Sicily, Louis Solebello, Craig Liska, International Asbestos Testing Laboratories, Gary Tomaino, Minerals Technologies
- 12:00-2:00 77 Investigation of Polarized Light Microscopy Differentiation of Erionite from Other Fibrous Zeolites, Louis Solebello, Craig Liska, International Asbestos Testing Laboratories, Gary Tomaino, Minerals Technologies

#### Monday Poster Session: New Trends in Hyphenated Spectroscopy

##### *Poster Area in the Exhibit Hall*

- 12:00-2:00 78 GPC/IR Analysis to Characterize Excipient Degradation and Lot-to-Lot Variations in Pharmaceutical Formulation, Ming Zhou, Bill Carson, Sidney Bourne, Spectra Analysis Instruments
- 12:00-2:00 79 GPC/IR Hyphenated Technique to Analyze Copolymer Compositions Across Molecular Weight Distributions, Ming Zhou, Bill Carson, Sidney Bourne, David Dunn, Spectra Analysis Instruments
- 12:00-2:00 80 Determination of Total Trans Fat: An Attenuated Total Reflection-Fourier Transform Infrared (ATR/FTIR) Spectroscopic International Collaborative Validation Study, Magdi M. Mossoba, US Food and Drug Administration
- 12:00-2:00 81 Enhanced Sensitivity of Trans Fat Determination by Infrared Spectroscopy, Magdi M. Mossoba, US Food and Drug Administration
- 12:00-2:00 82 Pyrolysis of New Jersey Pineland Leaf Litter Species, Jinnie Towey, Georgia A. Arbuckle-Keil, John Dighton, Rutgers University
- 12:00-2:00 83 Full Scan GPC/FTIR using the Infrared Fingerprint Region to Analyze Polyolefin Copolymers, Tom Kearney, Ming Zhou, Spectra Analysis Instruments
- 12:00-2:00 84 Fourier Transform Infrared (FTIR) Spectrophotometry as an Analytical Tool for Monitoring Organic Synthesis and Process Control, Peter P. Yeh, MacDermid
- 12:00-2:00 85 Vibrational Spectra of the Solid Phases 1,3-Difluorobenzene, Anthony G. Severdia, Delaware County Community College

- 12:00-2:00 86 Applications of Mixture Analysis to FTIR Spectra of Multi-Component Polymeric Systems, Dana Garcia, Arkema, Marie Scandone, Bio-Rad Laboratories
- 12:00-2:00 87 At-Line Moisture Determination of Powders and Tablets by Near-Infrared Spectroscopy and Microwave Resonance Sensors, Claudia Corredor, Dongsheng Bu, Douglas Both, Bristol-Myers Squibb
- 12:00-2:00 88 ClearView db Photometry Meets Sophistication, Greg Gargus, Susan J. Foulk, Terry R. Todd, Michael A. Broussard, Guided Wave
- 12:00-2:00 89 Withdrawn by the author.

#### Monday Poster Session: Challenges and Solutions using Mass Spectrometry

##### *Poster Area in the Exhibit Hall*

- 12:00-2:00 90 Use of GCxGC/TOF/MS in the Analysis of Petroleum Hydrocarbons: Advantages of Library-Searchable TOF Mass Spectra Combined with High Chromatographic Resolution, Kurt Thaxton, Lindsey Pyron, Nick Bukowski, EST Analytical
- 12:00-2:00 91 Evaluation of MS Scanning Speeds with UHPLC Peak Widths, William Hedgepeth, Masatoshi Takahashi, Shimadzu
- 12:00-2:00 92 A Strategy for the Evaluation of Mass Spectrometric Detectors for Gas Chromatography: Application to a Novel Time-of-Flight MS, Kurt Thaxton, Nick Bukowski, Markes International, Lindsey Pyron, EST Analytical
- 12:00-2:00 93 A New Syringe Needle Concentration System for the Analysis of Volatiles by HR GC/MS, Jeff Sheriff, Lindsey Pyron, Thierry Zesiger, EST Analytical
- 12:00-2:00 94 Withdrawn by the author.
- 12:00-2:00 95 Polymer Additives Screening using UHPLC/APPI/Q-TOF/MS and an Accurate Mass Database, Christie Bowden, Marina Despotopoulou, Arkema
- 12:00-2:00 96 HR LC/MS for Genotoxic Impurity Identification using Lewis Acid Complex Extraction, Keith B. McKellop, Scott Pennino, Boehringer Ingelheim
- 12:00-2:00 97 On-Line Electrochemical/LC/MS Techniques for Profiling and Characterizing Metabolites and Reactive Species, Ian N. Acworth, Paul Gamache, Bruce Bailey, Christopher Crafts, Marc Plante, David Clark, ESA - A Dionex Company
- 12:00-2:00 98 Withdrawn by the author.

## Monday Afternoon, November 15, 2010

### EAS Award for Outstanding Achievements in Mass Spectrometry

Honoring Richard M. Caprioli, Vanderbilt University

Sponsored by Thermo Fisher Scientific and Bruker Daltonics

Chair: Kevin Schey, Vanderbilt University

#### Ballroom West

- 2:00 99 What Can Chemical Footprinting and Mass Spectrometry Teach Us about Proteins?, Michael Gross, Brian Gau, Hao Zhang, Jiawei Chen, Don Rempel, Washington University St. Louis
- 2:30 100 Tissue Imaging of Lipids by Mass Spectrometry, Robert C. Murphy, University of Colorado
- 3:00 101 High-Performance MALDI/TOF/TOF for Molecular Imaging, Marvin Vestal, Virgin Instruments
- 3:30 Break
- 3:50 102 Miniature Mass Spectrometers: Design, Fabrication and Applications in Biology, R. Graham Cooks, Keyong Hou, Robert J. Noll, Jeffrey Mass, Paul Hendricks, William Chappell, Zheng Ouyang, Purdue University
- 4:20 Presentation of the EAS Award for Outstanding Achievements in Mass Spectrometry
- 4:25 103 Imaging Mass Spectrometry: New Views of Biology and Medicine, Richard M. Caprioli, Vanderbilt University

### Synchrotron Radiation for Cultural Heritage II

Organized in cooperation with New York Conservation Foundation

Chair: Jennifer Mass, Winterthur Museum

#### Tewksbury

- 2:00 104 Hidden Images, Buried Interfaces, Vanishing Masterpieces: Recent Confocal X-Ray Fluorescence and XANES Experiments on Paintings at CHESS, Jennifer L. Mass, Winterthur Museum, Barbara Buckley, Margaret Little, Barnes Foundation, Conan Weiland, Fang Fang, University of Delaware, Kenneth Finkelstein, Cornell University
- 2:30 105 Breaking and Burning Pots: XANES and EXAFS Evidence for the use of Attic White Ground Lekythoi in Cremation Burials, Marc Walton, Karen Trentelman, The Getty Conservation Institute, Apurva Mehta, Stanford University, Marie Svoboda, J. Paul Getty Museum
- 3:00 106 An Approach to Modern Materials using Archaeomimetic Analogues: The Case of Maya Blue, Eric Dooryhee, Brookhaven National Laboratory, Catherine Dejoie, Lawrence Berkeley National Laboratory, Pauline Martinetto, Pierre Strobel, Michel Anne, Institut Néel, Sylvie Blanc, Patrice Bordat, Ross Brown, Institut Pluridisciplinaire, Florence Porcher, Laboratoire Léon Brillouin, Manolo Sanchez del Rio, European Synchrotron Radiation Facility, Elsa van Elslande, Philippe Walter, Centre de Recherche et de Restauration des Musées de France

- 3:30 Break
- 3:50 107 Rapid-Scan X-Ray Fluorescence Imaging of Ancient Documents - The Archimedes Project and Beyond, Uwe Bergmann, Behnam Sadeghi, SLAC National Accelerator Laboratory
- 4:20 108 Fit for the Ring: SR-XRD, Phase Contrast Imaging and EXAFS Studies of Chinese Bronzes and Altered Pigments, Francesca Casadio, Suzanne Schnepf, Inge Fiedler, The Art Institute of Chicago, Marcus Young, Luciana Zanella, Jean-Francois Gaillard, Northwestern University, Jonathan Almer, Dean Haefner, Argonne National Laboratory

### Magnetic Resonance of Biological Systems

Chair: Tatyana Polenova, University of Delaware

#### Ballroom East

- 2:00 109 The Mechanism of Solar Water Oxidation: Pulsed Multi-Frequency Multi-Dimensional Electron Paramagnetic Resonance Spectroscopy Studies of Proton-Coupled Electron Transfer Reaction Intermediates of Photosystem II, K. V. Lakshmi, Rensselaer Polytechnic Institute
- 2:30 110 Conformational Dynamics of Lipid-Binding Modules in Protein Kinase C-Alpha, Tatyana Igumenova, Mikaela Stewart, Krystal Morales, Texas A&M University
- 3:00 111 Imaging Mesoscopic Nuclear Spin Noise with a Diamond Magnetometer, Carlos A. Meriles, Abdelghani Laraoui, City University of New York, Liang Jiang, Caltech, Jonathan S. Hodges, Columbia University, Paola Cappellaro, MIT, Mikhail Lukin, Garry Goldstein, Jeronimo Maze, Harvard University
- 3:30 Break
- 3:50 112 Selenium NMR Spectroscopy as a Versatile Probe of Selenoproteins, Sharon Rozovsky, Fei Li, University of Delaware
- 4:20 113 Imaging Domains in Biomembranes using PFG Diffusion Measurements in Lipid Bilayers Under Static and MAS Conditions, Megan Spence, University of Pittsburgh

### Green Science: How Analytical Chemist Do It, Session II

Chairs: Douglas Raynie, South Dakota State University and Alvin Bober

#### Westfield

- 2:00 114 Improved, Green Protein Testing Accuracy at Food Production Facilities in Meat, Dairy and Other Foods, Michael Collins, Jr., Keller Barnhardt, Bill MacLuckie, CEM Corporation
- 2:30 115 Engaging Students and the Public in STEM (Science, Technology, Engineering, and Mathematics) Education in the Age of Electronics, Sandra K. K. Young, US Army Research Laboratory
- 3:00 116 Application of Capillary HPLC to the Analysis of In-Process Control and Cleaning Samples for the Pharmaceutical Industry, Xuejun Xu, Yun Ye, Bristol-Myers Squibb
- 3:30 Break

- 3:50 117 Analytical Method Volume Intensity (AMVI): A Green Chemistry Metric for HPLC Methodology in the Pharmaceutical Industry, Roy Helmy, Robert Hartman, Mohammad Al-Sayah, Christopher J. Welch, Merck
- 4:20 118 Greening Up Analytical Methodologies by Reducing Solvent Usage and Exposure, David E. Knowles, Bruce E. Richter, Dionex

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**PAT Concept and Applications for Pharmaceutical Products**
**Chair: Oscar Liu, Merck**
*Ballroom Center*

- 2:00 119 Performance-Based Quality Specifications: The Relationship between Process Critical Control Parameters, Critical Quality Attributes, and Clinical Performance, Steven M. Short, James K. Drennen III, Strategic Process Control Technologies, Carl A. Anderson, Duquesne University
- 2:20 120 Application and Design of Experiment (DOE) Studies of Mixed-Mode Column in Pharmaceutical Analysis, Hui (Viviane) Zhao, Xin (Amy) Bu, Bristol-Myers Squibb
- 2:40 121 Diverse Efficiency of an AOTF/NIR Analyzer in a Pharmaceutical Plant, Angelina Hartini, Evan Ramer, Brimrose
- 3:00 122 Transfer Lab Content Uniformity Method to Automated On-Line System, Hui Li, Bruker Optics
- 3:20 Break
- 3:40 123 Development of a Universal At-Line Near-Infrared Spectroscopy (NIRS) Method to Determine Ribbon Density, Zhenqi Shi, Carl A. Anderson, James Drennen, Duquesne University, Tim Stevens, Douglas Both, Bristol-Myers Squibb
- 4:00 124 The Development of an Automated On-Line Concentration/Reaction Monitoring Macro using Agilent 1100 HPLC, Jia Zang, Aaron J. Moment, Eric Sirota, David M. Tellers, Roy Helmy, Merck
- 4:20 125 Development of a Resin Screening Kit to Remove Electrophilic Potential Genotoxic Impurities from Pharmaceutical Compounds, Roy Helmy, Claire Lee, Mohammad Al-Sayah, Merck
- 4:40 126 Evaluation of Large Volume Injection for LCxGC Chiral and Achiral Analysis of Pharmaceutical Drugs, Atsu Apedo, Yingru Zhang, Michael B. Hicks, Douglas B. Moore, David Wang-Iverson, Adrienne Tymiak, Bristol-Myers Squibb, Nicholas H. Snow, Seton Hall University

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**Advanced Polymer Characterization Techniques**
**Chair: Nancy Jestel, SABIC Innovative Plastics**
*Bedminster*

- 2:00 127 Extreme Field-of-View Low-Voltage Scanning Transmission Electron Microscopy (STEM) of Polymer and Biological Ultra-Thin Sections, John B. Yorston, Carl Zeiss SMT, Olivier Guise, SABIC-Innovative Plastics
- 2:30 128 Xtreme SEC: Pushing the Limits, Andre Striegel, Florida State University

- 3:00 129 Nanoscale IR Spectroscopy, Mechanical and Thermal Property Mapping with the Atomic Force Microscope, Craig Prater, Anasys Instruments

3:30 Break

- 3:50 130 New Developments in Field-Flow Fractionation of Polymers, S. Kim R. Ratanathanawongs Williams, J. Ray Runyon, Colorado School of Mines

- 4:20 131 Applications of DSC/NIR/Raman and Sorption Analysis/Raman to Polymers, Carlton G. Slough, Steven R. Aubuchon, TA Instruments, Maryann E. Cuellar, David J. Strachan, Kaiser Optical Systems

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**Toward Comprehensive Two-Dimensional Gas**
**Chromatography Separations**
**Sponsored by the Chromatography Forum of Delaware Valley**
**Chair: James Sullivan, Jindai Bio**
*Bridgewater*

- 2:00 132 Risk-Based Characterization and Assessment of Extractable Petroleum Hydrocarbon Contamination using Comprehensive Two-Dimensional Gas Chromatography with Dean's-Switch Modulation, Robert G. Brown, Lancaster Laboratories, Stacy K. Seeley, Kettering University, John V. Seeley, Oakland University, James D. McCurry, Agilent Technologies
- 2:30 133 Normalization of GCxGC Retention Information Through the use of a Bi-Dimensional Retention Index System: Advances and Perspectives, John Dimandja, Spelman College
- 3:00 134 Application of Comprehensive Two-Dimensional Gas Chromatographic Separations to the Gulf of Mexico Oil Spill, Glenn S. Frysinger, Gregory J. Hall, US Coast Guard Academy
- 3:30 Break
- 3:50 135 Small Molecule Metabolite Identifications in Complex Biological Samples using Comprehensive Two-Dimensional Gas Chromatography Combined with Time-of-Flight Mass Spectrometry (GCxGC/TOFMS), Mark Libardoni, John Heim, LECO Corporation
- 4:20 136 Shifting the Paradigm in Thermal GCxGC Modulation, Tadeusz Gorecki, Ognjen Panic, Christopher McNeish, T. Nathan Oldridge, Ahmed Mostafa, University of Waterloo

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**High Performance Chromatography Specialties:**
**HILIC, CE, CEC**
**Chair: Martha Hollomon, Widener University**
*Hillsborough*

- 2:00 137 Capillary Ion Chromatography - The Next Frontier, Arthur W. Fitchett, Michael G. Hvizd, Dionex
- 2:20 138 Assessment of a Modular, Multi-Task Device Connected to Capillary Electrophoresis for the Enrichment, Separation and Identification of Protein Biomarkers, Norberto Guzman, Princeton Biochemicals
- 2:40 139 Resolution Equation for Electrokinetic Chromatography Based on Retention Factors and Mobilities, Joe P. Foley, Drexel University



- 3:00 140 Stability and Performance Comparison of Cyano Bonded Phase HPLC Columns for Reversed-Phase, Normal-Phase and HILIC Applications, Richard A. Henry, William Campbell, Wendy Roe, Carmen Santasania, Supelco/Sigma-Aldrich
- 3:40 Break
- 4:00 141 Lactic Acid Quantitation in Hand Dishwashing Liquid using an HILIC/UV Methodology, Mark L. Storton, Colgate Palmolive
- 4:20 142 Applications of Ion Chromatography in the Analysis of Beverages, Kirk Chassaniol, Dionex
- 4:40 143 Hydrophilic Interaction Chromatographic Determination of Uric Acid, a Biomarker for Hyperuricemia and Other Medical Conditions, and Creatinine in Human Urine, Yuegang Zuo, Yang Yang, University of Massachusetts

## Tuesday Morning, November 16, 2010

### EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry

Honoring Richard D. Smith, Pacific Northwest National Laboratory

Sponsored by Bristol-Myers Squibb

Chair: David Koppelaar, Pacific Northwest National Laboratory

#### Ballroom East

- 9:00 144 Problems and Opportunities for Mass Analysis of Complex Mixtures, Alan Marshall, Florida State University
- 9:25 145 Development of Novel Strategies for Proteomics and Glycomics Research, David Muddiman, North Carolina State University
- 9:50 146 The Integration of Separation Science with Mass Spectrometry for Protein Analysis, Barry L. Karger, Northeastern University
- 10:15 Break
- 10:35 147 Top-Down Mass Spectrometric and Microscopic Investigations of the Structures and Interactions of Amyloidogenic Proteins, Catherine E. Costello, Roger Theberge, Zhenning Hong, Xiaobin Xu, Sandrine Voillard-Bourgoin, Giuseppe Infusini, Yanyan Liu, Ruiyi Ren, Lawren H. Connors, Martha Skinner, Vickery Trinkaus-Randall, Mark E. McComb, Boston University School of Medicine
- 11:00 148 Recent Advances in Atomic Mass Spectrometry and its Increasing Role in Omics Sciences, David W. Koppelaar, Pacific Northwest National Laboratory
- 11:25 Presentation of EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry
- 11:30 149 Pushing the Limits of LC/MS Sensitivity and Throughput for Biomarker Discovery and Verification, Richard D. Smith, Pacific Northwest National Laboratory

### Digital Media in Cultural Heritage: New Preservation Technologies

Organized in cooperation with New York Conservation Foundation

Chair: Gwynne Ryan, Hirshhorn Museum and Sculpture Garden

#### Tewksbury

- 9:00 150 Trends in the Conservation of Time-Based Media, Gwynne Ryan, Hirshhorn Museum and Sculpture Garden
- 9:25 151 The Binary Loupe: Data Analysis as Part of a Preservation Strategy for Digital Media, Chris Lacinak, David Rice, AudioVisual Preservation Solutions
- 9:50 152 Phosphor and Dust: Simulating the Cathode Ray Tube for Computer and Video Media, Ian Bogost, The Georgia Institute of Technology
- 10:15 Break
- 10:35 153 Contemporary Art and Phenomena of Technological Obsolescence: Digitizing Artist's Films, Cecile Dazord, Clotile Boust, Centre de Recherche et de Restauration des Musées de France
- 11:00 154 Standardization, Preservation, and Access to Cultural Heritage Digital Data, Fenella G. France, Library of Congress
- 11:25 155 Research Studies on the Longevity of Digital Optical Media at the Library of Congress, Michele H. Youket, Library of Congress

### HPLC Retention Mechanism

Chair: Yuri Kazakevich, Seton Hall University

#### Bridgewater

- 9:00 156 Reversed-Phase Liquid Chromatography: Filling in the Details with Molecular Simulation, Mark Schure, The Dow Chemical Company, Jake Rafferty, J. I. Siepmann, University of Minnesota
- 9:40 157 Instability of Water-Hydrophobic Interface in Reversed-Phase HPLC: The Role of Air Adsorption, Alexander Y. Fadeev, Frank Bernardoni, Seton Hall University
- 10:20 Break
- 10:40 158 Retention Mechanisms and Retention Theory, Yuri Kazakevich, Seton Hall University
- 11:20 159 Mechanism of Enantioseparation on Macrocyclic Antibiotic Phases, Nelu Grinberg, Shengli Ma, Sherry Shen, Heewon Lee, Nathan Yee, Chris Senanayake, Boehringer Ingelheim, David Bell, Supelco/Sigma-Aldrich

### Solving Cold Cases: Experiences from the Vidocq Society

Chairs: Diana G. Johnson and Kimberly Gorel, New Jersey State Police

#### Hillsborough

- 9:00 160 Introduction to the Vidocq Society and the John List Case, Edward Gaughan, Keystone Intelligence Network
- 9:50 161 Murder Sub-Types and Analysis, Richard Walter, Vidocq Society
- 10:40 Break

- 11:00 162 Forensic Death Investigation, Jack Ingle, Office of the Chief Medical Examiner  
163 Withdrawn by the author.

### Imaging Techniques in Surface and Interface Analysis

Chair: **Andrew V. Teplyakov, University of Delaware**

#### *Westfield*

- 9:00 164 Integrity of Functional Self-Assembled Monolayers on Hydrogen-Terminated Silicon-on-Insulator Wafers, Fangyuan Tian, Chaoying Ni, Andrew V. Teplyakov, University of Delaware  
9:40 165 Concentration Effects and Surface Dynamics in Benzene Carboxylic Acid Monolayers at the Liquid-Graphite Interface, Gina Florio, St. John's University  
10:20 Break  
10:40 166 A Depth Profiling and Heterogeneity Investigation of Polymers, Including Multi-Laminate and Conductive, Frank S. Weston, Mustafa Kansiz, Varian, Georgia A. Arbuckle-Keil, Rutgers University, Isao Noda, Procter & Gamble  
11:20 167 Surface Chemistries to Increasing Surface Stress for Improving Signal-to-Noise Ratio of Microcantilever Sensors, Haifeng Frank Ji, Drexel University

### New Advances in Instrumentation and Pharmaceutical Analysis

Chair: **Joseph Medendorp, Merck**

#### *Ballroom West*

- 9:00 168 Transmission Raman for Robust Content Uniformity Analysis, Darren Andrews, Matthew Bloomfield, Cobalt Light Systems, Gary McGeorge, Bristol-Myers Squibb, Pavel Matousek, Science and Technology Facilities Council  
9:20 169 Near-Infrared and Raman: Complementary Instrumentation for Materials Applications, Suzanne Schreyer, Frederick G. Haibach, Polychromix  
9:40 170 Evaluation of Drug Release from HPMC-Based Matrix Tablets by Near-Infrared Chemical Imaging, Weiyong Li, NIRvation  
10:00 171 Tablet Identification using an FT/Near-Infrared Integrating Sphere with Principal Component Analysis, Frank S. Weston, Varian  
10:20 Break  
10:40 172 Dynamic Measurement of Blend Uniformity with a Diode Array Near-Infrared Spectrometer, Yan Wang, Bruker Optics  
11:00 173 Determination of Figures of Merit for Near-Infrared and Powder X-Ray Diffraction by Net Analyte Signal Analysis for a Solid Dosage System of an Amorphous Dispersion with (Spiked) Residual Crystallinity, Ryanne N. Palermo, Steven M. Short, Carl A. Anderson, James K. Drennen III, Duquesne University, Hung Tian, Hoffmann-La Roche  
11:20 174 Practical Considerations for Rapid and Accurate Stereochemical Assignments using Vibrational Circular Dichroism, Feng Qiu, Yingru Zhang, Michael Reily, David Wang-Iverson, Adrienne Tymiak, Bristol-Myers Squibb

### Gas Chromatography: An Old Friend with New Tricks

Chair: **Barry Parker, Colgate-Palmolive**

#### *Princeton*

- 9:00 175 Polar and Highly Polar Ionic Liquid Capillary Columns, Leonard Sidisky, Yizeng Ni, Greg A. Baney, James L. Desorcie, Katherine Stenerson, Supelco/Sigma-Aldrich  
9:20 176 Rethinking Gas Chromatography, Brian G. Rohrbach, Infometrix, John A. Crandall, Falcon Analytical, Carl E. Rechsteiner, Chevron  
9:40 177 Minimizing False Positive Results in High-Throughput Urinary Drug Screening using GC/TOF/MS and a Novel Target Identification Algorithm, Kurt Thaxton, Almsco International  
10:00 178 Comparing Carrier Gases for Capillary Gas Chromatography, Leonard Sidisky, Greg A. Baney, Supelco/Sigma-Aldrich  
10:20 Break  
10:40 179 Determination of Ethylene Glycol and Diethylene Glycol in a Sorbitol Solution, Terri T. Christison, Brian de Borja, Jeffrey S. Rohrer, Dionex  
11:00 180 Determination of Phthalic Acid in Snow and Rain by GC and GC/MS, Yuegang Zuo, Bin Men, University of Massachusetts  
11:20 181 Withdrawn by the author.

### Counterfeit Pharmaceutical Detection using Vibrational Spectroscopy

Chairs: **Tom Brueggemeyer and Mark R. Witkowski, US Food & Drug Administration**

#### *Ballroom Center*

- 9:00 182 Rapid Screening for the Detection of Counterfeit Products in China - Past, Present and Future, Richard S. Jackson, NIRRIR Consulting  
9:30 183 Pharmaceutical Counterfeit Detection and Product Authentication using Portable Near-Infrared (NIR) and Raman Spectrometers, Ravi Kalyanaraman, Bristol-Myers Squibb  
10:00 184 The use of Rapid Spectroscopies for Anti-Counterfeit Testing, Neville Broad, Abbott Laboratories  
10:30 Break  
10:50 185 Challenges Encountered in Counterfeit Narcotic Drug Analysis: A Case Study from a Pharmaceutical Industry Perspective, Seetha Viswanathan, Jennifer Giordano, Purdue Pharma  
11:20 186 Method Development for Hand-Held Raman and Infrared Spectrometers: Detection and Characterization of Counterfeit Pharmaceuticals, Thomas W. Brueggemeyer, Mark R. Witkowski, JaCinta S. Batson, Sara E. Andria, US Food and Drug Administration

**Food Analysis**

**Chair: Christina Robb, Connecticut Agricultural Experiment Station**

*Bedminster*

- 9:00 187 Analysis of Pesticide Residues in Honey Bee Pollen and Wax Comb, Brian D. Eitzer, Kimberly A. Stoner, Connecticut Agricultural Experiment Station
- 9:30 188 Abrin Analysis by ELISA, Christina Robb, Connecticut Agricultural Experiment Station
- 10:00 189 Chocolate Archaeology: Analytical Chemistry of Precolumbian Vessels, William Hurst, The Hershey Company
- 10:30 Break
- 10:50 190 Pesticide Analysis in Apples and Coffee using QuEChERS Method and GC/MS, Karyn M. Usher, Kelsey M. Smith, Mackenzie L. Lauro, West Chester University
- 11:20 191 The Perception of Varietal Aroma in Wine, Terry E. Acree, Gavin Sacks, Cornell University

**Tuesday Poster Session: Problem Solving Through Better Chromatography***Poster Area in the Exhibit Hall*

- 12:00-2:00 192 Automated Gas Chromatography Fraction Collection using a Gerstel Multi-Column Switching System and a Cryo-Cooled Megabore Capillary Column Trap, Emerillis Casado-Rivera, Lawrence P. Mink, Cynthia R. Leslie, Dow Chemical
- 12:00-2:00 193 A Flexible Sample Introduction System for GC and GC/MS, Jeff Sheriff, Lindsey Pyron, Doug Meece, Anne Jurek, EST Analytical
- 12:00-2:00 194 Static Headspace Extraction/Gas Chromatography (SHE/GC) of Polar Solvents using Ionic Liquids (IL) as Matrix, Michael Sithersingh, Nicholas H. Snow, Seton Hall University
- 12:00-2:00 195 Determination of Cholinergic Agents and Related Substances using a Reagent-Free Ion Chromatography System, Richard Kornfeld, Pranathi Perati, Jeffrey S. Rohrer, Dionex
- 12:00-2:00 196 Determination of 2-Ethylhexanoic Acid Impurity in Clavulanate Active Pharmaceutical Ingredient using a Reagent-Free Ion Chromatography System, Richard Kornfeld, Brian de Borba, Jeffrey S. Rohrer, Dionex
- 12:00-2:00 197 Simultaneous Determination of Gamma-Hydroxybutyric Acid (GHB) and Gamma-Butyrolactone (GBL) in Beverages, Anne Shearrow, German Bogenschuetz, Metrohm USA
- 12:00-2:00 198 Analysis of Airborne Particulate Matter by PILS/IC, Anne Shearrow, Jay Gandhi, Peter Jones, Metrohm USA
- 12:00-2:00 199 Trace-Level Determination of Perfluorinated Compounds in Water by Suppressed Ion Chromatography with Inline Matrix Elimination, Hari Subramaniam, Jay Gandhi, Metrohm USA

- 12:00-2:00 200 Determination of the Anhydrosugars Levoglucosan, Mannosan, and Galactosan in Aerosols, Jay Gandhi, German Bogenschuetz, Metrohm USA
- 12:00-2:00 201 Trace-Level Determination of Bromate in Drinking Water by Direct-Injection Ion Chromatography and Suppressed Conductivity Detection, Jay Gandhi, Metrohm USA, Chunlong (Carl) Zhang, University of Houston
- 12:00-2:00 202 Withdrawn by the author.
- 12:00-2:00 203 Approaches for Optimizing Preparative Separations using Supercritical Fluid Chromatography, Jo-Ann M. Jablonski, Kenneth J. Fountain III, Steven M. Collier, Damian Morrison, Waters
- 12:00-2:00 204 Supercritical Fluid Chromatography for Compound Purification in Drug Discovery, Dawn Sun, Dauh-Rung Wu, Peng Li, Leslie Leith, Arvind Mathur, Balu Balasubramanian, Bristol-Myers Squibb
- 12:00-2:00 205 Effect of Cetyltrimethylammonium Bromide on Electroosmotic and Electrophoretic Mobility in Capillary Electrophoresis, Jinmo Huang, James Distefano, The College of New Jersey
- 12:00-2:00 206 The Investigation of Supercritical Fluid Chromatography (SFC) for the Support of Small Peptide Synthesis and Impurity Resolution, Michael B. Hicks, Douglas B. Moore, Atsu Apedo, Yingru Zhang, David Wang-Iverson, Adrienne Tymiak, Bristol-Myers Squibb
- 12:00-2:00 207 Simultaneous Estimation of Atorvastatin Calcium, Ramipril, and Aspirin in Capsule Dosage Form by HPTLC, Bhavesh H. Patel, K B Institute of Pharmaceutical Education and Research

**Tuesday Poster Session: Analytical Problem Solving with HPLC Applications***Poster Area in the Exhibit Hall*

- 12:00-2:00 208 Improving the Accuracy of Chromatography Simulation Software Prediction of Optimal Method Conditions, Zhi Chen, Alexey Markarov, Fred Chan, Rekha Bhashyam, Rosario LoBrutto, Raju Vegesna, Novartis
- 12:00-2:00 209 Evaluation of the Current Capabilities of Ultra High-Pressure LC and High-Temperature LC, William Hedgepeth, Masatoshi Takahashi, Shimadzu
- 12:00-2:00 210 Comparison of Universal Detection Techniques for Liquid Chromatography, Bruce Bailey, Marc Plante, Christopher Crafts, David Clark, John Waraska, Ian Acworth, ESA - A Dionex Company
- 12:00-2:00 211 Comparison of the Suitability of Various Stationary Phases for the Peak-Capacity Enhanced Separation of Acids, Bases, and Neutral Compounds using Sequential Multi-Modal Elution Liquid Chromatography (SME/LC), Adam Socia, Joe P. Foley, Drexel University

- 12:00-2:00 212 Micellar High-Pressure Liquid Chromatography Separation and Partition Model for Hormones and Prostaglandins, Jelena Drazenovic, Guoxiu Wei, Deepti Varma, Susan Jansen-Varnum, Temple University
- 12:00-2:00 213 A Separation Ion-Pair HPLC Method for Hormones and Prostaglandins, Guoxiu Wei, Jelena Drazenovic, Deepti Varma, Susan Jansen-Varnum, Temple University
- 12:00-2:00 214 Investigation of the Effect of Pressure and Liophilic Mobile Phase Additives on Chromatographic Parameters for Small Molecules and Proteins using Ultra High-Pressure Liquid Chromatography, Alexey Makarov, Rosario LoBrutto, Paul Karpinski, Novartis, Christos Cristodoulatos, Stevens Institute of Technology
- 12:00-2:00 215 Impact of System Pressure on Gradient-Delay Volume, Matthew Gallitto, John F. Kennedy High School, Eduardo Rogatsky, Daniel T. Stein, Albert Einstein College of Medicine
- 12:00-2:00 224 Development of Two HPLC Methods for High-Throughput Aerosol Testing, Zhaoying Zhang, Eugene R. Reynolds, Prabodha Wijetunge, MicroDose Therapeutx
- 12:00-2:00 225 Modifying Separation Selectivity by Selection of Fused-Core™ Particle Bonded Phases, William L. Johnson, Timothy J. Langlois, Stephanie A. Schuster, Advanced Materials Technology, Thomas J. Waeghe, MAC-MOD Analytical
- 12:00-2:00 226 Evaluation and Performance Comparison of HPLC Columns with Sub-2- $\mu$ m and Fused-Core™ Particles for Ultra-Fast Liquid Chromatography, Xin Chen, Mark J. Mulvihill, Lifu Ma, OSI Pharmaceuticals
- 12:00-2:00 227 Physical Characterization and Critical Evaluation of Kinetex Core-Shell Technology and Related Columns, Cody Vinci, Jared S. Baker, Amber Moore, Luis A. Colón, SUNY Buffalo
- 12:00-2:00 228 Withdrawn by the author.
- 12:00-2:00 229 High-Resolution Separation and Quantitation of N-linked Glycans from mAb Glycoproteins, Beth L. Gillece-Castro, Thomas E. Wheat, Kim Van Tran, Kenneth J. Fountain III, Waters

### Tuesday Poster Session: HPLC: Columns for Specific HPLC Analysis

#### *Poster Area in the Exhibit Hall*

- 12:00-2:00 216 The Thermodynamics Governing Retention for a Fluorophenyl HPLC Stationary Phase, Kevin Amiri, Eric J. Williamsen, Ursinus College
- 12:00-2:00 217 Retention on Octyl HPLC Stationary Phases: Entropically or Enthalpically Driven?, Lukas Chaloupka, Eric J. Williamsen, Ursinus College
- 12:00-2:00 218 Understanding Column Orthogonality in Reversed-Phase HPLC to Facilitate Pharmaceutical Method Development, Irina Dioumaeva, Seok-Bong Choi, Ben Yong, Ritu Arora, Varian
- 12:00-2:00 219 Exploring the Selectivity of C18 Phases with Phenyl and Pentafluorophenyl (PFP) Functionality, Robert T. Moody, Thomas J. Waeghe, Carl L. Zimmerman, MAC-MOD Analytical
- 12:00-2:00 220 Investigation of HPLC Applications Performed at both Acidic and Basic pH, Jared W. Benedict, AkzoNobel/Kromasil
- 12:00-2:00 221 Cholesterol-Coated C18 Stationary Phases: Linearity of van't Hoff and Solvent Strength Plots, Jason W. Coym, Omar I. Hashmi, Phillip B. Ogden, Shauna A. Charlton, University of South Alabama
- 12:00-2:00 222 Analysis of Saccharides by Hydrophilic Interaction Chromatography (HILIC) using TSK/GEL NH2 Columns, Atis Chakrabarti, J. Kevin O'Donnell, Tosoh Bioscience
- 12:00-2:00 223 Selectivity, Efficiency, and Temperature Stability: Harnessing the Power of Sub-2- $\mu$ m Carbon-Clad Zirconia, Daniel Nowlan, Bingwen Yan, Clayton V. McNeff, Kelly Johnson, ZirChrom Separations, Richard A. Henry
- 12:00-2:00 230 New Generic Approach for HPLC Analysis: The Modern Silica-Based HPLC Columns; SiliaChrom® Series, Mark Clark, Charles Levesque, Vincent Bedard, Francois Beland, SiliCycle
- 12:00-2:00 231 Utilizing a Novel Organic/Inorganic Hybrid C18 Column for Efficient Method Development Over a Wide pH Range, Noriko Shoji, Takashi Sato, Chie Yokoyama, Takatomo Takai, Naohiro Kuriyama, YMC Co.
- 12:00-2:00 232 Characterization and Evaluation of a Novel C18 Column Based on Organic/Inorganic Hybrid Silica for High-Performance Liquid Chromatography, Noriko Shoji, Takashi Sato, Chie Yokoyama, Yayoi Hiyoshi, Akiko Kashida, Takatomo Takai, Naohiro Kuriyama, YMC Co.
- 12:00-2:00 233 Expanding the Capabilities of a C18 Bonded Phase by the Addition of a Pentafluorophenyl (PFP) Group, Carl L. Zimmerman, Thomas J. Warghe, Robert T. Moody, MAC-MOD Analytical
- 12:00-2:00 234 3- $\mu$ m Zenix™ SEC for Ultra High-Resolution and Fast MAb and Protein Separation, Matthew George, Xiaotao Zhou, Helen Gu, Xueying Huang, Sepax

### Tuesday Poster Session: Science Education: Investing in the Future

#### *Poster Area in the Exhibit Hall*

- 12:00-2:00 235 Graduate Education in Managerial Epidemiology: A Simulation of Disease Transmission and Control, Sandy Weinberg, Ronald Fuqua, Clayton State University
- 12:00-2:00 236 Using Biosensors for an Inquiry-Based Electrochemistry Experiment in the Undergraduate Curriculum, Jianli Zheng, Barbara Hillery, SUNY Old Westbury

- 12:00-2:00 237 Teaching XRF, John Patterson, [Bruce Kaiser](#), Alexander Seyfarth, Bruker Elemental
- 12:00-2:00 238 Using ASDL as an On-Line Resource in Analytical Chemistry, [Richard S. Kelly](#), East Stroudsburg University

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**Tuesday Poster Session: 2010 Student Awardees**


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*Poster Area in the Exhibit Hall*

- 12:00-2:00 239 Study of the BMIM-PF<sub>6</sub>: Acetonitrile Binary Mixture as a Solvent for Electrochemical Studies Involving CO<sub>2</sub>, [Anthony M. Rizzuto](#), Rachel L. Pennington, Karl D. Sienerth, Elon University
- 12:00-2:00 240 Absolute Measurement of Internal Volume Changes Inside the Pulse Dampener: Discrepancy Between Delay and Dwell Volumes, [Zheng Zheng](#), Middlebury College, Eduard Rogatsky, Daniel T. Stein, Albert Einstein College of Medicine
- 12:00-2:00 241 The Effects of Ambient Processing Conditions on the Exciton Lifetime of Poly 3-Hexylthiophene using Femtosecond Upconversion Fluorescence Spectroscopy, [Lindsey Klinge](#), SUNY - Purchase College, Matthew Sfeir, Brookhaven National Laboratory
- 12:00-2:00 242 Determination of Elemental Fingerprints of Beer Samples by using Inductively Coupled Plasma Mass Spectrometry (ICP/MS), [Nazia Mahmood](#), Yi He, Nicholas D. Petraco, John Jay College
- 12:00-2:00 243 The QuEChERS Method as a Sample-Preparation Technique for Analysis of Pesticide Residue in Apples and Coffee via GC/MS, [Kelsey Smith](#), Karyn Usher, Mackenzie L. Lauro, West Chester University
- 12:00-2:00 244 Improving Performance on Parallel Plate High-Field Asymmetric Ion Mobility Spectrometry Devices, [Alice L. Pilo](#), Mark E. Ridgeway Jr., Alessandra L. Ferzoco, Gary L. Glish, University of North Carolina - Chapel Hill, Desmond Kaplan, Melvin A. Park, Bruker Daltonics

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**Tuesday Afternoon, November 16, 2010**


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**EAS Award for Outstanding Achievements in Separation Science**
**Honoring Brian A. Bidlingmeyer**
**Sponsored by Agilent Technologies**
**Chair: Peter Johnson, 3M Company**


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*Ballroom West*

- 2:00 Presentation of EAS Award for Outstanding Achievements in Separation Science
- 2:05 245 The Role of Electrostatic Interactions in Chromatographic Separations, [Brian Bidlingmeyer](#), Agilent Technologies
- 2:35 246 Practical Aspects of High-Performance Column Selection in Liquid Chromatography: Superficially Porous or Sub- Two Micron (STM) Particles?, [Ronald E. Majors](#), Agilent Technologies

- 3:05 247 Improving HPLC Column Selection and System Performance, [Richard A. Henry](#)
- 3:35 Break
- 3:55 248 Protein Chromatography with Really Sharp Peaks by using Silica Colloidal Crystals, [Mary J. Wirth](#), Bingchuan Wei, Purdue University
- 4:25 249 Extreme Sample Preparation: Extremely Efficient Versus Extremely Tedious, [Peter R. Johnson](#), 3M Company

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**Plastics and Synthetic Polymers in Cultural Heritage: Recent Advances in Identifying and Monitoring Deterioration Organized in cooperation with New York Conservation Foundation**


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**Chair: Tom Learner, The Getty Conservation Institute**
*Tewksbury*

- 2:00 250 An Overview of Analytical Techniques used for Identifying and Characterizing Plastics in Cultural Heritage, [Tom Learner](#), Rachel Rivenc, The Getty Conservation Institute
- 2:30 251 Sick POLYmers in the POLYclinic: Conservation Research of Plastics at ICN, [Thea van Oosten](#), Netherlands Institute for Cultural Heritage
- 3:00 252 Detecting Polymer Oxidation with Dosimeters for Sensing Volatile Peroxides, [Paul M. Whitmore](#), Muditha D. Senarath-Yapa, Carnegie Mellon University
- 3:30 Break
- 3:50 253 Accelerated Deterioration of Injection-Molded Cellulose Acetate Plasticized with Triphenyl Phosphate, [Odile Madden](#), Smithsonian Institute
- 4:20 254 Plastic Fantastic? Monitoring the Deterioration of Cellulose Esters in Collections, [Emma Richardson](#), Michael Schilling, Rachel Rivenc, Alan Phenix, Tom Learner, The Getty Conservation Institute

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**Quality-by-Design Approach to Analytical Development**


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**Chair: Oscar Liu, Merck**
*Ballroom Center*

- 2:00 255 Quality-by-Design for Analytical Methods in the Pharmaceutical Industry (from Candidate Inception to Marketed Product), [Rosario LoBrutto](#), Novartis
- 2:30 256 Quality-by-Design for Dissolution Methods: A Development Perspective, [William E. Bowen](#), Merck
- 3:00 257 Quality-by-Design for Dissolution Methods: A Commercialization Perspective, [Kimberly Gallagher](#), Melissa Steinbeiser, Merck
- 3:30 Break
- 3:50 258 A Practical Approach in the Structure Elucidation of Degradation Products for New Pharmaceutical Drug Candidates when Multi-Dimensional HPLC/MS can get the Job Done, [Ángel R. Díaz](#), Alex Opio, Pfizer
- 4:20 259 Performance-by-Design LC Method Development, [Oscar Liu](#), Tina Masiuk, Justin Pennington, Honggen Zhang, Zhenyu Wang, Brent Donovan, Merck

**Trace Analysis in Forensic Chemistry****Sponsored by New Jersey Association of Forensic Scientists****Chair: Thomas Brettell, Cedar Crest College***Hillsborough*

- 2:00 260 The Application of Single Crystal X-Ray Diffraction to Investigate the Structure of Forensic Microcrystal Tests, Matthew R. Wood, New Jersey State Police, Roger A. Lalancette, Hugh W. Thompson, Rutgers University, Thomas A. Brettell, Cedar Crest College
- 2:40 261 A Study to Monitor the Oxidation of Nitrites to Nitrates Over Time, Michelle L. Schmidt, Cedar Crest College, Vincent J. Desiderio, NJ State Police
- 3:20 Break
- 3:40 262 Collecting Quality FT/IR Spectra of Suspicious White Powders in a Sealed Cell, Brooke W. Kammrath, The City University of New York, Pauline E. Leary, Smiths Detection, John A. Reffner, John Jay College
- 4:20 263 Forensic Analysis of Triacetone Triperoxide (TATP), Michael Sigman, University of Central Florida

**Chemical Reactions at Surfaces****Chair: Gina Florio, St. John's University***Westfield*

- 2:00 264 Quantification of the Copper Nanostructure Formation on H-Terminated Silicon with Thermal Desorption, Jia-Ming Lin, Kathryn Perrine, Andrew V. Teplyakov, University of Delaware
- 2:30 265 Model Catalyst Surface Chemical Dynamics on Subpicosecond Timescales, Nicholas Camillone III, Brookhaven National Laboratory
- 3:00 266 Analysis of Bath Chemistry Control Methodology in Electrochemical Metallization, Boli Zhou, BZ Plating Process Solution
- 3:30 Break
- 3:50 267 Chemistry and Charge Transfer Across Interfaces, Robert Opila, University of Delaware
- 4:20 268 Designing Organometallic Precursors for Thin and Ultra-Thin Barrier Film Deposition: Analysis of Pros and Cons for Ligand Design and Reactive Surface Functionalization, Andrew V. Teplyakov, University of Delaware

**Raman Spectroscopy: From the Laboratory to the Process Line****Arranged in conjunction with the Coblenz Society****Chair: Ian R. Lewis, Kaiser Optical Systems***Bridgewater*

- 2:00 269 Using Computational Modeling to Improve Biomedical Raman Microscopy, Rohit Bhargava, Anil Kodali, Matthew Schulmerich, University of Illinois
- 2:30 270 Investigation of Orally Inhaled and Nasal Drug Products using Chemically Specific Particle Sizing (CSPS), Linda H. Kidder, E. Neil Lewis, Janie Dubois, Kenneth S. Haber, Malvern Instruments
- 3:00 271 Application of Raman Spectroscopy to Enable Rapid Scale-Up of Pharmaceutical Co-Crystals, Sachin Lohani, Merck

3:30 Break

3:50 272 Monitoring Pharmaceutical Reaction Chemistry with Raman Spectroscopy, Gregory Gervasio, James Rydzak, GlaxoSmithKline4:20 273 Achieving Process Knowledge via Improvements in *In-Situ* Raman Sampling and Data Analysis, Ian R. Lewis, Kevin L. Davis, Sean Gilliam, David J. Strachan, Maryann E. Cuellar, Kaiser Optical Systems**Mass Spectrometry: A Tool for Analysis of Biologics, Pharmaceutical, and Environmental Samples****Chair: Landon Greene, Bristol-Myers Squibb***Ballroom East*

- 2:00 274 The Study of Protein Conformation in Solution via Direct Sampling by Desorption Electrospray Ionization Mass Spectrometry, Hao Chen, Zhixin Miao, Shiyong Wu, Ohio University
- 2:20 275 Distinguishing Among Three Luteolin Glycoside Isomers by using Host-Guest Chemistry and LC/MS/MS, Canan Ozer, Kean University
- 2:40 276 LC/MS Analysis of FDA Approved Drugs that Inhibit Cancer Cell Growth, Samantha M. Mahmoud, Dil Ramanathan, Kean University
- 3:00 277 Multi-Mycotoxin Analyses, Including Cyclopiazonic Acid, in Various Cereals by Mini-Column LC/MS/MS, Perry A. Martos, University of Guelph
- 3:20 Break
- 3:40 278 Analysis of Fuels using Atmospheric Pressure GC/MS, Douglas M. Stevens, Waters
- 4:00 279 Using ICP/OES and ICP/MS to Meet the Requirements of Trace Elemental Analysis in Pharmaceutical Products, Craig Seeley, Doug Sears, Thermo Fisher Scientific
- 4:20 280 USP Metals Determination in Drug Products and Excipients using ICP/MS, Lee Davidowski, Zoe Grosser, PerkinElmer

**What Does it Take to Run a Laboratory: Current Issues****Chair: Dennis Swijter, International Flavors and Fragrances***Bedminster*

- 2:00 281 Challenges of Building the Best Analytical Team, Robert Geise, BASF Catalysts
- 2:25 282 Getting the Most from Your Analytical Dollar – Building Successful Customer/Supplier Relationships, Sherri L. Bassner, Intertek Analytical Sciences
- 2:50 283 Motivating Analytical Staff in the Face of Large Routine Sample Loads, George Reiner, Danielle DiNallo, International Flavors and Fragrances
- 3:15 Break
- 3:35 284 Keeping Capabilities Current and Running within a Limited Capital Budget, Marina Despotopoulou, Arkema
- 4:00 285 Same Time Next Year: Adapting to the Faster Pace of Organizational Change, Richard R. Durand Jr., Gregory V. Pace, Sun Chemical
- 4:25 286 The Only Real Value of Analytical Services, Jonathan Chun, Alliance Technologies

## Wednesday Morning, November 17, 2010

### EAS Award for Outstanding Achievements in Near-Infrared Spectroscopy

Honoring James B. Reeves III, US Department of Agriculture  
Sponsored by FOSS NIRSystems

Chair: Charles M. Zapf, McCormick

#### *Ballroom East*

- 9:00 287 How "Good" Is My NIR Calibration?  
Tony Pietrantonio, Caltest
- 9:25 288 Regulatory Considerations for Utilization of Near-Infrared (NIR) Spectroscopy in Process Monitoring and Control, Bogdan Kurtyka, US Food and Drug Administration
- 9:50 289 Preprocessing of NIR Spectra: Conditions for When is it Advantageous in Partial Least Squares and Multiple Linear Regression Calibrations, Stephen R. Delwiche, US Department of Agriculture
- 10:15 Break
- 10:35 290 Attempts at Understanding all of the Factors Involved in Diffuse Spectroscopy, and Evaluating a Simple Method for Correcting for Variations in Path Length, Karl Norris
- 11:00 291 Use of Near-Infrared Diffuse Reflectance Spectroscopy to Measure Soil Properties, Greg W. McCarty, US Department of Agriculture
- 11:25 Presentation of EAS Award for Outstanding Achievements in Near-Infrared Spectroscopy
- 11:30 292 A Career in Near-Infrared Spectroscopy: From the Front of the Cow (Forages) Through the Center (Odoriferous) to the Rear (Really Messy and Stinky!) and Beyond. Lessons Still to be Learned, James B. Reeves III, US Department of Agriculture

### Chemometrics for Chemical Sensing

Chair: Karl Booksh University of Delaware

#### *Bridgewater*

- 9:00 293 Fusing NIR and other Spectra for Quality Assurance of Pharmaceuticals, Steve D. Brown, Wangdong Ni, University of Delaware, Maureen Lanan, Biogen IDEC, Mike L. Koenigbauer, AstraZeneca
- 9:30 294 Stacked Principal Component Regression for the Enhanced Analysis of HPLC and UV/Vis Spectral Data: Undergraduate Research at Salisbury University, Robert D. Luttrell, Christopher M. Simms, Patrick C. Riley, Salisbury University
- 10:00 295 Preprocessing of Ultraviolet Resonance Raman (UVR) Spectra for Multi-Variate Analysis, Renee JiJi, Olayinka Oshokoya, John V. Simpson, University of Missouri
- 10:30 Break
- 10:50 296 Chemometric Analysis of Two-Dimensional Gas Chromatograms for the Analysis of Gulf Oil Spills, Gregory J. Hall, Glenn S. Frysinger, US Coast Guard Academy

- 11:20 297 Adaptive Regression by Subspace Elimination for Robust Calibration Towards Spectral Interferants, Karl Booksh, Bryon Herbert, Boris Mizaikoff, Seong-Soo Kim, University of Delaware

### Vibration and Spins: Spectroscopic Analysis of Materials

Chair: Chanda Yonzon, Merck

#### *Tewksbury*

- 9:00 298 Cap-IR: A New Sample Stage for IR Spectroscopy, John R. Sowa Jr., Seton Hall University, Eleanor Ojinnaka, Irvington High School, Percy Takqi, West Orange High School
- 9:20 299 Visible Attenuated Total Reflectance for High-Strength Pigment Analyses: Comparison to MIR and NIR, Kathryn A. Lee, Dan C. Rich, Sun Chemical
- 9:40 300 Heavy Metal Content in Commercial Pet Foods Analyzed by ICP and ICPMS, Ralph H. Obenauf, Vanaja Sivakumar, Patricia Atkins, SPEX CertiPrep
- 10:00 301 Two-Dimensional NMR Correlation Experiments in the Gas Phase, Alexander A. Marchione, DuPont
- 10:20 Break
- 10:40 302 HT/NMR: A Novel Quality Control Tool for Determining Concentration and Water Content of Pharmaceutical Repository Compounds, Yingzi Wang, Stella Huang, Sandra Matson, Moneesh Chatterjee, Michael Reily, Bristol-Myers Squibb
- 11:00 303 Development of a Rapid Small-Scale NMR Method for Metabolite Identification in Drug Discovery, Stella Huang, Kim Johnson, Vikram Roongta, Xiaohong Liu, Yue-Zhong Shu, Griff Humphreys, Michael Reily, Bristol-Myers Squibb
- 11:20 304 Investigating the Structural Organization of Tomato Cuticles using Solid-State NMR and Atomic Force Microscopy, Subhasish Chatterjee, Julia Oktawiec, Ruth E. Stark, City College of New York, Antonio J. Matas Arroyo, Joss K.C. Rose, Cornell University

### A "Trip" Through the Forensic Realm

Chair: David Trimble, Swarthmore College

#### *Hillsborough*

- 9:00 305 Forensic Multi-Target Screening and General Unknown Screening on a LC/MS/MS System with Automatic Library Searching for Compound Identification, Pauline J. Vollerhaus, Andre Schreiber, AB SCIEX, Tania Saski, Avee Laboratories
- 9:30 306 Analysis of Opiates in Urine and Blood using Solid Phase Microextraction-GC/MS, Cierra Green, George Jackson, Nicholas H. Snow, Seton Hall University
- 10:00 307 Simultaneous Separation and Detection of Illicit Drugs and their Salt Forms using LC/MS, Sergio A. Guazzotti, Kate Preston, Guifeng Jiang, Thermo Fisher Scientific
- 10:30 Break
- 10:50 308 Quantitative Analysis of Salvinorin A using Comprehensive Two-Dimensional Gas Chromatography/Time-of-Flight Mass Spectrometry (GCxGC/TOFMS), Brian B. Barnes, Nicholas H. Snow, Seton Hall University

- 11:20 309 Forensic Analysis by SERS: Drugs, Poisons, Explosives, and More, Stuart Farquharson, Frank Inscore, Chetan Shende, Atanu Sengupta, Hermes Huang, Real-Time Analyzers

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**Advanced Materials and Nanoparticles Characterization**

**Chair: Eric Garfunkel, Rutgers University**

*Westfield*

- 9:00 310 Trends in the Behavior of Inorganic Compounds by Laser Desorption Mass Spectrometry, John Allison, Alexander E. Clark, The College of New Jersey
- 9:30 311 Atom Probe Tomography Applications to Advanced Materials Characterization, Hyun Woo (Howie) Jin, ExxonMobil
- 10:00 312 A New Method for Photoluminescence Quantum Yield Measurements of Novel Materials, Karen E. Gall, Horiba Scientific
- 10:30 Break
- 10:50 313 Capillary Electrophoresis with Scanning Capacitively-Coupled Contactless Conductivity Detection for the Size Characterization of Semiconductor Nanoparticles, Jared S. Baker, Luis A. Colón, SUNY Buffalo
- 11:20 314 Methanol Electrocatalytic Oxidation Mediated by a [Ni/Al-Carbonate]-Based Hydrotalcite in Alkaline Medium, Derrick Baker, Jeremiah Hicks, Uche Udeochu, University of Maryland-Eastern Shore, Nana Karikari, Jason Ganley, Dharmaraj Raghavan, Charles Hosten, Howard University

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**New Horizons *In-Situ* and Remote Sensing**

**Chair: Richard NGuyen, Merial Limited**

*Bedminster*

- 9:00 315 Gas Sensing using Robust Mid-Infrared Technology in Elmina, Ghana, Ekua N. Bentil, Anna P.M. Michel, James A. Smith, Claire F. Gmachl, Princeton University, Charles L.Y. Amuah, Moses J. Eghan, University Cape Coast
- 9:30 316 A Quantum Cascade Laser-Based Glucose Sensor for Diabetics, Anna P.M. Michel, Claire F. Gmachl, Princeton University
- 10:00 Break
- 10:20 317 Electrochemical Investigation of Quercetin Interactions with DNA and its Monomer Units at Quercetin Doped Carbon Paste Electrode and Glassy Carbon Electrode, Ailing Zhou, Omowunmi Sadik, Xueying He, SUNY Binghamton
- 10:50 318 Use of Hyperspectral Remote Sensing Data to Map Soil Properties, Gregory W. McCarty, Dean Hively, Megan Lang, James Reeves, Steven R. Delwiche, Hydrology & Remote Sensing Laboratory

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**Quantitative Vibrational Analysis, Remembering Connie Paralusz**

**Chair: Jane Wu, TMAS**

*Ballroom Center*

- 9:00 Remembering the Contributions of Connie Paralusz, Jane Wu, TMAS
- 9:10 319 Applications of Target PLS, Boiana O. Budevskva, DuPont

- 9:40 320 Structure and Orientation in Polymeric Fibers, D. Bruce Chase, University of Delaware
- 10:10 Break
- 10:30 321 Examples of Raman Spectroscopy for Small-Scale Batch and Continuous Manufacturing, Ian R. Lewis, Kevin L. Davis, Sean Gilliam, Herve Lucas, Kaiser Optical
- 11:00 322 Virtual Characterization, James M. Brown, Exxon-Mobil
- 11:30 323 Near-Infrared and Raman Online Analyses for Semiconductor Industry Liquid Streams, Lois Weyer, Trelytics and Alliant Techsystems

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**Innovations in Chromatographic Stationary Phases: Solid Core to Ion Exchange**

**Chair: Hui (Viviane) Zhao, Bristol-Myers Squibb**

*Ballroom West*

- 9:00 324 Hafnia and Zirconia Monolithic Structures for Chromatographic Applications, Stefan Vujcic, Luis A. Colón, SUNY Buffalo
- 9:20 325 New Monolithic Anion Exchange Columns for Fast Separation of Inorganic and Organic Anions in Variety of Sample Matrices, Kirk Chassaniol, Charanjit Saini, Yury Agroskin, Chris Pohl, Dionex
- 9:40 326 Application of Novel Fused-Core™ Particle Column in 2D RP/RP MS Analysis of Biological Samples, Eduard Rogatsky, Daniel T. Stein, Albert Einstein College of Medicine
- 10:00 327 Orthogonal Selectivity by New Generation of Core Shell Materials, Lawrence Y. Loo, Jason Anspach, Mike Chitty, Tivadar Farkas, A. Carl Sanchez, Thuylinh Tran, Phenomenex
- 10:20 Break
- 10:40 328 HPLC Analysis of siRNAs, Mirlinda Biba, Christopher J. Welch, Merck, Joe P. Foley, Drexel University
- 11:00 329 High Resolution Polypeptide Separations on Ascendis Express Peptide ES-C18, Xiaoning Lu, Hillel Brandes, Wayne Way, Carmen Santasania, Richard A. Henry, Supelco/Sigma-Aldrich
- 11:20 330 Quality-by-Design LC Methods Development using Orthogonal Stationary Phases, Kenneth J. Fountain III, Damian Morrison, Waters
- 11:40 331 Polyanilinetitanium(IV)arsenate: A New Composite Cation Exchanger Synthesis, Characterization and its Environmental Applications, Syed Ashfaq Nabi, Mohammad Shahadat, Rani Bushra, Aligarh Muslim University

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**Wednesday Poster Session: Diverse Solutions to Solve Analysis Problems**

*Poster Area in the Exhibit Hall*

- 12:00-2:00 332 Stability of Single-Element and Anion Solution Standard Reference Materials, Therese A. Butler, Michael R. Winchester, National Institute of Standards and Technology
- 12:00-2:00 333 Food Authenticity Determination by Total Organic Carbon Isotope Analysis using a Combined TOCCavity Ringdown Spectrometer



- (CRDS) Instrument, Garrett Slaton, Jeffrey R. Lane, Richard Simon, Gary Engelhart, Trent Sprengle, OI Analytical
- 12:00-2:00 334 Structural Parameters for Petroleum Heavier Ends Feed Stocks by NMR Spectroscopic Techniques, Veena Bansal, Ravindra Kumar, M. B. Patel, A. S. Sarpal, Indian Oil Corporation
- 12:00-2:00 335 Evaluation of Calibration Standard Preparation for Developing Near-Infrared Blending Models, John V. Spirig, Boyong Wan, Bristol-Myers Squibb
- 12:00-2:00 336 Determination of Inorganic Anion Impurities in a Water Insoluble Pharmaceutical by Ion Chromatography with Suppressed Conductivity Detection, Kirk Chassaniol, Brian de Borja, Khalil (Ginger) Divan, Jeffrey S. Rohrer, Dionex
- 12:00 - 2:00 337 New Ultra High-Resolution Mass Sensors for Development of More Efficient Column Packing Materials, Larry Unger, Kerri-Ann Hue, Patrick O'Hagan, Particle Sizing Systems
- 12:00-2:00 338 An Automated Measuring System for Density, Refractive Index, pH, Conductivity and Color, Wallace Harvey, Tore Fossum, Mettler Toledo
- 12:00-2:00 339 A Titration System for the Automated Determination of Iodine Absorption of Carbon Black, Tore Fossum, John Griffiths, Mettler Toledo
- 12:00-2:00 340 Comparative Study of Structural, Optical and Luminescent Properties of Plastic (PMMA) and Water Based Liquid Scintillators Doped with Cobalt Benzene-1,2-Dithiolate and Wavelength Shifter, TPB, Mohit P. Patel, Susan Jansen-Varnum, Temple University
- 12:00-2:00 341 Globalization of Spectroscopic Data Access, David A. Joyce, Steve Best, Thermo Fisher Scientific
- 12:00-2:00 342 Keeping Your Karl Fischer Under Control, Selecting an Appropriate Water Standard, Doug Clark, Don Hobbs, Supelco/Sigma-Aldrich
- 12:00-2:00 343 New Advances in Pure Gas Delivery, Steven Yu, Tracey Jacksier, Air Liquide
- 12:00-2:00 344 Why Worry about Running out of Gas on your Critical Processes?, Tracey Jacksier, Air Liquide
- 12:00-2:00 345 <sup>77</sup>Se-NMR Spectroscopy of Selenoproteins, Fei Li, Sharon Rozovsky, University of Delaware
- 12:00-2:00 346 Development of Automated Analytical Solutions to Support Radiolabeled Compounds at Merck, Rosemary Marques, Pamela Rizos, Claire Lee, Steven Staskiewicz, Herb Jenkins, Roy Helmy, Vincent Antonucci, Merck
- 12:00-2:00 347 Determination of Cocaine Contamination on Paper Currency Across the US East Coast, Yuegang Zuo, Philip Langley, Ratthisa D. Phomsopha, University of Massachusetts
- 12:00-2:00 348 Methanol Electrocatalytic Oxidation Mediated by a [Ni/Al-Carbonate]-Based Hydrotalcite in Alkaline Medium, Jeremiah Hicks, Uche Udeochu, University of Maryland

### Wednesday Poster Session: New Advances in Pharmaceutical Analysis

#### Poster Area in the Exhibit Hall

- 12:00-2:00 349 Analysis of Various Polyethylene Glycol (PEG) Species Including Simultaneous Free PEG and PEGylated Proteins with HPLC and Charged Aerosol Detection, Marc Plante, Thomas Villaseñor, Christopher Crafts, Bruce Bailey, Ian Acworth, David Clark, ESA - A Dionex Company
- 12:00-2:00 350 Determination of Melamine and Its Analogs in Inactive Pharmaceutical Ingredients by Ultra Performance Liquid Chromatography Coupled with Tandem Mass Spectrometry, Jane Xu, Jeremy C. Shia, John Martin, Diane M. Diehl, Waters
- 12:00-2:00 351 Correlation of Physical and Chemical Stability in an Oral Dosage Form with Light Sensitive Permeation Enhancer, Karen T. Toscano, Seema Tomer, Donna Abarca, Novartis
- 12:00-2:00 352 Improving the Quantitation of Unknown Impurity Analysis using Dual Gradient HPLC with Charged Aerosol Detection, Christopher Crafts, Marc Plante, Bruce Bailey, Dave Clark, Ian Acworth, ESA - A Dionex Company
- 12:00-2:00 353 CE Separation of the Clopidogrel Enantiomeric Impurity and Other Related Compounds using Anionic Cyclodextrins as Chiral Selectors, Hui He, Kung-I Feng, Merck
- 12:00-2:00 354 A Simpler and Faster HPLC Assay of Two Drug Products to Treat Tuberculosis, Jeffrey S. Rohrer, Suparerk Tukkeeree, Dionex
- 12:00-2:00 355 Development of a Sensitive LC/MS Method for the Determination of a Potential Genotoxic Impurity in an Active Pharmaceutical Ingredient for Phase I Development, George Wang, Thomas F. Hooker, Ling Zhang, Frank P. Tomasella, Bristol-Myers Squibb
- 12:00-2:00 356 Simultaneous Estimation of Nebivolol Hydrochloride and S-Amlodipine Besylate by High-Performance Thin Layer Chromatography, Bhavesh H. Patel, K B Institute of Pharmaceutical Education and Research
- 12:00-2:00 357 USP 467 Headspace Residual Solvent Assay with a HT3TM Headspace Instrument, Roger N. Bardsley, Tom Hartlein, Tammy Rellar, Teledyne Tekmar
- 12:00-2:00 358 DESI/MS as a Tool for Obtaining Quick Cleaning Validation and Swab Recovery Results, Michelle A. Baron, Laura Sharon, Li Li, Merck
- 12:00-2:00 359 Incoming Packaging Component Identification using a Hand-Held Raman Spectrometer, Jeremy A. Linoski, Christopher D. Brown, Robert C. Brush, Thermo Scientific Portable Optical
- 12:00-2:00 360 Evaluation of the Precision of Dual-Opposite Injection Capillary Zone Electrophoresis and Comparison with Conventional Capillary Zone Electrophoresis, Donna M. Blackney Beckett, Joe P. Foley, Drexel University

- 12:00-2:00 361 Water Determination in Various Plastics, George E. Porter III, Michael Margreth, Christian Haider, Metrohm USA
- 12:00-2:00 362 Development of a Test Method to Evaluate the Oxidation Induction Temperature (OIT) of Nylon 6 Polymer using a Thermogravimetric Analyzer (TGA), Arunagiri Krishnamoorthy, SRF Ltd.
- 12:00-2:00 363 Cleaning Validation Analysis with the use of a Total Organic Carbon Analyzer - Increased Productivity without the Drawbacks, Stephen Lawson, Nora Negron, Roger N. Bardsley, Teledyne Tekmar
- 12:00-2:00 364 Analysis of Sodium by Direct Titration, George E. Porter III, Brady Belue, Metrohm USA
- 12:00-2:00 365 Moisture Analysis in Tablets and Foods using a Homogenizer and Karl Fischer Titrator, Tore Fossum, Mettler Toledo
- 12:00-2:00 366 Surface Energy Heterogeneity and its Affect on Aspirin Dissolution Rates, Daniel J. Burnett, Armando R. Garcia, Surface Measurement Systems
- 12:00-2:00 367 Applications of a Biorelevant In-Vitro Dissolution Method using USP Apparatus IV in Early Phase Formulation Development, Vivian K. Robertson, Jiang B. Fang, Angela M. Olsofsky, Chia-Yi Yang, Nina S. Cauchon, James S. McElvain, Amgen

### Wednesday Poster Session: Sample Prep Techniques: Get it Right Before You Get it Wrong

#### Poster Area in the Exhibit Hall

- 12:00-2:00 368 Quantifying the Impact of Operator Error in Pipetting, A. Bjoern Carle, Doreen Rumery, Aaron Davis, George W. Rodrigues, Artel
- 12:00-2:00 369 Errors in Liquid Delivery - The Importance of Laboratory Conditions on Pipetting, A. Bjoern Carle, Doreen Rumery, Aaron Davis, Geoff Sawyer, George W. Rodrigues, Artel
- 12:00-2:00 370 Vitamin D and Metabolites: Evaluation of Supported Liquid Extraction (SLE) prior to LC/MS/MS Analysis, Lee D. Williams, Rhys D. Jones, Helen Lodder, Steve Jordan, Richard Calverley, Claire Desbrow, Gary Dowthwaite, Biotage
- 12:00-2:00 371 Extraction of THC and Metabolites from Urine and Plasma using Supported Liquid Extraction (SLE) prior to LC/MS/MS Analysis, Lee D. Williams, Rhys D. Jones, Helen Lodder, Steve Jordan, Richard Calverley, Claire Desbrow, Gary Dowthwaite, Biotage
- 12:00-2:00 372 Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) on Pharmaceutical Compounds: Sample Preparation Considerations, Alice T. Granger, Cindy Qin, John McCaffrey, Reginaldo Saraceno, Boehringer Ingelheim
- 12:00-2:00 373 Microwave Assisted Digestion on Mixed Batched Samples in Disposable Vessels, Dean R. Schmidt, Milestone

- 12:00-2:00 374 Semi-Open Focused Microwave Methodology for Fast Sequential Sample Preparation, Bill MacLuckie, David Barclay, CEM Corporation
- 12:00-2:00 375 New Modern and Efficient SPE Products for Environmental and Drugs of Abuse Applications: SiliaPrep™ CleanENVI and SiliaPrep™ CleanDRUG, Mark Clark, Vincent Bedard, Charles Levesque, Steeve Potvin, Francois Beland, SiliCycle
- 12:00-2:00 376 Automated Benchtop System for Serial Dilution, Fredrick D. Foster, Edward A. Pfannkoch, John R. Stuff, Gerstel

## Wednesday Afternoon, November 17, 2010

### EAS Award for Outstanding Achievements in Chemometrics Honoring Johan A. Westerhuis, University of Amsterdam Sponsored by Eigenvector Research Chair: Paul Gemperline, Eastern Carolina University

#### Bridgewater

- 2:00 377 Kinetic Modeling of Batch Slurry Processes, Paul J. Gemperline, John Blanton, Chun Hsieh, David Joiner, East Carolina University, Theresa Kirshner, University of Tennessee, Mary Ellen McNally, Ronald M. Hoffman, DuPont
- 2:30 378 A History of Multi-Block Methods, Age K. K. Smilde, Swammerdam Institute
- 3:00 379 Issues on Batch Multi-Variate Statistical Process Control, Alberto J. Ferrer-Riquelme, José M. González-Martínez, Universidad Politécnica de Valencia, José Camacho-Páez, Universidad de Granada
- 3:30 Break
- 3:50 380 A Guide to the Orthogonalization Filter Smörgåsbord, Barry M. Wise, Neal B. Gallagher, Jeremy M. Shaver, Eigenvector Research, Morten A. Rasmussen, Rasmus Bro, University of Copenhagen
- 4:20 Presentation of EAS Award for Outstanding Achievements in Chemometrics
- 4:25 381 Chemometric Tools in the Human Systems Biology, Johan A. Westerhuis, University of Amsterdam

### Near-Infrared Spectroscopy

#### Chair: Howard Mark, Mark Electronics

#### Ballroom East

- 2:00 382 NIR in PAT/QBD: Finally, We Check Out the Man Behind the Curtain!, Emil Ciurczak, Doramaxx Consulting
- 2:25 383 Using Averaging Effectively, Dave Hopkins, NIR Consultant
- 2:50 384 Applications of NIR and SIMCA for Product Development and Process Optimization, Debbie A. Peru, Colgate- Palmolive
- 3:15 Break
- 3:35 385 Supervised Principal Component Analysis as a Quantitative Method in Pharmaceutical Analysis, Weyong Li, NIRvation
- 4:00 386 NIR Spectroscopy - Just One of Many Analytical Tools for PAT, Bradley Diehl, Pfizer

- 4:25 387 Pharmaceutical Interactions Investigated by NIR, FTIR and Raman Spectroscopy, David Heaps, Med-Immune

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

**Honoring Cecil Dybowski, University of Delaware**

**Chair: Seetha Viswanathan, Purdue Pharma LP**

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*Ballroom Center*

- 2:00 Presentation of the New York Section of the Society for Applied Spectroscopy Gold Medal Award
- 2:05 388 Investigation of Materials with Magnetic Resonance Spectroscopy, Cecil Dybowski, University of Delaware
- 2:35 389 Single-Molecule Spectroscopy for Quantitative Analysis of Interfacial Processes, Joel M. Harris, University of Utah
- 3:05 390 Applications of Spectroscopy to Chemistry and Materials Forensics, Dale L. Perry, Lawrence Berkeley National Laboratory
- 3:35 Break
- 3:55 391 Spectroscopic Investigation of Thin Diffusion Barrier Films: Formation, Properties and their Manipulation at the Atomic Scale, Andrew V. Teplyakov, University of Delaware
- 4:25 392 X-Ray Diffraction and Analysis of Pharmaceutical Solids, Qi Gao, Bristol-Myers Squibb

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**Forensic Microscopy IV "What is it? Who does it?"**

**Chair: Tom Kubic, John Jay College**

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*Hillsborough*

- 2:00 393 Soot Particle Characterization using Light and Electron Microscopy, James Millette, MVA Scientific Consultants
- 2:40 394 Forensic Examination of Nanoparticles using Transmission Electron Microscopy, Whitney Hill, MVA Scientific Consultants
- 3:20 Break
- 3:40 395 Study of Ricochets: The Interactions of Bullets with Different Surfaces, Peter Diaczuk, John Jay College
- 4:20 396 Standards and Best Practice in Microscope Photometry, Dale K. Purcell, John Jay College

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**Plastics, Acid Vapors; Historic and Contemporary Optical Media**

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

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*Tewksbury*

- 2:00 397 Mechanical Cleaning of Plastics-Risks and Benefits, Yvonne R. Shashoua, Katherine Segel, National Museum of Denmark
- 2:30 398 Determining Acetic and Formic Acid Vapor Concentrations in Museum Environments by an Improved Ion Chromatographic Method with Revised Acid Diffusion Coefficients, Robyn E. Hodgkins, Alexander K. Tucker-Schwartz, Robin L. Garrell, UCLA, Cecily M. Grzywacz, The Getty Conservation Institute
- 3:00 399 Examination of Deterioration Processes on Daguerreotypes Types by Raman Spectroscopy and SEM-EDS, Franziska Schulte, Silva Centeno, Nora Kennedy, Metropolitan Museum of Art

- 3:30 Break

- 3:50 400 Characterization of Silver Gelatin Fiber Based Photographic Papers by ATR/FTIR Spectroscopy, Ana Martins, Chris McGlinchey, Lee Ann Daffner, Museum of Modern Art, Paul Messier, Paul Messier LLC, Alexandria Dubodel, Institute of Fine Arts

- 4:20 401 New Media, New Challenges, New Documentation: The Documentation and Treatment of Nam June Paik's TV Cello, Lisa Conte, Christine Frohner, Lisa Nelson, Julia Sybalsky, NYU Institute of Fine Arts

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**Electrochemistry in Drug Development, Design, and Testing**  
**Chair: J. Faye Rubinson, Georgetown University**

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*Bedminster*

- 2:00 402 Voltammetry and Polarography in the Analysis of Drugs, Petr Zuman, Clarkson University
- 2:40 403 High-Performance Anion-Exchange Chromatography with Pulsed Electrochemical Detection for Assay of Aminoglycoside Antibiotics, Jeffrey S. Rohrer, Dionex
- 3:20 Break
- 3:40 404 Pulsed Electrochemical Detection of Drugs and Formulations, William LaCourse, University of Maryland
- 4:20 405 Toxicity Screening of Drugs using Electrochemiluminescence Arrays, James Rusling, Sadogopan Krishnan, Shenmin Pan, Linlin Zhao, John B Schenkman, University of Connecticut

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**Innovations in Teaching Analytical Chemistry**

**Chair: Caryl Fish, St. Vincent College**

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*Westfield*

- 2:00 406 Creating Professional Analytical Chemists by Active Learning in the Instrumental Analysis Lab, Alanah Fitch, Loyola University
- 2:30 407 Determination of ARA and DHA in Human Milk and Infant Formulas: A Project-Based Lab for Instrumental Analysis, Kristen Leckrone, Roosevelt University
- 3:00 408 Forensic Chemistry Theme for a Capstone Chemistry Laboratory Course, John Allison, The College of New Jersey
- 3:30 Break
- 3:50 409 ANA-POGIL: A Consortial Approach to Writing and Implementing POGIL Activities in Analytical Chemistry Courses, Juliette Lantz, Drew University, Renee Cole, University of Central Missouri
- 4:20 410 Using POGIL and Project-Based Laboratories to Teach Mass Spectroscopy and Chromatography Concepts, Caryl Fish, St. Vincent College, Juliette Lantz, Drew University

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**Chromatographic Method Development: Motion, Speed and Velocity**

**Chair: Julia Vasta-Russell, AstraZeneca**

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*Ballroom West*

- 2:00 411 MISER Chromatography (Multiple Injections in a Single Experimental Run), Tanja Brkovic, Christopher J. Welch, Wes Schafer, Xiaoyi Gong, Edwin Pratt, James Cuff, Zainab Pirzada, Birgit Kosjek, Merck

- 2:20 412 Novel Chromatography Software Application, and its Impact on a Separations Lab: Advancements in Flexibility, Productivity, and Ease of use for Chiral Separations, Thierry D. Mann, Melissa Grondine, Joseph Twomey III, Novartis, David Holub, LEAP Technologies
- 2:40 413 Establishing Relevant Performance Parameters in the Development of High-Performance Gel Filtration Media, Michael D. McGinley, Ismail Rustamov, Vita Knudsen, Phenomenex
- 3:00 414 Selected Strategies to Address the Instability Issues in Quantitative Bioanalysis, Yuzhu Xue, Viya Pharma
- 3:20 Break
- 3:40 415 High-Throughput Reversed-Phase Chiral Screening Strategy on Polysaccharide-Based Chiral Stationary Phases using Volatile Buffers, Clinton W. Amoss, Bruce R. Coryell, Geoffrey B. Cox, Norbert M. Maier, Chiral Technologies
- 4:00 416 MRL Wiki: Knowledge of Chromatography, Neil McGachy, Chanda Rogers, Li Zhang, Lili Zhou, Roy Helmy, Vincent Antonucci, Merck
- 4:20 417 Simultaneous Determination of Water- and Fat-Soluble Vitamins by HPLC, Matthew W. Neely, Jeffery S. Rohrer, Dionex

### Thursday Morning, November 18, 2010

#### American Microchemical Society Benedetti-Pichler Award Honoring Joel M. Harris, University of Utah Chair: David Butcher, Western Carolina University

##### *Ballroom Center*

- 9:00 418 Chemical Sensors Based on Nanocrystallite-Xerogel Hybrids, Frank V. Bright, SUNY Buffalo
- 9:30 419 The Role of Isolated Silanols in Tailing and What We Can Do About It, Mary J. Wirth, Josh J. Newby, Purdue University
- 10:00 420 Molecular Adsorption/Desorption at Single Atom Nanowires Prepared by Self-Limiting Electrochemical Processes, Paul W. Bohn, Ping Shi, University of Notre Dame, Hsin-Yu Lin, National Tsing Hua University
- 10:30 Break
- 10:50 421 Chemistry in Droplets 50 Years after Benedetti-Pichler, Robin L. Garrell, UCLA
- 11:20 Presentation of the American Microchemical Society Benedetti-Pichler Award
- 11:25 422 Confocal Raman Microscopy of Particles in Liquids: Microchemical Analysis in Femtoliter Volumes, Joel M. Harris, University of Utah

#### Industrial Microscopy

Chair: Ronald L. Mueller, West

##### *Hillsborough*

- 9:00 423 Industrial Applications of Microscopy in an Analytical Laboratory, John R. Reffner, Dow Chemical
- 9:30 424 Image Analysis of EDS and Backscatter SEM Images of Pharmaceutical Tablets, Robert A. Carlton, GlaxoSmithKline

- 10:00 425 Industrial Applications of EPMA, Sharon L. Goresh, BASF
- 10:30 Break
- 10:50 426 Microscopy and X-Ray Tomography Studies of the Splitting Tendency of Bilayer Tablets, Antonios Zavaliangos, Gerald Klinzing, Drexel University
- 11:20 427 Beam Deceleration to Improve Low Voltage SEM Image Quality, Daniel Phifer, Petr Wandrol, Tomas Vystavel, FEI Company

#### Analytical Challenges in Pharmaceutical Analysis - Working with Products with Complex Formulations

Chairs: Kangping Xiao, Bayer HealthCare and Kim Huynh-Ba, Pharmalytik

##### *Ballroom East*

- 9:00 428 Unique Degradation Chemistry in Complex Formulations of Self-Emulsifying Drug Delivery Systems (SEDDS), Fenghe Qiu, Scott Pennino, Daniel L. Norwood, Boehringer Ingelheim
- 9:30 429 Sample Preparation and Chromatographic Analysis of Drugs in Complex Matrices and Formulations, Nicholas H. Snow, Cierra Green, Brian B. Barnes, Panagiotis Tavlarakis, Seton Hall University
- 10:00 430 Quantitative Analysis of Drugs and Excipients on Drug-Eluting Stents, Yuri V. Ilitchev, Cordis USA
- 10:30 Break
- 10:50 431 Identifying Drug Instability through Decomposition Analysis and the Difficulties Associated with the Approach, Brian Buckley, Ill Yang, Rutgers University, Mark Merlin, Robert Wood Johnson Medical School
- 11:20 432 Structural Identification and Characterization of Major Zotarolimus Degradants on ZoMaxx Drug Eluting Stents, Quan Chen, Abbott Laboratories

#### Applications of Hand-Held Spectrometers

Arranged in conjunction with the Coblenz Society

Chair: John Seelenbinder, A2 Technologies

##### *Bedminster*

- 9:00 433 Mixture Analysis using Streetlab Mobile Raman Spectrometer, Edita Botonjic-Sehic, Morpho Detection
- 9:30 434 Performance Trade-Offs in the Identification of Chemical Gas/Vapor Threats using a Hand-Held FTIR Spectrometer, Jose Arno, Peng Zou, Dave Dewey, David Schiering, Smiths Detection
- 10:00 435 Portable Hand-Held Analyzers in the Aerospace Industry, Paul Vahey, Paul H. Shelley, Greg J. Werner, Boeing
- 10:30 Break
- 10:50 436 Use of Hand-Held Spectrometers for Cleaning Validation and Verification: From Lab to Plant, Ben Lyons, Pfizer
- 11:20 437 Archaeometry and Other Cultural Heritage Object Characterizations with Hand-Held Spectroscopy, Scott W. Huffman, Caitlin G Williams, Western Carolina University

**Fast HPLC Analysis****Chair: Landon Greene, Bristol-Myers Squibb***Princeton*

- 9:00 438 Routine Real-Time LC Analysis on the Manufacturing Floor: Utilizing UPLC for At-Line and On-Line Quantitative Analysis of Complex In-Process Material, Craig H. Dobbs, Waters
- 9:30 439 A Fast, Generic and Systematic Approach to vHPLC Impurity Method Development, Peter I. Tattersall, Li Li, Qinggang Wang, Bristol-Myers Squibb
- 10:00 440 Where is Higher Pressure Liquid Chromatography Going?, Bob Giuffre, Agilent Technologies
- 10:30 Break
- 10:50 441 Fused-Core™ Particles and Sub-2 Micron Porous Particles for Fast Separation using HPLC and UPLC in Pharmaceutical Development, Naijun Wu, Theresa K. Natishan, Merck
- 11:20 442 Conversion of Legacy HPLC Methods to UHPLC in a QC Laboratory, Qinglin Tang, Jinjian Zheng, Neil Dias, Robert Markovich, Abu Rustum, Merck

**A Variety of Sample Preparation in Today's Laboratory****Chair: Ani Sarkahian***Westfield*

- 9:00 443 Importance of Glassware Treatment to Sample Preparation in HPLC Analysis: A Case Study, Xiande (Andy) Wang, Vijaya Bandlamudi, Sai Pothineni, Lori Alquier, Cordis
- 9:20 444 The Development of Single-Use, Biocompatible SPME Fibers for Solvent Desorption, Katherine Stenerson, Robert E. Shirey, Craig Aurand, Leonard Sidisky, Young Chen, Supelco/Sigma-Aldrich, Dajana Vuckovic, Janusz Pawliszyn, University of Waterloo
- 9:40 445 Automated SPE for EPA 500 and 600 Series Methods, Richard E. Carlson, David E. Knowles, Brian C. Dorich, Eric S. Francis, Brett J. Murphy, Bruce E. Richter, Dionex
- 10:00 446 Expanding the Limits of Closed-Vessel Microwave Digestion for Today's High-Throughput Metals Laboratory, Timothy J. Michel, Milestones
- 10:20 Break
- 10:40 447 Preparation of Catalyst and High Silica Samples by Borate Fusion for ICP/OES Analysis: Method Development and Results, Philippe Daigle, Chantal Audet, Dominique Levesque, John A. Anzelmo, Corporation Scientifique Claisse
- 11:00 448 Development of Instrumentation for Real-Time Monitoring of Green House Gases, Smruti Ragunath, New Jersey Institute of Technology
- 11:20 449 Withdrawn by the author.

**Chemometrics - Methods, Calibration Transfer and Applications****Chair: Karl Booksh, University of Delaware***Bridgewater*

- 9:00 450 Calibration Transfer from Pharmaceutical Powder Mixtures to Compacts using the Prediction Augmented Classical Least Square (PACLS) Method, Zhenqi Shi, Carl A. Anderson, James K. Drennen III, Benoit Igne, Duquesne University
- 9:20 451 Transfer of Chemometric Models Between Hand-Held Raman Systems: A Case Study Involving More than 2000 Fielded Systems, Jeremy A. Linoski, Christopher D. Brown, Robert L. Green, Thermo Fisher Scientific
- 9:40 452 Peak Selection Strategy for the Automated Assessment of Noisy, Complex Gas Chromatography - Mass Spectroscopy Spectra Collected from Diesel Fuels, Jeffrey A. Cramer, Nathan J. Begue, Robert E. Morris, US Naval Research Laboratory
- 10:00 453 The Chemometrics Role in Making Chromatography Plug and Play, Brian G. Rohrback, Infometrix
- 10:20 Break
- 10:40 454 Fuel Analysis: 18 Chemical and Physical Properties in less than 5 Minutes, Anywhere, Stuart Farquharson, Carl Brouillette, Wayne Smith, Michael Donahue, Frank Inscore, Real-Time Analyzers
- 11:00 455 A Novel, Fast Factor Analysis Method for Two-Way GC/MS Data, Paul G. Kotula, Mark H. Van Benthem, Theodore T. Borek III, Curtis D. Mowry, Sandia National Laboratories
- 11:20 456 Quality-by-Design: A Case Study to Address Design Space Development, Yan Shen, Jyh-Ming Shoung, Stan Altan, Johnson & Johnson

**Bioanalytical Tools and Sample Preparation Methodology****Chair: Michael Hicks, Bristol-Myers Squibb***Ballroom West*

- 9:00 457 An Overview of Combined Methods for the Simultaneous Determination of Lipid Biomarkers and Sex Hormones, Deepti Varma, Guoxiu Wei, Jelena Drazenovic, Susan Jansen-Varnum, Kyohong Cho, Katherine Joh, Temple University
- 9:25 458 Quantitative Proteomics as a Tool for Characterization of Upstream Processes, Tyler Carlage, Li Zang, Yelena Lyubarskaya, Biogen Idec, William S. Hancock, Northeastern University
- 9:50 459 Label-Free Detection and Analysis of Single Nucleotide Polymorphism via Terahertz Spectrometry, Anis Rahman, Gulshan Ara, Aunik K. Rahman, Applied Research and Photonics, Bruce A. Stanley, Penn State College of Medicine
- 10:15 Break
- 10:35 460 Application of Separation Techniques and Spectroscopic Methods in Developing a Bio-Monitoring Tool for Marine Pollution using the Mussel, Mytilus Edulis, Rahul Manmode, Chetankumar Malepati, David Ryan, University of Massachusetts-Lowell
- 11:00 461 High Recovery HybridSPE™ Sample Preparation for Bioanalysis by LC/MS, Xiaoning Lu, Michael Ye, Supelco/Sigma-Aldrich

- 11:25 462 Overcoming Sample Preparation and LC/MS Analysis Challenges from ADME/PK Studies of Therapeutic Oligonucleotides, Michael D. McGinley, Greg Scott, Phenomenex, Mark Hail, Novatia

### Thursday Afternoon, November 18, 2010

#### New York Microscopical Society Ernst Abbe Award Honoring Dale Newbury, National Institute of Standards and Technology

Chair: John Reffner, John Jay College

##### Hillsborough

- 1:00 463 Improving X-Ray Microanalysis Starts with Accurate Peak Identification and Good Background Fit, Del Redfern, EDAX
- 1:30 464 Silicon Drift Detector EDS Analysis at High-Throughput: The Evolution of SD Detector Technology, Ted Juzwak, Bruker-Nano
- 2:00 465 Event Streamed Spectrum Imaging - High-Performance Concurrent Collection of X-Ray and Electron Information, Scott D. Davilla, 4pi Analysis
- 2:30 Break
- 2:50 466 A Microcalorimeter Energy Dispersive Spectrometer for High-Resolution X-Ray Nano- and Microanalysis, Robin Cantor, Star Cryoelectronics
- 3:20 Presentation of the New York Microscopical Society Ernst Abbe Award
- 3:25 467 Energy Dispersive X-Ray Spectrometry with the Silicon Drift Detector in the Scanning Electron Microscope (SEM/SDD/EDS): Extraordinary Throughput Capability Changes Everything, Dale E. Newbury, National Institute of Standards and Technology

#### Managing Outsourcing

Chair: Pankaj Shah, Bristol-Myers Squibb

##### Bridgewater

- 1:00 468 Analytical R&D Global Growth Story, Balasaheb Deshmukh, Freddy Van Damme, Paul O'Connor, Tong Sun, Bharat Singh, Sandeep Dhingra, The Dow Chemical Company
- 1:40 469 Challenges in Outsourcing Product Development, Jacqueline Erickson, GlaxoSmithKline
- 2:20 Break
- 2:40 470 Selective Integration - A Case Study of Off-Shoring Drug Product Stability Support to Asia, Pankaj Shah, Bristol-Myers Squibb
- 3:20 471 Challenges with Bioanalytical Method Transfers to CROs, Dennis Garner, Bristol-Myers Squibb

#### Vibrational Spectroscopy in the Biomedical Field

Sponsored by New England Section of the Society for Applied Spectroscopy

Chair: Edita Botonjic-Sehic, Morpho Detection

##### Ballroom Center

- 1:00 472 Multi-Variate Modeling of NIR Data for Prediction of Human Embryonic Reproductive Potential, Mark Henson, Lucy Botros, Kevin Judge, Pieter Roos, Denny Sakkas, Molecular Biometrics

- 1:30 473 Spectroscopic Imaging of Human Tissue: A Promise Fulfilled, Thomas J. Tague Jr., Bruker Optics
- 2:00 474 Combined Intravascular Near-Infrared Spectroscopy and Ultrasound for Characterization of Lipid Core Coronary Plaque, Stephen T. Sum, Sean P. Madden, Michael Burka, Zhihua He, James E. Muller, InfraRed-X
- 2:30 Break
- 2:50 475 Chemical Imaging for Automated Histopathology, Rohit Bhargava, Rohith K. Reddy, Jason Ip, Michael J. Walsh, University of Illinois
- 3:20 476 Raman Spectroscopy and Novel Chemistry Applied for Sensitive Immunoassays, Neal Siegel, Sword Diagnostics

#### Dissolution Applications in Pharmaceutical Analysis

Chair: Judy Lin, Bristol-Myers Squibb

##### Ballroom West

- 1:00 477 Dissolution Case Studies with Flow-Through Cell, Geoffrey N. Grove, Sotax, Samir Haddouchi, SPS Pharma Services
- 1:25 478 A Study of the Effect of Type and Concentration of Buffer Salt in Media on the Dissolution of an HPMC Capsule Formulation using UV Fiber Optic Spectroscopy, Lili Lo, Xujin Lu, David Lloyd, Bristol-Myers Squibb
- 1:50 479 Development of a Robust and Discriminating Dissolution Method for a BCS Class II Prodrug Compound, Limin Zhang, Priyanka Rao, Judy Lin, Yueer Shi, Brent Kleintop, Bristol-Myers Squibb
- 2:15 Break
- 2:35 480 *In-Situ* Dissolution Monitoring of Pharmaceutical Tablets using ATR/FTIR, Abe Kassis, John S. Sowa, Jr., Vrushalli Bhawtankar, Seton Hall University
- 3:00 481 Dissolution Method Development using USP Apparatus IV for Modified Release Tablet, Mary Pan, Novartis
- 3:25 482 A Unique Approach to ASTM Compliant Dissolution Testing for use with USP Apparatus #1 and #2, Raymond Majeski, Quality Lab Accessories

#### Supercritical Fluid Chromatography: Current Progress

Chair: Julie Wolff, Merck

##### Princeton

- 1:00 483 A Highly Automated 5 Pump (3 Gradient, 2 Isocratic), 4 Detector (2 UV, ELSD & MS) Supercritical Fluid Chromatography (SFC) System for Chiral and Achiral Purification in Drug Discovery, Qing Ping Han, Mark J. Hayward, Lundbeck
- 1:30 484 Systematic Evaluation of New Chiral Stationary Phases for Supercritical Fluid Chromatography using a Standard Racemate Library, Zainab Pirzada, Christopher J. Welch, Xiaoyi Gong, Mirlinda Biba, Wes Schafer, Merck
- 2:00 Break
- 2:20 485 Parallel Chromatography: Its Role and Impact in Supporting Discovery Chemistry via SFC, Reversed-Phase HPLC, and Normal Phase HPLC, Thierry D. Mann, Melissa Grondine, Joseph Twomey III, Novartis

2:50 486 Development and Evaluation of New Chiral and Achiral Columns for the Next Generation of Supercritical Fluid Chromatography Applications, Paul M. Lefebvre, Jeffrey P. Kiplinger, Averica Discovery Services, Michael J. Rego, Matthew Przybyciel, David Kohler, ES Industries

### Improving Pharmaceutical Properties, Formulations and Support

Chair: Sterling Tomellini, University of New Hampshire

#### *Ballroom East*

1:00 487 Method Development Strategy for the Analysis of Pharmaceutical Counter Ions: Pros and Cons of Different Techniques, Yan Zha, Qinggang Wang, Bristol-Myers Squibb

1:25 488 Thermodynamic Approach to Crystal-Form Selection: A Case Study, Roxana Schlam, Shawn Yin, Raymond P. Scaringe, Bristol-Myers Squibb

1:50 489 Spectral DSC: Probing Phase Transformations with Coupled Raman and Differential Scanning Calorimetry (DSC), Stephen Medlin, John Richmond, Bruker Optics

2:15 Break

2:35 490 Development and Characterization of Novel Liposomal Formulation of Coumarin Epoxide, Dheivanai Lakshmanan, Jeevaprakash Ganapathy, Sasikanth Reddy College of Pharmacy, Kalaiselvi Balasubramanian, Umasankar Ramasamy, Novel Laboratories

3:00 491 Solid Dispersions of Poorly Soluble Flavoring Ingredients, Matt Sillick, Christopher Gregson, Firmenich

3:25 492 Aggregation of Cholecalciferol in Simulated Body Fluid, Maurice Iwunze, Morgan State University

## Meetings in Conjunction with the 2010 EAS

### — Meeting of ASTM International Committee E13 — on Molecular Spectroscopy and Separation Science

Monday, November 15, 2010

*Doubletree Somerset Hotel*

*Library Room (Mezzanine Level)*

<u>Meeting</u>	<u>Times</u>	
E13.01.01	Molecular Luminescence	10:00am – 11:00am
E13.01.03	Task Group	11:00am – Noon
E13.01	UV/VIS/Luminescence Spectroscopy	2:00pm – 3:00pm
E13.03	Infrared and Near Infrared Spectroscopy	3:00pm – 4:00pm
E13.94	Terminology	4:00pm – 5:00pm
E13.11	Multivariate Analysis	5:00pm – 7:00pm

For more information, please contact E13 Staff Manager, Joe Koury, at (610) 832-9804 or jkoury@astm.org.

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## 2010 EAS Awards

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

On Tuesday, November 16, 2010, **Dr. Richard D. Smith**, Pacific Northwest National Laboratory, will receive the 2010 EAS Award for Outstanding Achievements in the Fields of Analytical Chemistry.



Dr. Richard D. Smith is a Battelle Fellow and Chief Scientist in the Biological Sciences Division and Director of Proteomics Research at Pacific Northwest National Laboratory (PNNL). His research interests have broadly involved the development and application of advanced methods and instrumentation for applications in biological research. Dr. Smith was responsible for the development of the first combinations of capillary supercritical fluid chromatography and capillary electrophoresis with mass spectrometry. His recent work has emphasized the development and application of capabilities for making ultra-sensitive and high performance proteomics and metabolomics measurements. Dr. Smith is Director of the NIH Biomedical Technology Resource Center for Integrative Biology and the U.S. Department of Energy High Throughput Proteomics Facility at PNNL. He is an adjunct faculty member of the Departments of Chemistry at Washington State University, the University of Utah, and the University of Idaho. Dr. Smith has presented more than 350 invited or plenary lectures at national and international scientific meetings, and is the author or co-author of more than 750 publications. Dr. Smith holds thirty-seven patents and has been the recipient of eight R&D 100 Awards, the 2003 American Chemical Society Award for Analytical Chemistry, and the 2009 HUPO Discovery Award in Proteomics Sciences.

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

On Monday, November 15, 2010, **Dr. Cecil Dybowski**, University of Delaware, will receive the 2010 EAS Award for Outstanding Achievements in Magnetic Resonance.



Cecil Dybowski is a professor in the Department of Chemistry and Biochemistry at the University of Delaware. His interests are in the application of nuclear magnetic resonance (NMR) and electron paramagnetic resonance to the study of solids and solid-like materials. He has published over 175 technical papers. He is the coauthor of three books: *Transient Techniques in NMR of Solids* (Academic Press), *NMR Spectroscopy Techniques* (Dekker), and the recently published *Essential Data and Equations for a Course in Physical Chemistry* (Pearson). He was an Associate Editor of *Applied Spectroscopy* for fourteen years and is currently an Associate Editor of the *Encyclopedia of Analytical Chemistry*. He is a member of the editorial boards of several journals.

He was a student of Professor Charles G. Wade at the University of Texas at Austin, where he earned the degree of Doctor of Philosophy in 1973 for studies of spin-lattice relaxation in thermotropic and cholesteric liquid crystals. After completing the Ph.D., he was a Research Fellow in Chemical Engineering at the California Institute of Technology, where he worked with Professor Robert W. Vaughan on the application of NMR to solids and semisolids such as elastomers.

In 1976, Dybowski joined the faculty of the University of Delaware. Early work from his laboratory focused on using NMR, EPR and FTIR spectroscopy to investigate molecules at the surfaces of heterogeneous catalysts, leading to characterization of a variety of catalyst systems, including the nature of hydrogen on metals supported on oxide surfaces, the nature of oxide-supported organometallic cluster catalysts, and the characterization of partial-oxidation catalysts. His studies of molecules adsorbed in various zeolitic catalysts showed that molecules sorbed in these materials bind to counterions in a manner analogous to ion-molecule complexes in the gas phase. Early on, his laboratory began extensive studies of the spectroscopy xenon gas in

confined spaces. Concurrently, Dybowski's laboratory also focused on analyzing the deformation of polymer samples with NMR spectroscopy. Their technique of using the moments of the NMR line shape to determine structural features has been quoted in textbooks on NMR and polymers. Studies of conducting polymers with NMR spectroscopy provided clues to the nature of these systems.

Recently, studies have focused on the NMR spectroscopy of solids containing heavy-metal spin  $\frac{1}{2}$  nuclei such as  $^{207}\text{Pb}$ ,  $^{199}\text{Hg}$ , and  $^{119}\text{Sn}$ . The project involves both measurement and prediction of the chemical shielding in various solid structures using state-of-the-art relativistic density functional calculations. Dybowski and his coworkers have identified a new mechanism of spin-lattice relaxation that applies to these heavy-metal nuclei.

Dybowski's previous awards include the 1984 Spectroscopist of the Year from the Delaware Valley Section of the Society for Applied Spectroscopy, the 2008 Delaware Section Award of the American Chemical Society, as well as being named a Fellow of the Society for Applied Spectroscopy, a Fellow of the American Association for the Advancement of Science, and a Fellow of the American Institute of Chemists. He has been a distinguished visiting professor at several universities, including the University of Paris and the Jagiellonian University.

### EAS Award for Outstanding Achievements in Near Infrared Spectroscopy, Sponsored by FOSS NIRSystems

On Wednesday, November 17, 2010, **Dr. James B. Reeves III**, US Department of Agriculture, will receive the 2010 EAS Award for Outstanding Achievements in Near Infrared Spectroscopy.



Jim Reeves received his B.S. degree in Chemistry in 1970 from the University of Maryland (With Honors), his PhD in Biochemistry from the University of Maryland in 1975 and a B.S. degree in Computer Science in 1984 from the University College of the University of Maryland.

Jim has spent his entire career at the Agricultural Research Service of the US Department of Agriculture and started at the Beltsville Agricultural Research Center in 1978 working on the composition of ruminant feedstuffs. His introduction to near-infrared spectroscopy (NIRS) came in 1984 when he starting working with Dr. Timothy Blosser who using NIRS for forage and silage analysis. When Dr. Blosser left a few years later, Jim took over the NIRS work and continued studies on animal feedstuffs. While physically remaining at the same location, both the name of the lab (Ruminant Nutrition Laboratory) and direction of the laboratory changed gradually over a period of 15 years from ruminant feedstuffs to ruminant wastes and eventually to more generally ruminant effects on the environment (Presently the laboratory is the Environmental Management and Byproducts Utilization Laboratory). Thus, Jim's research has moved from what the cow eats (front end) to waste production (the back end) to waste disposal (the soil). Jim is also presently part of the Hydrology and Remote Sensing Laboratory at Beltsville.

Jim has authored or co-authored over 125 peer reviewed publications, with thesis, book chapters, etc. increasing the total to nearly 200 non-abstract publications. He was the chairman of the 8th International Diffuse Reflectance Conference (Chambersburg, PA, 1996), is presently the North American Editor for NIR News, serves on the Editorial Boards of The Open Spectroscopy and Open Agriculture Journals and The Journal of Analytical and Applied Pyrolysis, has taught courses on NIR spectroscopy in the United States, Italy, Mexico and Brazil and routinely reviews spectroscopically (near-and/or mid-infrared) oriented papers on subjects ranging from pharmaceuticals and foods to animal feeds, hydrology, grains, soils and remote sensing.

Present research interests are concentrated in three main areas: 1. The application of spectroscopy for the rapid determination of soil composition. This includes the investigation and evaluation of both different spectral ranges (visible, near-infrared and mid-infrared), sample presentation methods (diffuse reflectance, fiber-optics, etc.) and spectroscopic methodology (proximate versus remote sensing) to find the most efficient and economically method for the rapid determination of soil carbon content for carbon sequestration. 2. Chemometrics, specifically transfer of methods developed by the NIRS community using bench top spectrometers to the area of remote sensing and also the development of more rapid methods for development and automatic

evaluation of calibrations. 3. The development of methods for the evaluation of feedstocks for Biochar and biofuel production at the farm level. Finally, an ongoing interest throughout Jim's career has been how the reference methods used in agriculture influence the spectroscopic calibrations upon which so much time is spend developing and upon which so much may depend, e.g. carbon credits for carbon sequestration as measured by remote or proximate spectroscopic methods.

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

On Tuesday, November 16, 2010, **Dr. Brian A. Bidlingmeyer**, Agilent Technologies, will receive the 2010 EAS Award for Outstanding Achievements in Separation Science.



Dr. Brian A. Bidlingmeyer received his undergraduate degree from Kenyon College where he graduated cum laude with Honors in Chemistry. He attended graduate school at Purdue University where he received a Ph.D. degree in Analytical Chemistry under Professor L.B. Rogers. While at Purdue, Brian was the first person to do ultra-high pressure liquid chromatography with his thesis work investigating LC behavior from 10,000 to 60,000psi. After graduating from Purdue, he began work at Amoco Research Center in Naperville, IL where he participated in the local technical societies and gave several scientific presentations. While at Amoco, Brian developed several key methods for insuring product quality using innovative separations. After Amoco, he went to work for Waters Associates, a firm specializing in separation technology. The company manufactured and sold HPLC instruments. At Waters, Brian started as an application chemist and over the years was involved in application-focused products. He also assumed ever-increasing levels of responsibility eventually becoming Vice-President and Technical Director for Waters Chromatography Division of Millipore Corporation. He was responsible for several business units including the Columns and Chemical Supplies business, the Applica-

tion Development Group and the customer training business.

Eventually, Dr. Bidlingmeyer left Waters, and, bitten by the "entrepreneurial bug," co-founded a new company, Cohesive Technologies. At Cohesive, Brian introduced the first commercial column based upon a porous zirconia substrate in partnership with the 3M Company. After Cohesive, Brian joined Sterling Winthrop Pharmaceuticals, a division of Eastman Kodak Company as an Assistant Director for the Analytical Sciences Division with his main focus on separation sciences. Brian remained at Sterling until the company was sold to Sanofi whereupon he changed jobs and moved to Rockland Technologies in Wilmington, DE. Hewlett Packard purchased Rockland in 1997 and in 1999, Agilent Technologies, Inc. was "spun off" from Hewlett Packard as a separate company. At Hewlett Packard/Agilent, Brian has had numerous assignments associated within the separation products business unit. He is now a senior R&D scientist in the Columns and Supplies Division.

Dr. Bidlingmeyer has made significant contributions to the practice and understanding of modern HPLC and, as a result of his pioneering work, has received numerous awards including the Heinrich Emmanuel Merck Prize for contributions to Analytical Chemistry, the International Ion Chromatography Award for contributions to that field, the Millipore Innovation Award, an IR 100 Award for a new method for amino acid analysis ("PicoTag" method) and the 2003 Chromatography Forum of Delaware Valley Award for contributions to theory, instrumentation and applications of chromatography. He was also awarded the 2004 American Chemical Society (ACS) Delaware Section Award that recognizes conspicuous scientific achievement in an area of chemistry or chemical engineering by a Delaware Section Member.

Brian has been associated with HPLC for most of his professional career. Brian has worked in industry as a user of HPLC as well as for manufacturers of instruments and columns. Brian has developed and currently presents several short courses for various scientific groups in including the ACS and is on a number of scientific and journal advisory panels. He also serves on various organizing committees and is an associate editor of the Journal of Chromatographic Science where he writes as column on HPLC troubleshooting. Brian is currently the Chairman of the Separations Science and Separations Chemistry Subdivision of the American Chemical Society's Analytical Division. Throughout his career, Dr. Bidling-

meyer has promoted the use of HPLC. He has published over 100 technical papers, authored one book on practical HPLC and edited another book on preparative chromatography. Brian's current research interests are in the areas of understanding separation mechanisms, practical problem solving of challenging applications and in developing new/improved commercial products.

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

On Wednesday, November 17, 2010, **Dr. Johan A. Westerhuis**, University of Amsterdam will receive the 2010 EAS Award for Outstanding Achievements in Chemometrics.



Johan Westerhuis started his Analytical Chemistry and Chemometrics education at Laboratory school in Groningen, and obtained his MSc in Chemometrics in the group of Prof. Kateman and Dr. Buydens in Nijmegen. He finished his PhD work in 1997 on Multivariate Statistical Modeling of the Pharmaceutical Process of Wet Granulation and Tableting using multiblock (path-) models at the University Centre for Pharmacy at the University of Groningen. After his PhD he worked one year in Canada as a postdoc at McMaster University, Hamilton, ON, with Prof. John MacGregor and Dr. Dora Kourti on batch process monitoring and multi-block methods. In 1998 he joined the Process Analysis & Chemometrics group, which is now the Biosystems Data Analysis group at the Universiteit van Amsterdam to work with Professor Age Smilde. He teaches statistics and biochemical data analysis at a bachelor and master level and supervises PhD students and postdoc's in process analysis and metabolomics data analysis. Johan Westerhuis chaired the Dutch Chemometrics Society for several years and organized International Chemometrics Research Meetings (ICRM) in 2002 and 2006. Since 2005 he is the European editor of the Journal of Chemometrics and recently became the organizer of the data analysis interest group of the Metabolomics Society. His current research interest focuses on the analysis of metabolomics data especially in the field of human sys-

tems biology. He develops *grey* models to incorporate prior information of the biological system (e.g. in databases) in the analysis of complex metabolomics data.

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

On Monday, November 15, 2010 **Dr. Richard M. Caprioli**, Vanderbilt University, will receive the EAS Award for Outstanding Achievements in Mass Spectrometry.



Richard M. Caprioli is the Stanley Cohen Professor of Biochemistry and Director of the Mass Spectrometry Research Center at Vanderbilt University School of Medicine. He is also currently Professor in the Departments of Chemistry and Pharmacology at Vanderbilt University. Dr. Caprioli received his B.S. in 1965 from Columbia University in New York, N.Y., his Ph.D. in 1969 in Biochemistry, also at Columbia University with Professor David Rittenberg. He did a one-year postdoctoral fellowship at Purdue University with Professor John H. Beynon. In 1970, he was appointed as Assistant Professor of Biochemistry at Purdue. In 1975, Dr. Caprioli moved to the University of Texas Medical School in Houston where he was Professor of Biochemistry and Molecular Biology and Director of the Analytical Chemistry Center until his move to Nashville in early 1998.

Professor Caprioli is interested in the use of mass spectrometry for the analysis of compounds in biological systems. Current work includes the use of electrospray and laser desorption ionization methods with biological tissues and samples. Applications have focused on the development of this instrumentation and associated methodologies to achieve ultra-high sensitivity detection of endogenous compounds (e.g., neuropeptides) in live animal systems. Recent work involves the development of Imaging Mass Spectrometry, a technique whereby molecular images of peptides, proteins, drugs and other compounds are localized in tissue sections with molecular weight specificity. This method involves molecular mapping of animal tissue through the production of ion images obtained from the analysis of

mammalian tissue. Applications to specific research areas involve questions about certain spatial distributions of molecules within specific tissues, e.g., mapping proteins in cancer tissue. Specific applications include human glioblastomas, breast cancer, colorectal cancer and lung cancer.

Dr. Caprioli has been a member of the American Society for Mass Spectrometry since 1975; he served two years each as President of the Society and Vice-President for Programs. He is a member of the American Society for Biochemistry and Molecular Biology, the American Association for Cancer Research, and the American Chemical Society. Professor Caprioli has been the Editor-in-Chief of the *Journal of Mass Spectrometry* since 1990. He is currently co-editing several volumes and is Series Editor of *Encyclopedia of Mass Spectrometry*. He has published over 300 scientific papers, including three books. He holds more than 10 patents in scientific achievement. In 2003, Dr. Caprioli received the Thomson Medal Award from the International Mass Spectrometry Society for "for outstanding achievements in mass spectrometry and for distinguished service to international mass spectrometry." Dr. Caprioli is currently serving a 3-year term on the Board of Directors of the HUPO organization and has been a member of the Board of Directors of the US HUPO since its inception. He received the Field and Franklin Award from the American Chemical Society in April, 2006 for Outstanding Achievement in Mass Spectrometry. He has been named as one of the "Pioneers in Proteomics" by the National Institutes of Health.

### American Microchemical Society Benedetti-Pichler Award

On Thursday, November 18, 2010, **Dr. Joel M. Harris**, University of Utah, will receive the American Microchemical Society Benedetti-Pichler Award.



Joel M. Harris is Distinguished Professor of Chemistry at the University of Utah, where he also holds an appointment in the Department of Bioengineering. Harris received a B.S. degree from Duke University and his Ph.D. from Purdue University. He was ap-

pointed to the faculty of the University of Utah in 1976. Harris's research has focused on analytical chemistry and spectroscopy of trace-level species in liquids and at liquid/solid interfaces. He and his students have developed new measurement concepts in photothermal spectroscopy, analysis of multidimensional fluorescence and Raman spectroscopic data, confocal Raman microscopy, and quantitative single-molecule detection. They have applied these concepts to investigating liquid/solid interfaces, dispersed particles, and interfacial molecular transport, adsorption, and binding kinetics that govern chemical separations and analysis. Through these efforts, Harris has published over 200 research articles, chapters, and patents. Harris is Fellow of the American Association for the Advancement of Science and of the Society for Applied Spectroscopy. He was the recipient of an Alfred P. Sloan Fellowship, the Coblentz Award in Molecular Spectroscopy, the University of Utah Distinguished Research Award, the ACS Division of Analytical Chemistry Award in Chemical Instrumentation, the SAS New York Section Gold Medal Award in Spectroscopy, the Pittsburgh Analytical Chemistry Award, the Robert W. Parry Teaching Award, the ACS Utah Award in Chemistry, and the ACS Award in Analytical Chemistry. He served for 12 years as Editor-in-Chief of *Applied Spectroscopy*.

### New York Microscopical Society Ernst Abbe Award

On Thursday, November 18, 2010, **Dr. Dale Newbury**, National Institute of Standards & Technology, will receive the New York Microscopical Society Ernst Abbe Award.



Dale Elwood Newbury received the Bachelor of Science in Metallurgy and Materials Science (*summa cum laude*, with *Departmental and Interdepartmental Honors*; with *election to Phi Beta Kappa and Tau Beta Pi*) from Lehigh University, Bethlehem, PA in 1969. He attended the University of Oxford (St. Catherine's College) from 1969 – 1972 as a Marshall Scholar (awarded by the Parliament of the United Kingdom) and received the degree of Doctor of Philosophy in Metallurgy and Materials Science in 1972. In 1972 he joined the Met-

allurgy Division of the National Institute of Standards and Technology, Gaithersburg, MD (then known as the National Bureau of Standards) as a National Research Council Postdoctoral Fellow. In 1973 he became a member of the NIST research staff in the Microanalysis Research Group of the Center for Analytical Chemistry. In 1979 he became Group Leader of Microanalysis Research, serving in that capacity until 1994 when he was elected an NIST Fellow, which has enabled him to devote full time to scientific research, continuing to the present. His research interests include electron probe microanalysis, analytical electron microscopy, scanning electron microscopy, surface analysis, energy dispersive x-ray spectrometry, Monte Carlo electron trajectory simulation, computer-aided analysis, computer-aided imaging; and advanced materials research. He is the author or co-author of more than 350 journal publications; co-author of six books; co-editor of five books; and author/co-author of nine book chapters.

Honors include the following: Fellow of the Microscopy Society of America, 2009, Microbeam Analysis Society, Peter Duncumb Award for Excellence in Microanalysis, 2009, NIST, co-author of the Outstanding Technical Paper, Electronics and Electrical Engineering Laboratory (EEEL), 1998, NIST, Samuel Wesley Stratton Award for outstanding research achievement, 1994, Microbeam Analysis Society, Presidential Award for Scientific Achievement, 1993, NIST, Edward Uhler Condon Award for distinguished written exposition, 1991, Microbeam Analysis Society, Birks Award for the Outstanding Technical Paper, 1990, Microbeam Analysis Society, Macres Award for Outstanding Instrumentation Development, 1988, Industrial Research 100 Award, 1987 ("Compositional Mapping"), U. S. Department of Commerce, Gold Medal Award, 1986, Arthur S. Flemming Award (Washington Jaycees), 1986, Microbeam Analysis Society, Presidential Award for Service, 1983, U. S. Department of Commerce, Silver Medal Award, 1981, U. S. Department of Commerce, Bronze Medal Award, 1980, and Metallurgical Society, AIME, Hardy Gold Medal, 1972.

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

On Wednesday, November 17, 2010, **Dr. Cecil Dybowski**, University of Delaware, will receive the New York Section of the Society for Applied Spectroscopy Gold Medal Award.



Cecil Dybowski is a professor in the Department of Chemistry and Biochemistry at the University of Delaware. His interests are in the application of nuclear magnetic resonance (NMR) and electron paramagnetic resonance to the study of solids and solid-like materials. He has published over 175 technical papers. He is the coauthor of three books: *Transient Techniques in NMR of Solids* (Academic Press), *NMR Spectroscopy Techniques* (Dekker), and the recently published *Essential Data and Equations for a Course in Physical Chemistry* (Pearson). He was an Associate Editor of *Applied Spectroscopy* for fourteen years and is currently an Associate Editor of the *Encyclopedia of Analytical Chemistry*. He is a member of the editorial boards of several journals.

He was a student of Professor Charles G. Wade at the University of Texas at Austin, where he earned the degree of Doctor of Philosophy in 1973 for studies of spin-lattice relaxation in thermotropic and cholesteric liquid crystals. After completing the Ph.D., he was a Research Fellow in Chemical Engineering at the California Institute of Technology, where he worked with Professor Robert W. Vaughan on the application of NMR to solids and semisolids such as elastomers.

In 1976, Dybowski joined the faculty of the University of Delaware. Early work from his laboratory focused on using NMR, EPR and FTIR spectroscopy to investigate molecules at the surfaces of heterogeneous catalysts, leading to characterization of a variety of catalyst systems, including the nature of hydrogen on metals supported on oxide surfaces, the nature of oxide-supported organometallic cluster catalysts, and the characterization of partial-oxidation catalysts. His studies of molecules absorbed in various zeolitic catalysts showed that molecules sorbed in these materials bind to counterions in a manner analogous to ion-molecule complexes in the gas phase. Early on, his laboratory began extensive studies of the spectroscopy xenon gas in confined spaces. Concurrently, Dybowski's laboratory also focused on analyzing the deformation of polymer samples with NMR spectroscopy. Their technique of using the moments of the NMR line shape to deter-

mine structural features has been quoted in textbooks on NMR and polymers. Studies of conducting polymers with NMR spectroscopy provided clues to the nature of these systems.

Recently, studies have focused on the NMR spectroscopy of solids containing heavy-metal spin  $\frac{1}{2}$  nuclei such as  $^{207}\text{Pb}$ ,  $^{199}\text{Hg}$ , and  $^{119}\text{Sn}$ . The project involves both measurement and prediction of the chemical

shielding in various solid structures using state-of-the-art relativistic density functional calculations. Dybowski and his coworkers have identified a new mechanism of spin-lattice relaxation that applies to these heavy-metal nuclei.

Dybowski's previous awards include the 1984 Spectroscopist of the Year from the Delaware Valley Section of the Society for Applied Spectroscopy, the 2008 Delaware

Section Award of the American Chemical Society, as well as being named a Fellow of the Society for Applied Spectroscopy, a Fellow of the American Association for the Advancement of Science, and a Fellow of the American Institute of Chemists. He has been a distinguished visiting professor at several universities, including the University of Paris and the Jagiellonian University.

## 2010 EAS Student Awards

**Sponsored by Pfizer, Inc.**

EAS continues to actively support a Student Awards program to recognize scientific research by undergraduates. In the spring of each year, we encourage professors to identify Juniors in college who are already involved in research in the broad field of analytical chemistry. Nominations include appraisals of how the students handle the investigations, approach the problems, and get involved in the projects.

In 2010, five outstanding undergraduates have been selected to receive EAS Student Awards. Based on the recommendations from their professors, the following have been chosen from a very worthy field of candidates:

### **Lindsey Klinge**

Purchase College

*Nominated by Professor Taina Chao*

### **Nazia Mahmood**

John Jay College

*Nominated by Professor Yi He*

### **Alice Pilo**

University of North Carolina

*Nominated by Professor Gary L. Glish*

### **Anthony M. Rizzuto**

Elon University

*Nominated by Professor Karl Sienerth*

### **Kelsey Smith**

West Chester University

*Nominated by Professor Karyn Usher*

**The Governing Board of the 2010 EAS congratulates these awardees for their outstanding achievements.**

*The Student Awardees' posters will be presented on Tuesday, November 16, 2010 in the Poster Area in the Exhibit Hall from 12:00pm – 1:30pm.*

## 2010 EAS Short Courses

Complete descriptions of all EAS Short Courses are located in the Preliminary Program, which is available in the EAS Registration Area, and at the EAS Short Course Office.

### — Two-Day Courses —

Code	~ 2-Day Courses ~ Sunday - Monday 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E10-01	Practical Gas Chromatography: Packed and Capillary Columns ( <i>Dr. Robert Grob Memorial Course</i> )	Dr. Eugene F. Barry, University of Massachusetts Lowell Dr. Mary A. Kaiser, DuPont Company
E10-02	LC/MS: Theory, Instruments, and Applications	Dr. Guodong Chen, Bristol-Myers Squibb Dr. Michael Balogh, Waters Dr. Ragu Ramanathan, Bristol-Myers Squibb Dr. Birendra Pramanik, Merck

Code	~ 2-Day Courses ~ Monday - Tuesday 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E10-12	Putting Organic Chemistry into Perspective - A Review of Sophomore Organic Chemistry	Dr. John R. Sowa, Seton Hall University
E10-21	Infrared Spectral Interpretation I + II ( <i>combined course</i> )	Dr. Brian C. Smith, Spectos Associates

Code	~ 2-Day Courses ~ Tuesday - Wednesday 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E10-23	The Analysis and Characterization of Protein Therapeutic Drugs	Mr. C. David Carr, Bioanalytical Technologies

Code	~ 2-Day Courses ~ Wednesday - Thursday 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E10-31	Quantitative Analysis for Chromatographers	Dr. Gregory Slack, Clarkson University Dr. Nicholas Snow, Seton Hall University
E10-32	Troubleshooting Chromatographic Systems	Dr. Merlin K.L. Bicking, ACCT, Inc. Dr. Douglas E. Raynie, South Dakota State University
E10-33	PLAstics-State of the Art Techniques Important in Cleaning their Surfaces ( <b>NEW</b> )	Dr. Yvonne Shashoua, National Museum of Denmark Ms. Kathrine Segel, National Museum of Denmark
E10-34	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 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E10-03	Modern HPLC Method Development in Pharmaceutical Analysis	Dr. Michael W. Dong, Genetech Dr. Henrik T. Rasmussen, Johnson & Johnson
E10-05	Chemometrics without Equations	Dr. Donald Dahlberg, Lebanon Valley College Dr. Barry M. Wise, Eigenvector Research
E10-06	Enhanced Productivity by Design in the Analytical Laboratory: Design of Experiments for Analytical Chemists	Dr. Zenaida Otero Gephardt, Rowan University
E10-07	Physical Characterization and Analytical Test of Pharmaceutical Solids	Dr. Steve R. Byrn, Purdue University Dr. Xiaoming (Sean) Chen, OSI Pharmaceuticals
E10-08	Effective Laboratory Audits and Inspections ( <b>NEW</b> )	Mr. Ken Christie, VTS Consultants
E10-11	Advanced Excel®: Write Your Own Functions and Macros	Dr. Robert de Levie, Bowdoin College

Code	~ One-Day Courses ~ Monday 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E10-14	Modern HPLC for DMPK, Bioanalytical, and Analytical Development Scientists: Essentials, Best Practices, and Recent Developments	Dr. Michael W. Dong, Genentech Dr. Anne-Françoise Aubry, Bristol-Myers Squibb
E10-15	Laboratory Data Analysis Using Excel®: New Uses for a Familiar Tool	Dr. Zenaida Otero Gephardt, Rowan University
E10-17	The Chemistry of Drug Degradation	Dr. Karen Alsante, Pfizer Dr. Dinos Santafianos, Pfizer
E10-18	Analytical Laboratory Techniques for Pharmaceutical Chemists ( <b>NEW</b> )	Dr. Merlin K.L. Bicking, ACCTA, Inc.
E10-19	Infrared Spectral Interpretation I	Dr. Brian C. Smith, Spectros Associates

Code	~ One-Day Courses ~ Tuesday 8:30am - 5:00pm (Holiday Inn)	Instructor(s)
E10-20	Infrared Spectral Interpretation II	Dr. Brian C. Smith, Spectros Associates
E10-22	The Role of Chromatography in the Analysis and Characterization of Protein Therapeutic Drugs	Mr. C. David Carr, Bioanalytical Technologies
E10-24	Interpretation of Mass Spectra with Practical Solutions to Problems	Dr. Birendra Pramanik, Merck Dr. Mike Lee, Milestone Development

<b>Code</b>	<b>~ One-Day Courses ~ Tuesday 8:30am - 5:00pm (Holiday Inn)</b>	<b>Instructor(s)</b>
E10-25	Data Analysis for Improved Productivity in the Analytical Laboratory	Dr. Zenaida Otero Gephardt, Rowan University
E10-26	Drug Development Process for Chemists <b>(NEW)</b>	Dr. Michael W. Dong, Genentech
E10-27	Introduction to Near-Infrared Spectroscopy: Applications in the Pharmaceutical Industry	Dr. Emil Ciurczak, Consultant
E10-28	Critical cGMP and ICH Guidances for Analytical Laboratories <b>(NEW)</b>	Ms. Kim Huynh-Ba, Pharmalytik C.S. Dr. Linda Ng, US Food and Drug Administration
E10-29	Sample Preparation: The Chemistry Behind the Techniques	Dr. Merlin K.L. Bicking, ACCTA, Inc. Dr. Douglas E. Raynie, South Dakota State University
E10-30	How to Create a More Effective Lab Safety Program <b>(NEW)</b>	Ms. Christina L. Dillard, Laboratory Safety Institute

<b>Code</b>	<b>~ One-Day Courses ~ Wednesday 8:30am - 5:00pm (Holiday Inn)</b>	<b>Instructor(s)</b>
E10-35	Practical Headspace Gas Chromatography	Dr. Mary Ellen P. McNally, DuPont Dr. Thomas A. Brettell, Cedar Crest College
E10-36	Impurity and Degradant Identification: Strategies for Structure Elucidation via Chromatography, MS and NMR	Dr. Thomas R. Sharp, Pfizer Dr. Brian L. Marquez, Pfizer Mr. Todd C. Zelesky, Pfizer
E10-38	Leachables and Extractables in Pharmaceutical Development	Dr. Daniel L. Norwood, Boehringer Ingelheim Mr. James O. Mullis, Boehringer Ingelheim

<b>Code</b>	<b>~ One-Day Courses ~ Thursday 8:30am - 5:00pm (Holiday Inn)</b>	<b>Instructor(s)</b>
E10-41	Dissolution: A Rational Approach to Developing and Validating Methods for a Variety of Purposes	Mr. Gregory Martin, Complectors Consulting
E10-42	Application of Mass Spectrometry for Characterizing and Profiling Impurities/Degradation Products and Potential Genotoxic Impurities of Drug Substances and Drug Products	Dr. Nagella Nukuna, AstraZeneca Pharmaceuticals
E10-43	Practical Solutions to Characterization of Protein Therapeutics Using Mass Spectrometry <b>(NEW)</b>	Dr. Guodong Chen, Bristol-Myers Squibb Dr. Li Tao, Bristol-Myers Squibb Dr. Ragu Ramanathan, Bristol-Myers Squibb
E10-45	Practical Introduction to Raman Spectroscopy	Dr. Frederick H. Long, Spectroscopic Solutions
E10-46	Authoring High Quality Technical Reports	Mr. Gregory Cuppan, McCulley-Cuppan, LLC
E10-47	Theory and Practice of Ultra High-Pressure Liquid Chromatography (UHPLC)	Dr. Michael E. Swartz, Synomics Pharma



## 2010 EAS Seminars

**Sponsored by**  
**American Chemical Society – NJ Mass Spectrometry Discussion Group**  
**Bristol-Myers Squibb**  
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**North Jersey Chromatography Discussion Group**  
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**SABIC Innovative Plastics**

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.

**Teaching Green Chemistry in High School**  
**Sunday, November 14, Seminar E10-S01**  
***Free Registration Limited to Middle and High School Teachers***  
**1:00pm to 4:00pm, Parlor Room (DoubleTree Hotel)**

This seminar will be offered exclusively to high school teachers. The seminar, organized by Alvin Bober, will be conducted by two scientists active in the field of Green Chemistry: Dr. Jennifer Young from Green Chemistry Institute of the American Chemical Society and Dr. Douglas Raynie from South Dakota State University.

**What Does an Analytical Chemist Do in Industry**  
**Monday, November 15, Seminar E10-S02**  
***Free Registration for Qualified Teachers and Students***  
**10:00am to 3:30pm, Parlor Room (DoubleTree Hotel)**

This seminar, organized by Procter and Gamble, is designed to familiarize students with varied career opportunities for analytical chemists in industry. The seminar begins with a discussion of the education requirements and salaries that an analytical chemist may expect in industry. The different roles (including scientific consultant, methods developer, and problem solver) of the industrial analytical chemist are explained. Significant time is spent on problem solving, both the process and solving real-world problems. Students will learn a “framework” for approaching problems. Actual case studies solved at P&G are posed, providing students with a strategy for approaching and solving these problems. Time will be available to ask questions on these topics and other related subjects. The Course text includes supplementary material on finding a job, summer employment, etc. The entire course, especially the problem solving, is structured for extensive participation and interaction.

**Analytical Chemistry and Forensic Science**  
**Tuesday, November 16, Seminar E10-S03**  
***Free Registration for Qualified Teachers and Students***  
**10:00am to 3:30pm, Parlor Room (DoubleTree Hotel)**

This seminar, organized by Dr. Richard Saferstein, will have several speakers and they will discuss a variety of analytical technologies that are applicable to solving forensic science problems. Students will be introduced to the science of forensic toxicology and will 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 will also be 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 are given.

**Evolution of Industrial Careers for Chemists:**  
**Diversity, Technology Advancements and Job Security**  
**Wednesday, November 17, Seminar E10-S04**  
***Free Registration for Qualified Teachers and Students***  
**10:00am to 3:30pm, Parlor Room (DoubleTree Hotel)**

This seminar, organized by Dr. Sergio C. Nanita, DuPont Co., will provide attendees with a perspective on how careers have evolved overtime, with emphasis on the present and future direction of professional roles and analytical technology in industry. Speakers from chemical and instrumentation companies, as well as, the American Chemical Society (ACS) Department of Diversity Programs will participate in the event. The morning seminar is followed by a round-table discussion to allow attendees to interact/network with experienced industry professionals.

## 2010 EAS Workshop

Career Placement for Senior Scientists and Managers

**Workshop E10-W01, Wednesday, November 17, 9:00 a.m. – 11:00 a.m.**

*Parlor Room 168 ~ DoubleTree Hotel*

Facilitator: John Guarniere, President RCE Associates

**This workshop is free to all Full Conferees, but pre-registration is required to reserve a space.**

Finding key technical and management positions is more difficult than ever before. Those newly created positions supported by cash flow are no longer being created. So, if you are looking to manage and/or lead others, or to find a key scientific or engineering position, you need to develop and execute a superior career marketing plan. We will discuss some of the critical issues that senior scientists and engineers face in making career changes, such as:

- Establishing career objectives, recognizing strengths and weaknesses, and determining key accomplishments
- Planning a multi-dimensional search, identifying website position openings
- Developing outstanding resumes, cover letters, and telephone presentations
- Targeting future employers (Government, Industry, Education)
- Evaluating Management and Profit & Loss skills
- Networking contacts, Dealing with Executive Search Firms

If time permits, a discussion of proven technique allowing better communication of pertinent accomplishments to potential employers.

### **About the Instructor:**

John Guarniere is the founder of RCE Associates. He is a Senior Human Resource Consultant who has worked for major corporations. He has provided both Retained Executive Search and Career Advisory Services over the years.

**Everything is theoretically impossible, until it is done.**

*-Robert Heinlein*



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## 2010 EAS EMPLOYMENT BUREAU

### Applicant Instructions

- When you arrive, please check-in at the symposium registration area for the exact location of the Employment Bureau.
- Advance registration for the 2010 EAS Employment Bureau is NOT permitted. DO NOT send any resume to EAS in advance of the symposium. You MUST bring your resume to the Employment Bureau Applicant Registration desk when you arrive at the symposium.
- The Employment Bureau will operate from 9:00 a.m. until 4:00 p.m. on Monday and Tuesday. On Wednesday, the hours will be 9:00 a.m. to 1:00 p.m. Job postings will be available for applicant review beginning at 11:00 a.m. on Monday morning. Interviews will not be scheduled until 12:00 noon on Monday. Job postings are continually updated during EAS and applicants are expected to visit the Job Posting bulletin boards on a regular basis.
- When you arrive at the Employment Bureau, check-in at the Applicant Registration desk. You will receive your Applicant identification number at this time. This number will be used for all communications with prospective employers as well as the Employment Bureau.
- You must supply the Employment Bureau with one (1) copy of your resume. **Your resume should be no longer than TWO (2) pages in length.** Your resume will be assigned an Applicant ID#.
- Postings of current job openings will be available for your review in the Job Posting Area. Access to these postings will be limited to applicants registered with the Employment Bureau.
- If you wish to contact an employer regarding a job posting, you may leave a note for that employer using the Employer ID# that appears on the posting. Notes should be placed in the appropriate envelope on the bulletin board labeled, "**MESSAGES FOR EMPLOYERS**" in the Employer Message area.
- Check for responses or other communications from prospective employers in the Applicant Message area. Messages will be labeled with your Applicant ID# and can be found on the bulletin board labeled, "**MESSAGES FOR APPLICANTS**."
- If you wish, you may purchase a copy of the 2010 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.

## 2010 EAS EMPLOYMENT BUREAU

### Employer Instructions

- When you arrive, please check-in at the symposium registration area for the exact location of the Employment Bureau.
- On-site registration of employers is permitted for the EAS Employment Bureau. Please complete the Employer Registration and Job Opening forms which are available at the Employment Bureau.
- The Employment Bureau will operate from 9:00 a.m. until 4:00 p.m. on Monday and Tuesday. On Wednesday, the hours will be 9:00 a.m. to 1:00 pm. Job postings will be available for applicant review beginning at 11:00 a.m. on Monday morning. Interviews with prospective applicants cannot be scheduled until 12:00 noon on Monday. Employers wishing to conduct interviews with prospective applicants can schedule these at the Employment Bureau's Employer Registration desk.
- 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 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.
- Resumes of prospective applicants will be available for your review in the Resume Area. Access to resumes will be restricted to employers with job openings registered with the Employment Bureau.
- If you wish to contact an applicant regarding their qualifications, you may leave a note for that applicant using the Applicant ID# that appears on their resume. Notes should be placed in the appropriate area on the bulletin board labeled, "**MESSAGES FOR APPLICANTS**" in the Applicant Message area.
- Check for responses and other communications from prospective applicants in the Employer Message area. Messages will be labeled with the Employer ID# for the specific job opening desired. These messages can be found in the appropriate envelopes on the bulletin board labeled, "**MESSAGES FOR EMPLOYERS**."
- If you wish, you may purchase a copy of the 2010 EAS Employment Resume book. The cost for the Resume book will be \$200. Please inquire at the Employment Bureau Registration desk.

# 2010 Exhibitor Descriptions

Updated October 26, 2010

## Advanced Chemistry Development, Inc., (ACD/Labs)

110 Yonge Street,  
14th Floor  
Toronto ON M5C 1T4 Canada  
Phone: 416-368-3435 / Fax: 416-368-5596 / Website: www.acdlabs.com

Advanced Chemistry Development, Inc., (ACD/Labs) provides analytical scientists and managers with software for data handling and interpretation, chromatographic method development, impurity identification, material science studies, open-access laboratories, and more. Over the past decade, ACD/Labs has developed one of the most comprehensive integrated software for NMR, MS, HPLC, Raman, and IR on the market. Characterized by easy-to-use chemometric applications, processors, and managers, ACD/Labs' molecular spectroscopy software is actively used in both industrial and academic research facilities around the world.

## Advanced Instruments Inc.

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Norwood MA 02062  
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Advanced Instruments, Inc. is the premier supplier of freezing point osmometers and related testing supplies. Our products are used extensively in pharmaceutical, biotechnology, clinical and contract research laboratories worldwide. We are committed to supplying you with superior products, new technologies and unsurpassed service.

## Agilent Technologies, Inc.

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Air Liquide America Specialty Gases LLC is the largest supplier of EPA protocol gases and specializes in pure and mixed gases for all types of scientific, medical, and industrial applications. Worldwide manufacturing facilities provide convenient delivery, while scottgas.com offers online ordering and innovative tools that empower specialty gas users to significantly reduce operating costs as well as help ensure environmental regulatory compliance. More information is available by calling 800-217-2688, visiting www.alspecialtygases.com, or by emailing requests to solutions.center@airliquide.com.

## Airgas East

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P.O. Box 3603  
Sunnyvale CA 94088-3603  
Phone: 408-481-4275 / Fax: 408-730-9403 / Website: [www.dionex.com](http://www.dionex.com)

Visit Dionex at booth 224 to see our latest innovations for productivity in capillary Ion Chromatography (IC) and UHPLC. The ICS-5000 Reagent-Free IC (RFIC) system with Eluent Generation (RFIC-EG) is the world's first capillary IC system. Developed with flexibility, modularity, and ease-of-use in mind, the ICS-5000 combines the highest sensitivity with convenience. We have also enhanced our UltiMate® 3000 range of high performance liquid chromatography (HPLC) systems to deliver HPLC and UHPLC in a single system platform. The UltiMate systems enable laboratories of all sizes to experience the benefits of UHPLC which include faster analyses, reduced running costs and environmental impact, while resolving more analytes. Visit the Dionex Field Laboratory on Tuesday only in the Davis Room! Scheduled Demonstrations: 10:00: Ion Chromatography. Kirk Chassaniol will demonstrate a Dionex IC system running the new IonSwift™ Max-100 monolith column specifically developed for the simultaneous determination of inorganic anions and organic acids in a variety of matrices. Noon: UHPLC Lunch'n Learn Session. Matthew Neely will demonstrate the UltiMate® 3000 Rapid Separation LC (RSLC) system. He will analyze water- and fat-soluble vitamins in various enriched beverages using our x2 parallel technology. 2:00: Charged Aerosol Detectors. Kevin Courtemanche will present the Theory and Mechanics of Charged Aerosol Detectors and demonstrate many pertinent applications for the pharmaceutical industry. After the presentation, Kevin will demonstrate the latest version of the Chromeleon® Chromatography Data System (CDS) software.

### Distek, Inc

121 North Center Drive  
North Brunswick NJ 08902  
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480 S. Democrat Rd.  
Gibbstown NJ 08027  
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### Enwave Optronics

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phone: 949-955-0258 / fax: 949-955-0259 / Website: [www.enwaveopt.com](http://www.enwaveopt.com)

### ES Industries

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Evex's superior elemental mapping routines; which include Fast Map mapping at near video speeds; and index mapping, saving a spectra at every pixel of the image. Other advanced software features include EvexTSA (trace sensitive analysis) and VideoSEM; Evex's full motion video.

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Phone: 978-264-1980 / Fax: 978-264-1981 / Website: www.excellims.com

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Phone: 207-846-6100 / Fax: 207-846-6110 / Website: www.fluidimaging.com

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624

Wiley-Blackwell  
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Hoboken NJ 07030

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### FOSS NIRSystems, Inc.

201, 203

7703 Montpelier Road  
Laurel MD 20723

Phone: 301-680-9600 / Fax: 301-236-0134 / Website: www.foss-nirsystems.com

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### Full Spectrum Analytics, Inc.

422

85 Rickenbacker Circle  
Livermore CA 94551

Phone: 800-795-6357 / Fax: 877-443-4085 / Website: www.fullspectrum-inc.com

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325

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371 Parkland Plaza  
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**Kinesis Inc.****334**

P.O. Box 2230  
Malta NY 12020-8230  
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*Restek develops and manufactures innovative columns, tools, accessories, instrument parts, and reference chemicals for gas chromatography, HPLC, and air sampling. A discrete team, Restek Performance Coatings, develops proprietary high-performance surface coatings that confer inertness to metals or glass, and/or are a barrier to hostile (acidic) environments. Our products are used in clinical and biomedical applications, environmental monitoring, quality assurance of foods and personal grooming products, forensics, petroleum/petrochemicals production, pharmaceuticals research and production, and other areas.*

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Newtown PA 18940

Phone: 866-473-8724 / Fax: 267-757-0358 / Website: http://www.retsch-us.com

*RETSCH is a world leader in the fields of sample preparation and the characterization of solids by providing the finest in milling, sieving and associated sample preparation equipment. RETSCH instruments are essential tools for preparing samples for laboratory analysis. They stand for reliability, precision and durability. These three criteria, in addition to over 90 years' experience, have made us the market leader as a manufacturer of instruments and supplier of solutions to support our valued customers.*

**Rigaku Americas Corp.****215**9009 New Trails Dr.  
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Phone: 281-362-2300 / Fax: 281-364-3628 / Website: www.rigaku.com

*Rigaku provides the world's most complete line of X-ray diffraction and X-ray fluorescence instruments and components, including benchtop XRD and XRF systems, X-ray optics and detectors, the Saturn and SCXmini(TM) CCD-based single crystal diffractometers for small molecule crystallography, the Ultima IV and SmartLab® multi-purpose diffractometers with SAXS and in-plane capabilities, and the ZSX Primus series of high-powered WDXRF spectrometers with mapping capabilities, in either tube-above or tube-below configurations.*

**Robertson Microlit Laboratories, Inc.****Tech Tour 216**1705 US Highway 46  
Suite 1D  
Ledgewood NJ 07852

Phone: 973-966-6668 / Fax: 973-966-0136 / Website: www.robertson-microlit.com

*Robertson Microlit Laboratories is a full-service microanalytical laboratory providing analytical support services to the pharmaceutical, bio-pharmaceutical, and chemical business sectors. Universities, research foundations, and government agencies have benefited from our personalized, collaborative working relationships and our competitive pricing. Quality, accuracy, and reliability are integrated into all our services, including our 24-hour turnaround service. Our comprehensive service portfolio includes expertise in: Elemental CHN analysis, Atomic Emission-Absorption Spectroscopy, ICP-OES, ICP-MS, DSC, TGA, melting point, FTIR, UV/VIS, Polarimetry, Ion Chromatography, Titrimetry, KF Aquametry, Log P, Log D and pKa measurements. Rest assured that whatever the project, our commitment remains the same. Our customized approach makes sure our customer's needs are always met in a timely manner. Please contact Robertson Microlit for all of your analytical needs - the choice of many Fortune 500 companies.*

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Lightfoot VA 23090

Phone: 757-258-4805 / Fax: 757-258-4694 / Website: www.romackfiberoptics.com

*RoMack, Inc., manufactures fiberoptics assemblies, components and related products specifically tailored for spectroscopic, laser, pharma and medical applications. Products include probes, fiberoptics, connectors, adapters, patchcords, bundles, arrays, imagers, collimators, couplers, tapers and filter packages. RoMack, Inc routinely takes concept to product, creating solutions to the most difficult problems.*

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Phone: 215-540-0700 / Fax: 215-540-0770 / Website: www.rpsweb.com

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Phone: 508-673-9524 / Website: www.rtslifescience.com

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Hackettstown NJ 07840

Phone: 973-584-1558 / Fax: 973-584-5440 / Website: www.rudolphresearch.com

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Kansas City KS 66103

Phone: 913-432-0322 / Fax: 913-432-0459 / Website: www.scientificplastics.com

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Newark DE 19711

Phone: 302-366-1101 / Fax: 302-366-1151 / Website: www.sepax-tech.com

*Sepax Technologies, Inc., Newark, DE headquartered HPLC column manufacturer, offers unique range of analytical and process scale bioseparation products including 3um, 5um, and 10um silica based Zenix™ and SRT® SEC (Size Exclusion Chromatography); 1.7, 3, 5, and 10 µm non-porous polystyrene/divinyl benzene (PS/DVB) polymer based Antibodix™ WCX and Proteomix® IEC. These products are especially developed for high resolution high efficiency analytical and process separation of MAb, Protein, Oligo, Carbohydrates, and various biologics. Sepax also manufactures SFC, HILIC, UHPLC and RP columns that aimed at solving customer's small molecule separation challenges today.*

**SGE Analytical Science****Tech Tour 338**2007 Kramer Lane  
Suite 100  
Austin TX 78758

Phone: 800-945-6154 / Fax: 512-836-9159 / Website: www.sge.com

*Manufacturer of Analytical and Life Science Instrument Consumables- manual and autosampler syringes, e-Vol- digital liquid volume measurement and dispensing device, forte capillary GC columns, MEPS (Micro Extraction by Packed Sorbent), premium range of inert LC columns- ProteCol, ferrules, fittings (including SiTite FingerTite fer-*

rules for GC), septa, micro valves, inlet liners, tubing, GC/MS Supplies - ETP electron multipliers, ms NoVent II.

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Tech Tour **243, 341, 342, 343, 441**

7102 Riverwood Drive  
Columbia MD 21046  
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Shimadzu offers a full line of analytical instrumentation, including UV Visible and Fluorescence Spectrophotometers; FTIR Spectrometers; Automated FTIR Microscope; HPLC systems and components; LC/MS; Gas Chromatography; GC/MS; Data Stations for Spectroscopy and Chromatography; Thermal Analyzers, TOC, Atomic Absorption Spectrometers, ICP, EDX, Particle Size Analyzers, Balances, Capillary Rheometers, Mooney Viscometers, Universal Testing Equipment and more.

### SiliCycle Inc.

**426**

2500, Parc-Technologique Blvd.  
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SiliCycle® specialized in the development, manufacturing and commercialization of highly pure silica gel products for chromatography, and analytical/organic chemistry. SiliCycle offers products, such as Functionalized Silica Gels - Spherical & Irregular, HPLC Columns, Metal Scavengers (Pd-Pt-Sn-Ru-Rh-Ni-Cr), Heterogeneous Catalysts, SPE & Flash Cartridges and more. SiliCycle's business extends to more than fifty countries and its customer portfolio includes pharmaceutical and biotechnology industries, contract research and manufacturing organizations as well as university laboratories and hospital research centers.

### Smithers Pharma Services

**430**

790 Main Street  
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Smithers Pharma Services provides formulation development, analytical testing, stability studies, and bioanalytical services for the pharmaceutical, biotechnology, and consumer healthcare industries. Smithers Pharma Services delivers a broad portfolio of services in support of drug development through production, and works with clients to develop focused solutions to their complex issues. Smithers Pharma led the Bio-analytical Quality Standards Initiative (BQSI), and the company's quality management system has been globally recognized by authorities as an industry benchmark. Visit [www.smitherspharma.com](http://www.smitherspharma.com).

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**519, 521**

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**444**

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Marlborough MA 01752  
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Spectra Analysis Instruments, Inc. is a global supplier of analytical instruments. Our products, called DiscovIR-GC(TM) and DiscovIR-LC(TM), provide a fully automated 'online' Infrared Spectrometer (FT-IR) to identify unknown components in complex mixtures. Spectra's technical team has integrated precision optics, cryogenics, electronics, and mechanical sub-assemblies into a unique product. The DiscovIR products enable chemists to obtain information faster, with more sensitivity, using smaller sample size and achieve higher spectral purity for exact chemical library match vs. other FT-IR systems.

### Spectroscopy Magazine

**412**

485F US Highway 1S  
Ste. 100  
Iselin NJ 08830  
Phone: 732-596-0276 / Fax: 732-225-0211 / Website: www.SpectroscopyOnline.com

With a circulation of 24,300, Spectroscopy provides peer-reviewed technical and applications-oriented information to the largest audited circulation of influential spectroscopists in the United States. With our focus on cutting-edge techniques such as Raman, X-Ray, MS, lasers and optics, ICP-MS, FT-IR, and the multitude of other hyphenated techniques that continue to grow in popularity, our unique editorial content enables substantial productivity improvement in the laboratory, while facilitating the exchange and flow of information throughout the scientific community.

### SPEX SamplePrep LLC

**330, 332**

203 Norcross Ave.  
Metuchen NJ 08840  
Phone: 732-549-7144 / Fax: 732-906-2492 / Website: www.spexcsp.com

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**318, 320, 322**

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### Surface Measurement Systems

**410**

2125 28th Street SW, Suite 1  
Allentown PA 18103  
Phone: 610-798-8299 / Fax: 610-798-0334 / Website: [www.thesorptionssolution.com](http://www.thesorptionssolution.com)

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### TA Instruments

**328**

159 Lukens Drive  
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**230**

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**617**

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### Teledyne Tekmar

210, 212

4736 Socialville Foster Road  
Mason OH 45040

Phone: 800-874-2004 / Fax: 513-229-7050 / Website: www.tekmar.com

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### The Specialty Gas Report

225

25 Helen Street  
Warren NJ 07059

Phone: 908-753-8844 / Fax: 908-753-8111 / Website: www.specgasreport.com

The Specialty Gas Report is a quarterly magazine dedicated to the producers, distributors, and users of Specialty and Medical Gases. Topics are critical to all aspects of specialty and medical gas production, analysis, distribution and compliance with various government regulations. It is necessary reading for anyone producing, selling, and using specialty and medical gases.

### Thermo Scientific

Tech Tour 401-406, 408

5225 Verona Rd.  
Madison WI 53711

Phone: 800-642-6538 / Website: www.thermoscientific.com/eas

Exciting new products will be on display at the Thermo Scientific booth. Thermo Scientific represents a broad range of high-end analytical instruments, chemistry and consumable supplies, laboratory equipment, software and services that enable integrated laboratory workflow solutions. See our solutions using techniques such as FTIR, UV-Vis, Raman, NIR, ICP, GC/MS, LC/MS as well as chromatography columns and equipment. These are integrated with informatics solutions such as LIMS and equipment, consumables, chemicals and reagents sold by our Fisher Scientific brand. Thermo Scientific is part of Thermo Fisher Scientific.

### Thermo Scientific, formerly Ahura Scientific

Tech Tour 602

46 Jonspin Road  
Wilmington MA 01887

Phone: 978-657-5555 / Fax: 978-657-5921 / Website: www.thermoscientific.com/ahura

Ahura Scientific, now sold under the Thermo Scientific brand, is dedicated to bringing lab-accurate analysis directly to the point of need. The company's field-deployed analytical instruments consistently deliver precise and actionable intelligence to human health and public safety specialists. The company's products include TruScan for raw material verification and counterfeit drug identification; FirstDefender (Raman) and TruDefender FT (FTIR) for identification of unknown solid and liquid chemicals; TruDefender FTG for headspace gas analysis; and TruScreen for commercial aviation security.

### Tosoh Bioscience LLC

219

3604 Horizon Drive  
Suite 100  
King of Prussia PA 19406

Phone: 800-366-4875 / Fax: 610-272-3028 / Website: www.tosohbioscience.com

Tosoh Bioscience is a global leader in the manufacturing and sales of high quality, innovative pre-packed HPLC columns and bulk resins with the TSK-GEL, Toyopearl and ToyoScreen brand names. Continuing with a tradition of excellence that began with the introduction of one of the first SEC columns in 1976, we expanded our product portfolio in 2008 to include a dedicated system for GPC analysis, the EcoSEC GPC System. This instrument delivers unsurpassed efficiency, reliability, and reproducibility.

### U. S. Pharmacopeia

100, 101

12601 Twinbrook Parkway  
Rockville MD 20852

Phone: 301-816-1847 / Fax: 301-816-8263 / Website: www.usp.org

The U.S. Pharmacopeia (USP) is an international, not-for-profit public health organization that works with industry, academia, and governments worldwide to establish official standards for quality medicines. USP publishes standards in the USP-NF (in English and Spanish); provides more than 2,500 Reference Standards for drugs,

dietary supplements, and ingredients; and offers Pharmacopeial Education courses online and at locations around the world.

### Umetrics Inc.

610

70 W. Rio Robles Drive  
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Phone: 408-750-2889 / Fax: 408-750-2992 / Website: www.umetrics.com

Umetrics develops software for Chemometrics applications of Multivariate Data Analysis (MVDA) and Design of Experiments (DoE), for the individual user and for on-line processes. With our cutting-edge and user-friendly software and our extensive 20+ years experience and understanding of industry-specific applications of multivariate technology, we add value to your business by bringing out the valuable information from your data. Products: SIMCA-P+ (MVDA), SIMCA-4000/SIMCA-Batch On-line (Multivariate Process Monitoring), MODDE (DoE), SIMCA-Q (Multivariate Prediction Engine for OEM)

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301, 303, 305

2850 Centerville Road  
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419, 421

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221

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YMC America is the leading provider of YMC brand HPLC columns and packings in the Americas. New products from YMC include Triart C18, an organic-inorganic hybrid reverse phase HPLC column. Other popular products include YMC UltraHT series HPLC columns for ultra-fast HPLC, ACTUS prep columns for high throughput/high durability prep HPLC, and YMC-BioPro porous and non-porous ion exchange columns for analytical and semiprep chromatography. Please stop by and see us in Booth 507.

Tech Tour 507

#### ZirChrom Separations, Inc.

222

617 Pierce Street  
Anoka MN 55303  
Phone: 763-421-5264 / Fax: 763-421-2319 / Website: www.zirchrom.com

ZirChrom offers zirconia- and titania-based products for chromatographic method development. We provide a wide variety of column chemistries for reversed-phase (including LC-MS), ion exchange, normal phase and chiral chromatography. We also offer sub 2 micron products. ZirChrom HPLC columns are renowned for their unique selectivity, exacting reproducibility, high efficiency and ultra-stability. These columns may be used at both ambient and elevated temperature (to enhance LC-MS sensitivity and to reduce analysis time). Specialty products are available for in-line protein removal, phosphorylated peptide isolation and monoclonal antibody purification.

## Highlights in the Exposition Area

### **FREE** Light Lunch for all Conferees and Exhibitors:

Monday, Tuesday and Wednesday, 11:30 to 1:00

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

### **FREE** Beverages for all:

Monday, Tuesday, and Wednesday, at 10:30 and 2:30

\$50.00 Visa Gift Cards Ruffled off at each of the beverage breaks, except Monday AM. Open to all; must be present to win.

### **Take a Technology Tour!**

The Technology Tour in the Exposition Hall is back again for 2010 and is bigger and better!

This EAS Final Program contains a special flyer to the Technology Tour (green insert). If you visit eight or more of the participating exhibitors and get the card marked, you can redeem the card for an additional gift at the EAS Souvenir Booth — your choice from a selection of EAS logo-ed items.

*Here are the exhibitors participating in the Technology Tour:*

Millipore  
Thermo Scientific, formerly Ahura Scientific  
Claisse  
Shimadzu  
Hitachi High Technologies America, Inc.  
SGE Analytical Science  
Distek, Inc.  
YMC America, Inc.  
Phenomenex  
Metrohm USA

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Sepax Technologies  
pION  
Horizon Technology Inc.  
ACD/Lab  
Kaiser Optical Systems  
Robertson Microlit Laboratories  
Joule, Inc.  
EMD Chemicals Inc.  
Thermo Scientific

## Special Events in the 2010 EAS Exposition Area

The following special exhibitor events will occur during the 2010 Eastern Analytical Symposium. Attendance at these events is limited to 2010 EAS registrants. For additional information, please contact the relevant exhibiting company.

**Monday, November 15, 2010**

### **PerkinElmer**

McDivitt Room – Garden State Exhibit Center Lobby  
9AM to Noon

Please join PerkinElmer on Monday, November 15 at the Eastern Analytical Symposium and Exposition for an educational seminar event. PerkinElmer product specialists will be presenting 40-45 minute talks focusing on FT-IR, ICP-MS, and LC/MS.

Registration/Info: Please contact Tracy Tran at [tracy.tran@perkinelmer.com](mailto:tracy.tran@perkinelmer.com) or 408-232-0658 and note which session(s) you will be attending.

Be sure to visit us at Booths # 707 and 709.

### **“Basic Principles of FT-IR Microscopy”**

Presenter: Thomas P. Byron  
Sr. Product Specialist, PerkinElmer  
McDivitt Room – Garden State Exhibit Center Lobby  
9AM to 10AM

This lecture will cover the basic theory and use of FT-IR Microscopes. Learn about Casserain objectives, the need and use of apertures, spatial resolution, and how diffraction limits effect your measurement. Information on detector type (DTGS or MCT), will be discussed and their relative performance will be explored.

### **“NexION 300 ICP-MS”**

Presenter: Lorraine Foglio and Leon Davidowski  
Inorganic Product Specialists, PerkinElmer  
McDivitt Room – Garden State Exhibit Center Lobby  
10AM to 11AM

A discussion and review of testing for traces of inorganic impurities in pharmaceuticals to comply with the new USP Standards. Comparison of some elemental techniques with emphasis on ICP-MS.

### **“Introduction and Applications for Single Quadrupole LC/MS”**

Presenter: Ron Snelling  
LC Product Specialist, PerkinElmer  
McDivitt Room – Garden State Exhibit Center Lobby  
11AM to 12PM

Practical tutorial on the theory and practice of ultra high performance LC with focal emphasis on the power and utility of single quadrupole MS as a LC detector.

### **Agilent Technologies**

Davis Room – Garden State Exhibit Center Lobby  
Noon to 2:00 P.M.

Defining the New Age of HPLC – Coupling Innovative Column Technology to Optimized LC Systems for the Best Performance

Presenter:  
Bob Giuffre  
Applications Scientist, Agilent Technologies

## Special Events in the 2010 EAS Exposition Area

(Continued)

In recent years, technological advances have really changed the way in which HPLC is performed in various laboratories. UHPLC technology surfaced with the utilization of smaller particle sizes in order to achieve better resolution in less separation time. Shortly thereafter, challenges in implementation led to improved design of HPLC instrumentation with consideration given to such parameters as data acquisition rates, delay volumes and dispersion. Most recently, another development in particle technology has altered traditional UHPLC from using sub-2 micron particles to superficially porous particles in order to achieve UHPLC results. This seminar will thus focus on the recent developments in LC analyses and discuss how to achieve optimal analysis by coupling the latest column technology with instrument innovations.

### Retsch and Claisse

#### **Retsch Inc. (Booth 217) and Corporation Scientifique Claisse (Booth 409)**

**Retsch Inc.** in partnership with **Corporation Scientifique Claisse** will be presenting an exciting program which will include the following topics:

#### **1:00 pm**

##### **Retsch – Sample Preparation Techniques for Reproducible and Accurate Analytical Results.**

Proper sample preparation techniques are the only way to ensure that the analytical technique used results in meaningful and accurate results. The methods of sampling, sieving, and homogenizing samples for analysis will be discussed.

#### **1:30 pm**

##### **Claisse – Basic Fusion Technology Concepts for Sample Preparation of Difficult Samples for ICP and Atomic Absorption Analysis.**

The fusion method of sample preparation presents a quick, safe, easy to use alternative to digestion and microwave techniques for the preparation of solutions for normally difficult samples such as catalysts, geological, mining, ferroalloy and many other materials. The basics of fusion with application examples will be discussed.

#### **2:00 pm**

##### **Retsch – Preparing Samples for AAS, ICP, or XRF.**

We'll address the requirements needed to prepare samples for these analytical techniques. Addressing these requirements will allow us to prepare and configure the ideal equipment for efficiently handling the material so that the resulting analysis will yield reproducible results.

#### **2:30 pm**

##### **NJIT – Experimental and Computational Study of progress in Material Refinement by Mechanical Milling.**

Special presentation by Priya R. Santhanam (graduate student) and Edward L. Dreizin (professor), Department of Chemical, Biological and Pharmaceutical Engineering, New Jersey Institute of Technology. Paper discusses experimental and computational processes used for Mechanical Milling. This technology is used to prepare a wide range of materials, including mechanically alloyed powders, chemicals synthesized by reactive milling, and reactive nano-composite powders prepared by arrested reactive milling.

#### **3:00 pm**

##### **Claisse – Fusion Technology Products for Sample Preparation of Difficult Samples for ICP and Atomic Absorption Analysis.**

The selection of different fusion products such as gas or electric powered fluxers, borate or peroxide fluxes, different non-wetting agents, oxidizers, and crucible materials necessary for the preparation of difficult samples for ICP/AA analysis will be discussed.

## Special Events in the 2010 EAS Exposition Area

(Continued)

3:30 pm

### **Retsch – Preparing API Samples for the Pharmaceutical Industry.**

Many pharmaceutical scientists believe that all soluble medicines have been discovered, so they have been searching for ways to allow their formulated medicines to have much higher ADME efficiencies. The main target for this goal is to grind API samples to nano-scale particles, which ultimately lead to higher ADME efficiencies for the drug. A discussion will be conducted on the equipment and techniques used to accomplish these goals.

**Tuesday, November 16, 2010**

### **Dionex Corporation**

Davis Room – Garden State Exhibit Center Lobby

**Visit the Dionex Field Laboratory\* at EAS 2010 and learn more about our latest technologies in Ion Chromatography, UHPLC, and Automation**

Stop by our Field Laboratory from 9 a.m. to 4 p.m. for individual demonstrations and discussions:

**10:00 am: Ion Chromatography:** Kirk Chassaniol will demonstrate a Dionex IC system running the new IonSwift™ Max-100 monolith column specifically developed for the simultaneous determination of inorganic anions and organic acids in a variety of matrices.

**Noon: UHPLC Lunch ‘n Learn Session\*\*:** Matthew Neely will demonstrate the UltiMate® 3000 Rapid Separation LC (RSLC) system. He will analyze water- and fat-soluble vitamins in various enriched beverages using our x2 parallel technology.\*\* Stop by booth 224 to register.

**2:00 pm: Charged Aerosol Detectors:** Kevin Courtemanche will present the Theory and Mechanics of Charged Aerosol Detectors and demonstrate many pertinent applications for the pharmaceutical industry. Kevin will also demonstrate the latest version of the Chromeleon® Chromatography Data System (CDS) software.

### **Supelco/Sigma Aldrich**

#### **“Understanding Karl Fischer Titration”**

*Technical Seminar Hosted by*

**Supelco/Sigma-Aldrich (Booth #318)**

Tuesday, November 16, 2010

Time: 1:00 pm – 3:00 pm

Seminar is held in the McDivitt Room of the Garden State Convention Center, Somerset, NJ

The Karl Fischer titration is the most versatile and generally accepted analytical method for determining water content. It is independent of the sample's state of matter and is therefore suitable for the analysis of solids, liquids, and gases. Critical to the accurate determination of water content is that the sample be soluble in the solvent mixture, the working pH of the system is not affected by the sample, and side reactions are avoided.

This seminar addresses the development and principles behind Karl Fischer analysis, the differences between the volumetric and coulometric approaches to water determination, good lab practices and proper technique, modifications to improve solubility, maintaining proper pH control, and problematic functional groups and the specialty reagents that allow for their analysis. Use of various standards to verify that the system is functioning properly and the benefits of routine maintenance will also be discussed.

# Special Events in the 2010 EAS Exposition Area

(Continued)

Wednesday, November 17, 2010

## Thermo Scientific

Davis Room – Garden State Exhibit Center Lobby

9:00 A.M. to 4:00 P.M.

### **Thermo Scientific Technology Day:**

#### **9:00 - 11:00 Molecular Spectroscopy**

- Learn more about FT-IR, Raman, and NIR technologies with our applications experts.

#### **11:30 - 1:30 Life Science Mass Spectrometry**

- Primer on Linear Ion Traps: Why are They so Versatile?
- Introduction to the Triple Quadrupole Stage Mass Spectrometer: Applications and Uses
- High Resolution and Accurate Mass Basics: LTQ-Orbitrap

#### **2:00 - 4:00 Trace Elemental Analysis**

- Discuss the scope and context of USP's proposed new chapters on elemental impurities, including chapters 231, 232, 233 and 730.
- Develop an understanding of how to optimize elemental measurement of ICP-OES and ICP-MS.
- Leave with a greater understanding of elemental impurity method development and validation.
- Interactive software and hardware demonstrations.

Register today at [www.thermoscientific.com/eas](http://www.thermoscientific.com/eas)

## Waters

McDivitt Room – Garden State Exhibit Center Lobby

9:00 A.M. to 4:00 P.M.

Effective UPLC Implementation

John Smid

9:00-12:30

Start realizing all the benefits of ACQUITY UPLC and ACQUITY UPLC H-Class right away by attending this interactive session. This session will give you the knowledge and tools to ensure you are successful at implanting these powerful technologies as soon as you return to your laboratory. Topics include: Solvent Manager, Sample Manager, Detectors, Console, Startup and Column Chemistry.

Method Transfer from HPLC to UPLC

Ed Aig

1:30-2:30

As lab personnel make the transition from High Performance Liquid Chromatography (HPLC) to Ultra Performance Liquid Chromatography (UPLC) there are several things which must be considered. In this session we will discuss transferring and optimizing methods as one makes this transition.

## 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

# Previous Award Recipients

The recipients of the Eastern Analytical Symposium Award for Outstanding Achievements in the Fields of Analytical Chemistry are:

1986.....	Dr. George H. Morrison
1987.....	Dr. Velmer A. Fassel
1988.....	Dr. J. Calvin Giddings
1989.....	Dr. David M. Hercules
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
2004.....	Dr. Harold McNair
2005.....	Dr. Bruce Chase
2006.....	Dr. Andrew G. Ewing
2007.....	Prof. M. S. Burnaby Munson
2008.....	Prof. Milton L. Lee
2009.....	Dr. M. Bonner Denton

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

1986.....	Dr. Csaba Horvath
1987.....	Dr. Haleem J. Issaq
1988.....	Dr. Milos Novotny
1989.....	Dr. Harold M. McNair
1990.....	Dr. Daniel Armstrong
1991.....	Dr. Robert L. Grob
1992.....	Dr. Daniel E. Martire
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
2000.....	Dr. Peter W. Carr
2001.....	Dr. Georges A. Guiochon
2002.....	Dr. Karel A. Cramers
2003.....	Dr. Edward Yeung
2004.....	Dr. John G. Dorsey
2005.....	Dr. Frantisek Svec
2006.....	Dr. Phyllis R. Brown
2007.....	Prof. Peter Uden
2008.....	Prof. Pat J. Sandra
2009.....	Prof. Peter J. Schoenmakers

The recipients of the Eastern Analytical Symposium Award for Achievements in Near-Infrared Spectroscopy are:

1989.....	Mr. Karl Norris
1990.....	Dr. Donald Burns
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

The recipients of the Eastern Analytical Symposium Award for 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

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

1996.....	Dr. Steven D. Brown
1997.....	Dr. Tormod Naes
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

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

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

1952.....	Dr. William F. Meggers
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 Warg
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
1968.....	Mr. Willis J. Potts, Jr.
1969.....	Dr. Robert H. Bell
1970.....	Dr. John R. Ferraro
1972.....	Dr. Charles Jedicka
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
1980.....	Mr. Edwin K. Jaycox
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

The recipients of the American Microchemical Society Benedetti-Pichler Memorial Award are:

1966.....	Dr. J. F. Alicino
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
1981.....	Dr. P. Flashka
1982.....	Dr. Peter F. Lott
1983.....	Dr. Louis Meites
1984.....	Dr. Bennie Zak
1985.....	Dr. Lockhart "Buck" Rogers
1986.....	Dr. Wilhelm Simon
1987.....	Dr. David M. Hercules
1988.....	Dr. Richard F. Browner
1989.....	Dr. K. L. Cheng
1990.....	Dr. Peter W. Carr
1991.....	Dr. Nicholas Winograd
1992.....	Dr. Robert G. Michel
1993.....	Dr. Peter C. Uden
1994.....	Dr. Isiah M. Warner
1995.....	Dr. Leslie Colin Ebdon
1996.....	Dr. Daniel Armstrong
1997.....	Dr. John Dorsey
1998.....	Dr. Purnendu K. Dasgupta
1999.....	Dr. Jonathan V. Sweedler
2000.....	Dr. Andrew G. Ewing
2001.....	Dr. Robert T. Kennedy
2002.....	Dr. Fred M. Hawkrige
2003.....	Dr. Joseph Sneddon
2004.....	Dr. Jorge Gardea-Torresdey
2005.....	Dr. Frank Bright
2006.....	Prof. Steven A. Soper
2007.....	Prof. Robin Garrell
2008.....	Prof. Janusz Pawliszyn
2009.....	Prof. Yong-Il Lee

The recipient for the Ernst Abbe Memorial Award of the New York Microscopical Society is:

2006.....	Dr. John C. Russ
2007.....	Prof. Watt Webb



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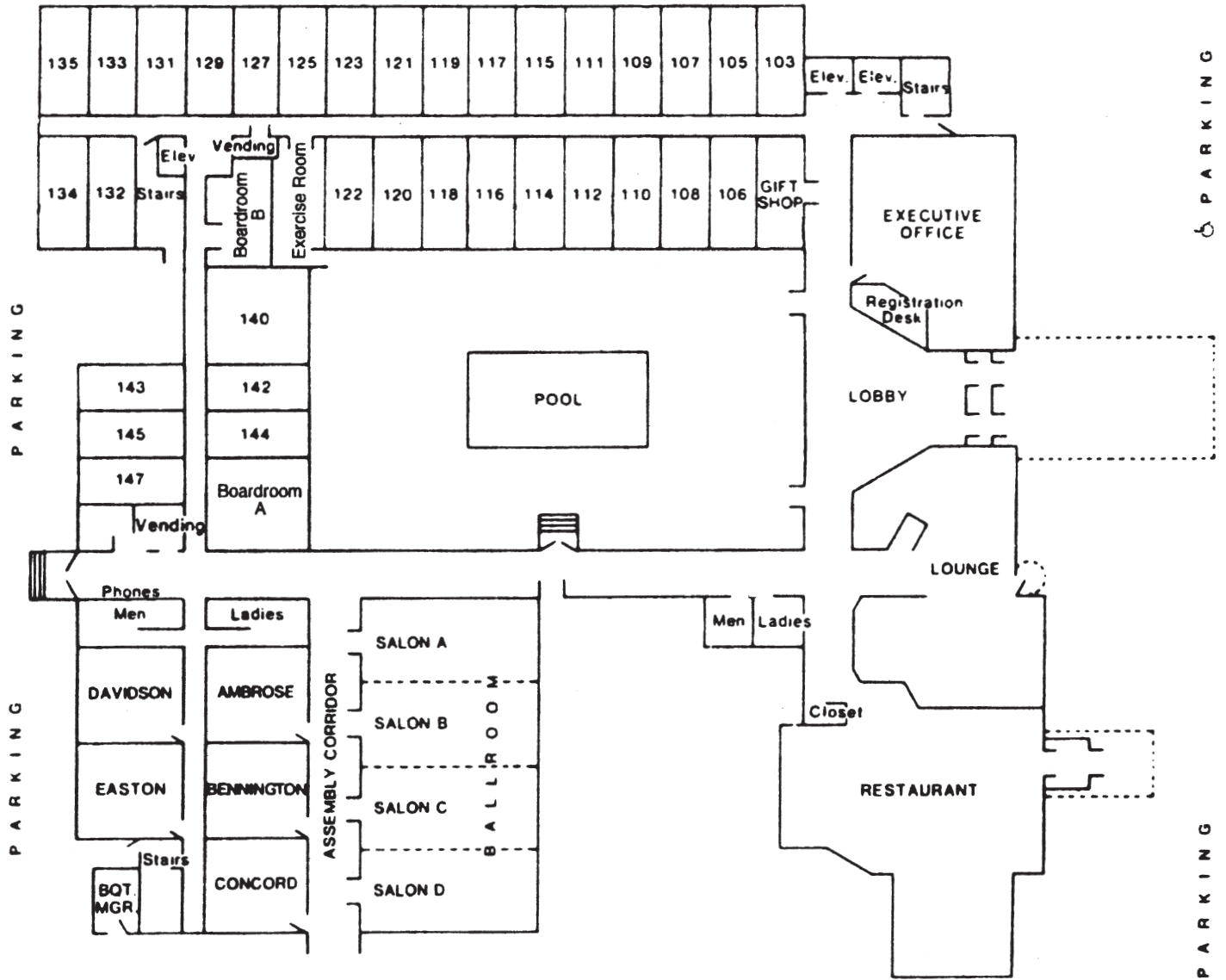
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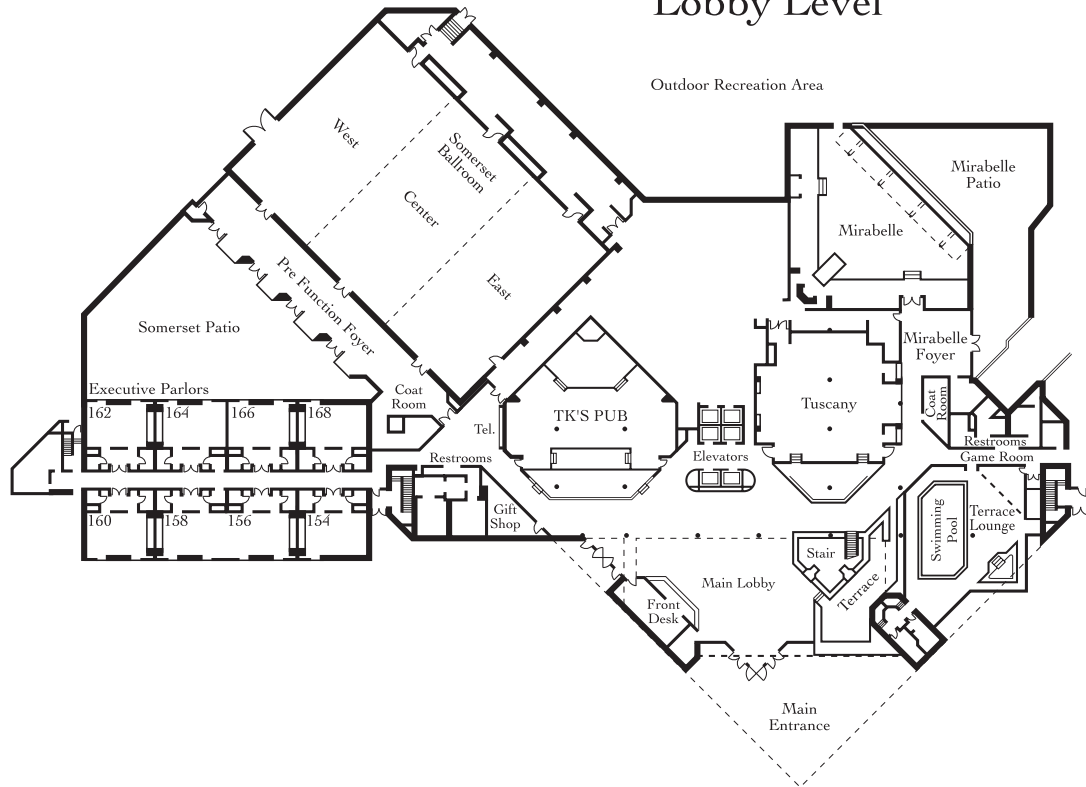
# FLOOR PLAN OF THE HOLIDAY INN SOMERSET HOTEL



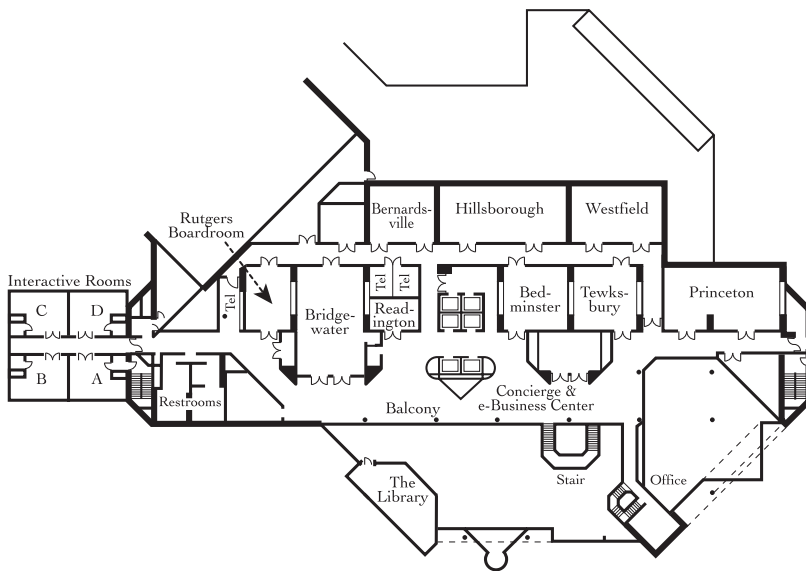
# FLOOR PLAN OF THE DOUBLETREE SOMERSET HOTEL

## Hotel Floor Plan

### Lobby Level

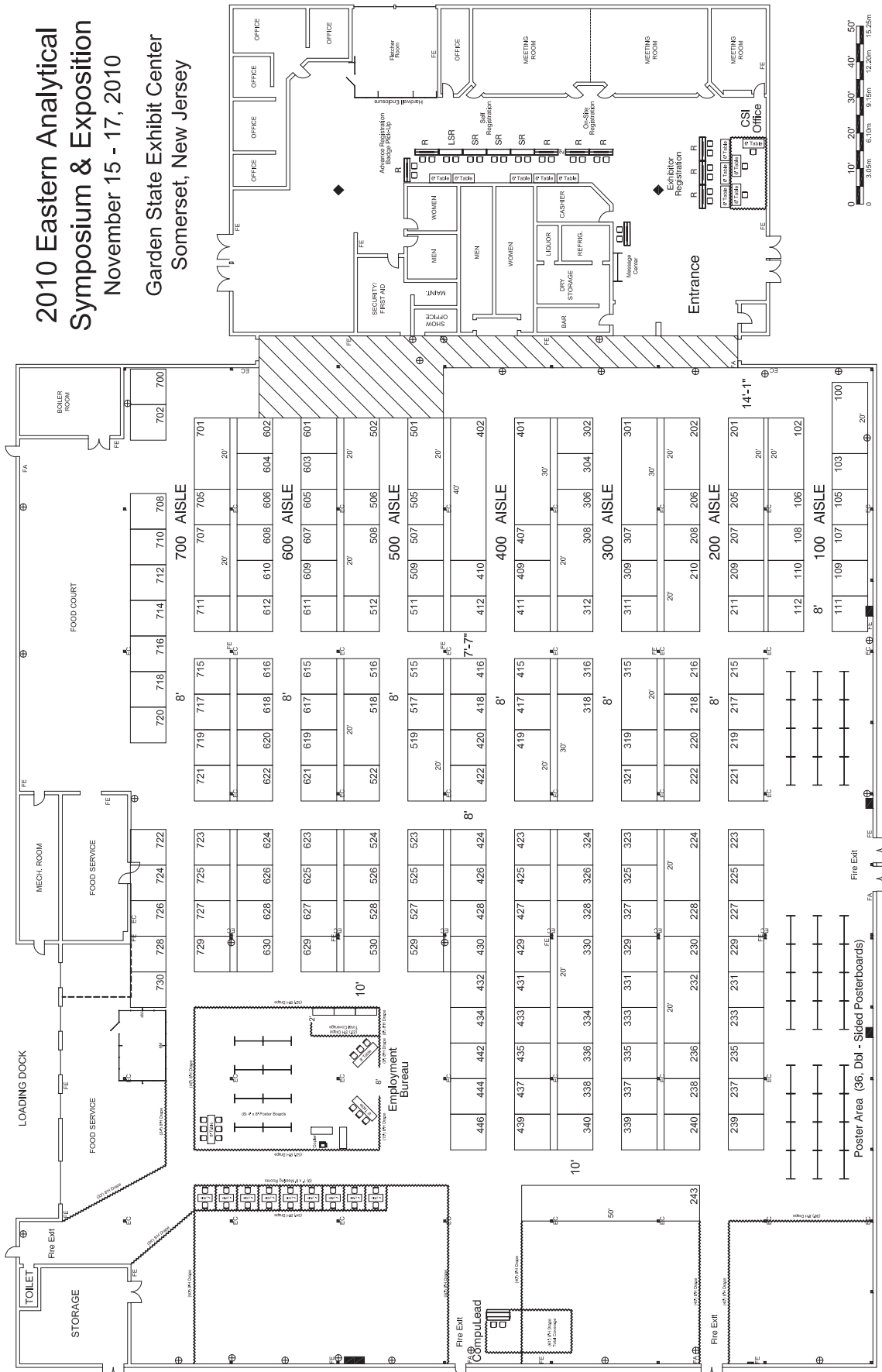


### Executive Meeting Center Second Level



# 2010 Eastern Analytical Symposium & Exposition Floor Plan

**2010 Eastern Analytical Symposium & Exposition**  
 November 15 - 17, 2010  
 Garden State Exhibit Center  
 Somerset, New Jersey



**49th EASTERN ANALYTICAL SYMPOSIUM & EXPOSITION**  
 [An IRS 501(c)(3) Non-Profit Educational Organization Managed by Volunteer Scientists]  
 Garden State Convention Center and the  
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Last updated October 29, 2010

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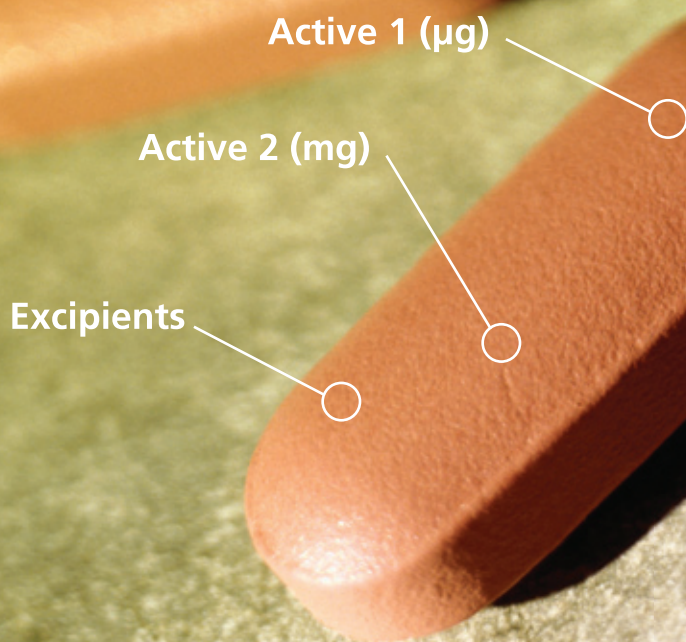
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