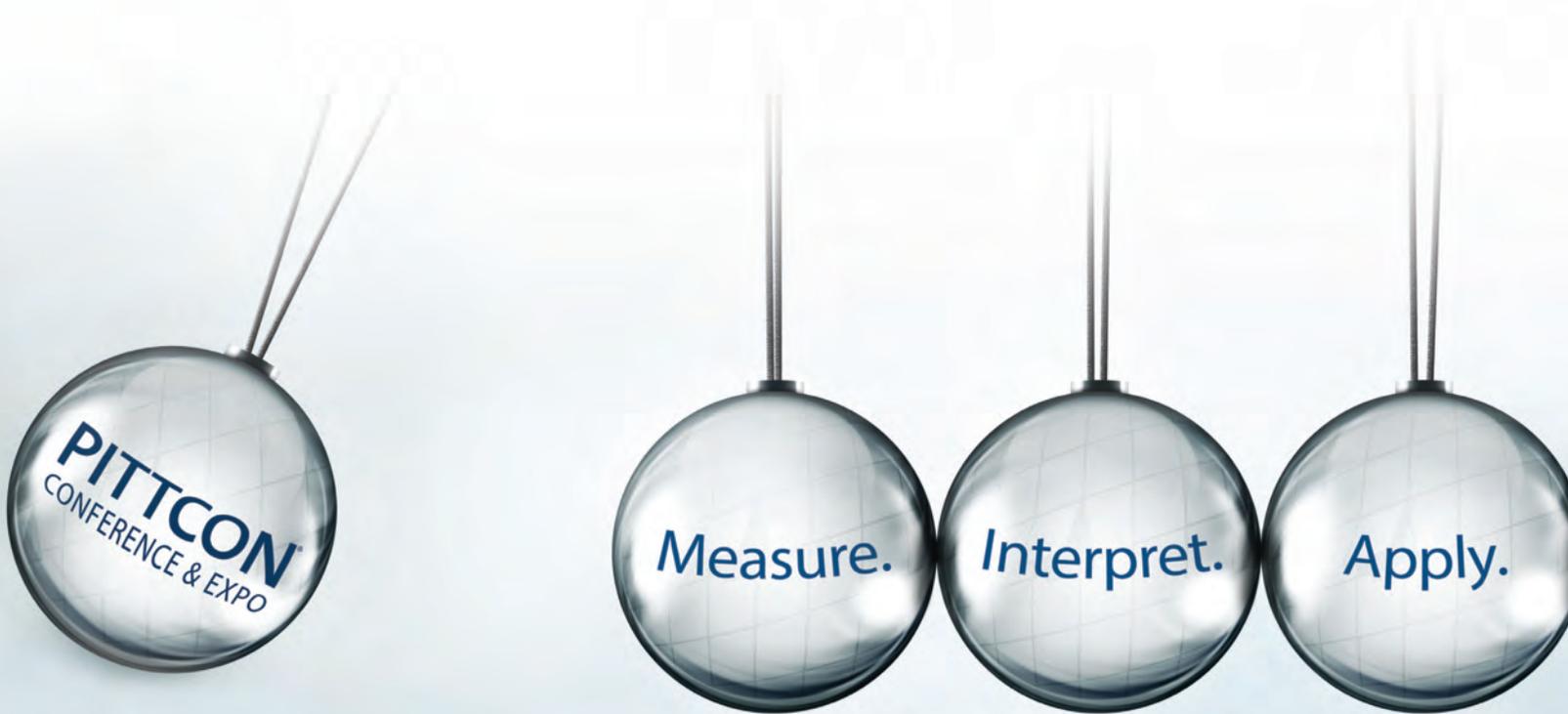


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Final Program

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GENERAL INFORMATION

APPLE/SOUVENIR BOOTHS

Complimentary apples and your 2016 complimentary souvenir bag are available on the exposition floor at the Apple/Souvenir Booths 863 and 4618.

BUSINESS CENTER

The FedEx Business Center is located on the lobby level in the AB Main Entrance in front of the Registration Hall B.

CHILDREN ON THE EXPOSITION FLOOR

The nature and amount of equipment on display makes the exposition floor potentially dangerous for children. We encourage you to utilize the services of Camp Pittcon. If you feel that you must have your child on the exposition floor with you, please follow these guidelines:

- 1 All children under the age of 16 must register in the Registration Office, receive and display a badge and be accompanied on the exposition floor by a registered adult. No one under the age of 16 is permitted on the exposition floor during set-up and tear-down.
- 2 No strollers, backpacks, carriages, or similar devices for transporting children are permitted on the exposition floor.
- 3 Show Management or Security will remove any child from the exposition floor who exhibits disruptive or dangerous behavior. The child's adult companion will also be asked to leave.

COAT AND BAGGAGE CHECK

Coat and Baggage checks are located near the Registration Area, behind the main entrance of building B.

EXHIBITOR-DISTRIBUTOR NETWORKING

The Exhibitor/Distributor Networking service provides an effective and easy way for Pittcon exhibitors and distributors to connect at Pittcon 2016. A database of helpful contact information, facilitates connections for Pittcon exhibitors seeking distributors and for distributors who seek products to license, sell and/or distribute. This networking service also provides an easy way for exhibitors and distributors from other international trade shows that we partner with during the year to connect at Pittcon. The Exhibitor /Distributor Networking office is located in Room B208.

Hours of Operation

Monday - Wednesday 9:00 a.m. to 5:00 p.m.
Thursday 9:00 a.m. to 3:00 p.m.

EXPOSITION HOURS

PITTCON 2016 EXPOSITION HOURS:

Monday, March 7 9:00 a.m. to 5:00 p.m.
Tuesday, March 8 9:00 a.m. to 5:00 p.m.
Wednesday, March 9 9:00 a.m. to 5:00 p.m.
Thursday, March 10 9:00 a.m. to 3:00 p.m.

EMERGENCY INFORMATION

General Emergency – Ext. 4911 from any house phone or 404-223-4911 from any cell phone

Pittcon Security and Lost and Found – Room B202

FIRST AID STATION

The First Aid office is located in Room B410

INFORMATION BOOTHS

There are Information Booths at the following locations:

Information Booth – Main Bus Drop-off

The information booth is in the lobby area of building B, at the bus drop-off doors

Information Booth – Central

The information booth is adjacent to the Registration Area in building B

Information Booth – Hall A

The Information booth is in the lobby area of building A, opposite the entrance doors, and near the escalators

INTERNATIONAL VISITOR SERVICE

The International Visitor Service is located at the main entrance lobby area in Building B. Multi lingual Interpreters and staff will be available to assist, where possible, the international attendees with any aspect of their attendance.

Hours of Operation

Sunday 1:00 p.m. to 5:00 p.m.
Monday – Wednesday 9:00 a.m. to 5:00 p.m.
Thursday 9:00 a.m. to 3:00 p.m.

EMAIL AND INTERNET ACCESS

Complimentary wireless internet access is available throughout all public areas of Georgia World Congress Center and on the exposition floor. This service is intended for all conferees and exhibitors to have internet connectivity for email and web access from their portable PC or web enabled device. Two Internet Cafés, located in booths 1406 and 3470, are provided on the exhibit floor. Computers with internet connectivity and printers are available for access for all registered conferees and exhibitors with a 10 minute time limit per use and are only available during published exposition hours.

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Visit Shimadzu at booth #1338 to pick up your coupon for a COMPLIMENTARY stress relieving, upper body massage at the Relaxation Station located in Building B, Level 2, mid-concourse, next to the water feature.

MOBILE APPLICATION

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The Pittcon 2016 Mobile App is an all-inclusive tool that puts all conference and expo information at your fingertips!

Build your daily agenda, search technical sessions and exhibitors, take notes and star items, and receive real-time messages and alerts. The app is available for free download on iOS and Android devices. Find it on the App Store and Google Play. A web version is available for all other devices.

GENERAL INFORMATION

SPECIAL NEEDS

If you need a wheelchair accessible vehicle to transport you to and from your hotel and the convention center, please call 866-767-3305 to schedule a pickup. Calling several hours in advance is always recommended, and you will be able to schedule your pickups for the entire week once you set your first reservation.

Wheelchairs and scooters for use during conference week are available for rental and pickup from the FedEx business office located in the convention center. Supply is limited; therefore, advanced reservations are highly recommended. Contact ScootARound at 888-441-7575 or visit scootaround.com.

PHOTOGRAPHIC EQUIPMENT

The use of cameras and other recording devices are not permitted during program sessions. Cameras are permitted on the exposition floor, however, permission from the exhibitors involved must be obtained before photographs can be taken.

PITTCON BOOTH

Stop by the Pittcon Booth #4657 to get your personalized luggage tag and your souvenir photo with Dr. Pete Conn. Information is also available on Pittcon 2017 and Chicago.

PRESS ROOM/MEDIA CENTER

The Press Room is located in Room B216. Complimentary registration is available for all members of the press. Upon your arrival at the convention center, please check in at the Press Room to pick up your press badge and Media Kit. The following are considered proper press credentials and are necessary with photo identification to receive your badge:

- a current National Association of ScienceWriters (NASW) membership card
- a business card showing affiliation and position



TWITTER AND FACEBOOK CONTESTS

#pittconfavs - Vote on Twitter for your favorite selfie, favorite exhibitor and favorite speaker.

Winners will receive the Dr. Pete Conn Award.

Visit the Pittcon booth (#4657) and take your picture with Dr. Pete Conn. Post your photo to www.facebook.com/drpetecon. The picture with the most likes wins a \$50 Amazon gift card.

Follow us at #pittcon

PRODUCT AND PROGRAM LOCATOR/ AGENDA BUILDER

Computer terminals are available to access the Product and Program Agenda Builder application. They are located in Centennial Park on the exposition floor and in the hallway near the Program Office, Room B306. The Agenda Builder application allows conferees to search for products, program presentations, exhibitors and short courses. During the process, you can also build your own personal agenda to use during Pittcon. Remember to create a user account with a username and password if you wish to save your agenda. Agenda Builder can be found on the Pittcon website under the Technical Program tab.

** PLEASE NOTE: Schedules created in Agenda Builder do not sync to the mobile app agenda and vice versa.*

PROGRAM

The following pages present the program as of publication in January, 2016. For updated information, please visit www.pittcon.org or download the mobile app and take advantage of the search and agenda builder functions to design a personalized conference week schedule.

The Program Office will be in Room B306 of the Georgia World Congress Center.

Hours of Operation

Sunday, March 6, 2016 10:00 a.m. to 5:00 p.m.

Monday, March 7 through

Thursday March 10, 2016 7:30 a.m. to 5:00 p.m.

The Speaker Ready Room will be in Room B307. Hours of operation are the same as those of the Program Office. Speakers may practice using the audio-visual equipment (LCD projectors); an AV technician will be available.

Questions or suggestions on any aspect of the Technical Program may be addressed to:

The Pittsburgh Conference
Program Department
300 Penn Center Blvd., Suite 332
Pittsburgh, PA 15235-5503 USA
(412) 825-3220, ext. 219
program@pittcon.org

SECURITY/ LOST & FOUND

The Security and Lost and Found offices are located in Room B202.

CHILD CARE ON SITE AT CAMP PITTCON

High quality, convenient child care is available at the Georgia World Congress Center during Pittcon. We provide a subsidized child care program that will utilize the expertise of a nationally known child care organization.

Each member of the Camp Pittcon staff is a child care professional trained to supervise and entertain your child. We are committed to making your Pittcon 2016 experience family-friendly.

Hours of Operation

Sunday, March 6, 2015 1:00 to 5:30 p.m.

Monday, March 7 through

Thursday March 10, 2015 7:30 a.m. to 5:00 p.m.

Registration Costs

Visa and MasterCard accepted (Minimum 3 hours)
6 months to 35 months \$11.00 per hour
3 years and older \$10.00 per hour

Parent of participants must be registered as 2016 conferees or exhibitors.

ACTIVITIES

PITTCON STORE

Gifts and Souvenirs

The Pittcon Store is located outside the lobby of level B4.5. The store is ideal for purchasing souvenirs and fun items to remind you of Pittcon 2016 all year long! There is a new 2016 mascot, apparel, business items available at affordable prices.

Stop by to see what we have to offer!

MIXERS

Sunday Mixer after the Wallace H. Coulter Lecture

Enjoy complimentary refreshments and snacks while you view informative posters and meet your colleagues. This event is an annual tradition where many conferees meet year after year. It takes place immediately following the Wallace H. Coulter Lecture in Room A411.

Exposition Mixers

There is a complimentary mixer on the exposition floor in booths 527, 1763, Centennial Park, 3922, and 4360 on Tuesday, from 2:00 p.m. to 4:00 p.m.

EMPLOYMENT BUREAU

Employment Bureau Hours

Sunday, March 7, 2015	1:00 p.m. – 5:00 p.m.
Monday, March 8 through Wednesday, March 9, 2015	8:00 a.m. – 5:00 p.m.
Thursday, March 10, 2015	8:00 a.m. – 2:00 p.m.

A free Employment Bureau, located in Sections 3 & 4 of the Thomas Murphy Ballroom, is available. The bureau is an on-site service for candidates to review active job openings and for employers to review candidates' credentials and resumes.

To qualify for this service, each participant must be registered either as a conferee or as an exhibitor for Pittcon 2016. They must also register as either a candidate or as an employer with the Employment Bureau.



On line registration for the Employment Bureau remains open during Conference week.

Registration can be completed on your own computer/electronic device or on computers in the Employment Bureau.

All searches will be done electronically; therefore, all candidates and employers should bring their computers or other devices for accessing the internet and e-mails.

Candidates must bring printed and electronic resumes in searchable PDF or Word format, preferably stored on a USB flash drive.

The Pittcon Employment Bureau will be open on line to registered employers and candidates after the 2016 Pittcon Conference closes until March 31, 2016.

EMPLOYER INFORMATION

Employers may schedule interviews with candidates in the private interview rooms. There are three types of private interview rooms available.

- General interview rooms are free. These rooms are assigned for each interview and new employers are assigned after each interview period.
- Reserved interview rooms are for employers who want the same room each day. This enables the employer to set out literature each day or other material used during the interview process. There is a fee for these rooms.
- Deluxe interview rooms are also available. These stand-alone booths have electric outlets, two tables and several chairs. The above reserved and special deluxe interview booths are available on a weekly basis. Please contact an employment bureau staff person to get more detailed information and fees for reserved and deluxe interview rooms.

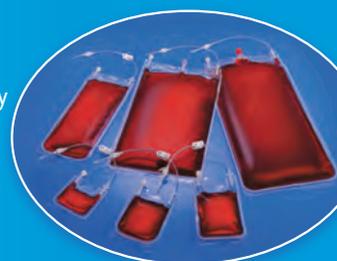


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HOTEL SHUTTLE

Service to and from Official Pittcon Hotels and the Georgia World Congress Center

Hours of Operation	15 Minute Service	20-25 Minute Service	15 Minute Service	20-25 Minute Service
Sunday, March 6, 2016		9:00 a.m. – 12:00 p.m.	12:00 p.m. – 4:00 p.m.	4:00 p.m. – 8:00 p.m.
Monday, March 7, 2016	6:30 a.m. – 9:30 a.m.	9:30 a.m. – 3:00 p.m.	3:00 p.m. – 6:00 p.m.	
Tuesday, March 8, 2016	7:00 a.m. – 10:00 a.m.	10:00 a.m. – 3:00 p.m.	3:00 p.m. – 6:00 p.m.	
Wednesday, March 9, 2016	7:00 a.m. – 10:00 a.m.	10:00 a.m. – 3:00 p.m.	3:00 p.m. – 6:00 p.m.	
Thursday, March 10, 2016	7:00 a.m. – 10:00 a.m.	10:00 a.m. – 3:00 p.m.	3:00 p.m. – 7:00 p.m.	

Transportation provided by Callaway Transportation Inc. For special assistance or questions please call 1-866-767-3305

**Intervals may be affected by traffic and weather*

Route 1 RED

Stop #

- 1 Westin Peachtree
Curbside on Ted Turner Drive
- Doubletree
Board at the Westin
- Hampton Inn Downtown
Board at the Westin
- Hotel Indigo
Board at the Westin
- 2 Holiday Inn Downtown
Board curbside on International Blvd.

Route 4 BLACK

Stop #

- 1 Hilton Atlanta Towers
Across Baker Street
- 2 Hyatt Regency
Across Baker Street

Route 2 GREEN

Stop #

- 1 Ritz Carlton
Outside Main Lobby across Ellis
- Ellis
Board at the Ritz Carlton
- 2 Sheraton
Board curbside on Andrew Young

Route 5 BLUE

Stop #

- 1 Holiday Inn Express
Outside Main Lobby
- 2 Courtyard Downtown
Outside Main Lobby - Across Carnegie
- 3 Residence Inn Downtown
Outside Main Lobby across Forsyth
- 4 Fairfield Inn
*Board to right of Hotel
On Alabama & Pryor*

Route 3 PURPLE

- 1 Marriott Marquis
Outside Main Lobby

Route 6 PINK

Stop #

- 1 Hilton Garden
Board across street on Baker
- 2 Embassy Suites Centennial Park
Side Entrance on Park Ave

Route 7 ORANGE

Stop #

- 1 Aloft Downtown
Outside Main Lobby
- 2 W Downtown
Outside Main Lobby

Hotels within walking distance of the Georgia World Congress Center: The Omni at CNN Center and The Glenn Hotel

FOIL MILLER REACHES 100

Foil Miller recently celebrated his 100th birthday. Very few spectroscopists have reached this age, and we take the opportunity to congratulate him on his career and wish him well in the future. He was active in Pittcon from its inception in 1950 through 2009, missing only four years out of 60.

He obtained a B.S. in chemistry in 1937 from Hamline University in St. Paul, MN. After a year of graduate work at the University of Nebraska, he transferred to Johns Hopkins University in Baltimore where he obtained his Ph.D. in Chemistry as Prof. Richard C. Lord's first graduate student. While in Baltimore he met and married Naomi Zeller. After two years as a post-doctoral fellow at the University of Minnesota with Prof. Bryce Crawford, he taught for four years at the University of Illinois. He moved to Pittsburgh in 1948 to join the staff of Mellon Institute as Head of its Spectroscopy Division, and later became a Senior Fellow in Independent Research. In 1967 he transferred to the University of Pittsburgh as University Professor of Chemistry and Head of the Spectroscopy Laboratory, and retired from Pitt in 1981. He greatly enjoyed teaching throughout his career.

His research, which has been primarily in infrared and Raman spectroscopy, has been described in about 100 referred publications.



CONFEEE NETWORKING

Free unique networking opportunities for registered conferees.
Meet, resolve, and discuss similar interests, techniques, and problems on various topics.
No preregistration required. Check our website for more information and descriptions.

Sunday, March 6, 1:30pm – 3:30pm

Funding/Upgrading for Mid-size Equipment - <i>Thayumanasamy Somasundaram</i>	A409
Getting the Most of Your Pittcon Experience - <i>Pittcon Committee Members</i>	A405
Laboratory Safety - <i>James Kaufman</i>	A407
Measure and/or Predict? Perspectives on Prediction Approaches with and Versus Experiments for Research and Development Compound Analyses - <i>Graham McGibbon/Sanji Bhal</i>	A408
What Can You Do With 6 or 12 Channels of Data? - <i>Paul Wilmarth/Sajol Ghoshal</i>	A406

Monday, March 7, 10:30am – 12:00pm

Advances in Thermal Analysis Techniques and Methodology - <i>Charles Earnest</i>	A405
Discovering the Potentialities of Chemical Imaging in Pharmaceuticals, Environmental, Energy/Fuels, Nanotechnology, Biomedical/Biosensors, Food Science and Forensic - <i>Giuseppe Bonifazi</i>	A408
Mobile Phase Selection for LC-MS Analysis - <i>Subhra Bhattacharya/Stephen Roemer</i>	A406
Nanozymes in Analytical Chemistry and Beyond - <i>Hui Wei</i>	A407
Trends in Economical Lab Design - <i>Joe Matta/James Paganelli</i>	A409

Monday, March 7, 3:30pm – 5:00pm

Can the FDA Regulated Computer Systems Validation (CSV) Process be Expedited? - <i>Kurt Robak</i>	A409
ICP-MS and Chromatography for Metals Speciation - <i>Larry Irr</i>	A405
Non-invasive Biomedical Analysis - Standardization of Sampling and Analytical Methods - <i>Jochen Schubert</i>	A407
Scientific Management in a Service-Oriented World - <i>Paul O'Connor</i>	A408
Updated and New Part 4000 Standard Methods - <i>William Lipps</i>	A406

Tuesday, March 8, 10:30am – 12:00am

Analytical Techniques used in the Renewable Energy Manufacturing - <i>Mark Janeczko</i>	A408
Cannabis Analytical Testing Forum - <i>Scott Kuzdzal/Terry Adams</i>	A407
Greener Solvents and Reagents for Analytical & Manufacturing - CANCELLED	A405
Particle Size Analysis: Modern Challenges and Solutions - <i>Jeffrey Bodycomb/Keith Swain</i>	A406
Social Media and Science: Building Relationships for Long-term Value - <i>Megan Cavanaugh/Luke Patterson</i>	A409

Tuesday, March 8, 1:00pm – 2:30pm

Managing a Successful Graduate School Experience - <i>Logan Miller</i>	A406
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Tuesday, March 8, 3:30pm – 5:00pm

Benchtop FT NMR for Education, QC and R & D - <i>Chen Peng</i>	A406
Choosing the Best Laboratory Improvement Project - <i>Katherine Temple</i>	A408
Detection Techniques for Pesticides and Contaminants in Food and Pharmaceutical Raw Materials at Ultra Low Level Detection Levels - <i>Monika Madhav</i>	A407
Moving Bioanalysis Sample Prep and Cleanup Forward - <i>William Alan Marks/Scott Kuzdzal</i>	A409
NSF Funding Opportunities - <i>Michelle Bushey/Lin He</i>	A405

Wednesday, March 9, 10:30am – 12:00pm

Asymmetric Flow Field-Flow Fractionation - <i>Zsuzsanna Kuklennyik/Jeff Jones</i>	A408
Teaching Strategies and Active Learning Resources for Junior Faculty <i>Michelle Kovarik/Chris Harrison</i>	A409
Quality by Design for Development of Analytical Methods - <i>Amir Malek</i>	A407

Wednesday, March 9, 3:30pm – 5:00pm

Assuring Water Quality - <i>Satinder Ahuja</i>	A409
Don't Worry, Be Hoppy – Beer Analysis - <i>Bob Clifford</i>	A407
LC-MS/MS Coupled Online Trypsin Design - <i>Zsuzsanna Kuklennyik/Christopher Toth</i>	A408



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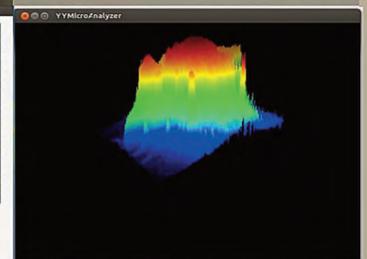
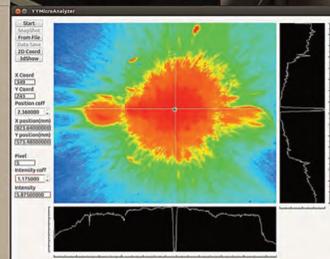
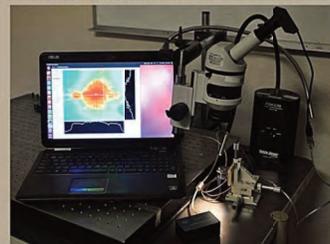
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AWARD PRESENTATIONS AT PITTCON 2016

Pittcon Heritage Award

Posthumously awarded to Kenji Kazato and Kazuo Ito, founders of JEOL

Pittsburgh Conference Achievement Award

Jared L. Anderson, Iowa State University

Chromatography Forum of the Delaware Valley Dal Nogare Award

Stephen Weber, University of Pittsburgh

The LCGC Lifetime Achievement in Chromatography

Milton L. Lee, Brigham Young University

The LCGC Emerging Leader in Chromatography Award

Debby Mangelings, Vrije Universiteit Brussel

Charles N. Reilley Award

Reginald M. Penner, University of California Irvine

Royce W. Murray Award

Ryan J. White, University of Maryland Baltimore County

Pittsburgh Analytical Chemistry Award

Sanford A. Asher, University of Pittsburgh

The Coblenz Society/ABB – Bomem-Michelson Award

Shaul Mukamel, University of California Irvine

Pittsburgh Spectroscopy Award

Jürgen Popp, Friedrich-Schiller University Jena

RSC-JAAS Emerging Investigator Lectureship Award

Gerardo Gamez, Texas Tech University

Lara Lobo Revilla, University of Oviedo

Satinder Ahuja Award for Young Investigators in Separation Sciences

Matthew D. Miller, Dow Chemical

Ralph N. Adams Award

David R. Walt, Tufts University

The Coblenz Society – Williams-Wright Award

Drouet Warren Vidrine, Vidrine Consulting



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Analytical Methods Journal
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Wallace H. Coulter Foundation

The Coulter Foundation makes possible The Wallace H. Coulter Lectureship Award which recognizes an outstanding individual who has demonstrated a lifetime commitment to, and has made seminal contributions to scientific research that have had a significant impact on education, practice and/or research in laboratory science.

In addition, Pittcon along with the generous endowed support of the Wallace H. Coulter Foundation will encourage educational training and development in laboratory sciences with special emphasis on resource limited countries worldwide.

Wallace H. Coulter Lecture



W.E. Moerner (William Esco), 2014 Nobel Laureate

The Harry S. Mosher Professor of Chemistry and Professor, by courtesy, of Applied Physics at Stanford University

“How Optical Single-Molecule Detection in Solids Led to Super-Resolution Nanoscopy in Cells and Beyond”

More than 25 years ago, low temperature experiments aimed at establishing the ultimate limits to optical storage in solids led to the first optical detection and spectroscopy of a single molecule in the condensed phase. At this unexplored ultimate limit, many surprises occurred where single molecules showed both spontaneous changes (blinking) and light-driven control of emission, properties that were also observed in 1997 at room temperature with single green fluorescent protein variants.

In 2006, PALM and subsequent approaches showed that the optical diffraction limit of ~200 nm can be circumvented to achieve super-resolution fluorescence microscopy, or nanoscopy, with relatively nonperturbative visible light. Essential to this is the combination of single-molecule fluorescence imaging with active control of the emitting concentration and sequential localization of single fluorophores decorating a structure. Super-resolution microscopy has opened up a new frontier in which biological structures and behavior can be observed in live cells with resolutions down to 20–40 nm and below.

Examples range from protein superstructures in bacteria to bands in actin filaments to details of the shapes of amyloid fibrils and much more. Current methods development research addresses ways to extract more information from each single molecule such as 3D position and orientation, in thick cells. Still, it is worth noting that in spite of all the focus on super-resolution, even in the “conventional” single-molecule tracking regime where the motions of individual biomolecules are recorded in solution or in cells rather than the shapes of extended structures, much can still be learned about biological processes.

DATE: SUNDAY, MARCH 6, 2016

TIME: 5:00 PM

**LOCATION: Sidney Marcus Auditorium,
Level A4, Georgia World Congress Center**

(Mixer and poster session to immediately following the lecture)

Dr. Moerner conducts research in physical chemistry and chemical physics of single molecules, single-molecule biophysics, super-resolution imaging and tracking in cells, and trapping of single molecules in solution. His interests span methods of precise quantitation of single molecule properties, to strategies for three-dimensional imaging and tracking of single molecules, to applications of single-molecule measurements to understand biological processes in cells, to observations of the photodynamics of single photosynthetic proteins and enzymes. He has been elected Fellow/Member of the NAS, American Academy of Arts and Sciences, AAAS, ACS, APS, and OSA. Major awards include the Earle K. Plyler Prize for Molecular Spectroscopy, the Irving Langmuir Prize in Chemical Physics, the Pittsburgh Spectroscopy Award, the Peter Debye Award in Physical Chemistry, the Wolf Prize in Chemistry, and the 2014 Nobel Prize in Chemistry.

THE TWENTY-SEVENTH JAMES L WATERS SYMPOSIUM:

Super-resolution Microscopy

Monday March 7, 2015, 1:30 PM
Room B405

The James L. Waters Annual Symposium is a unique component of the Pittsburgh Conference Technical Program. Mr. Waters, founder of Waters Associates, Inc. and President of Waters Business Systems, Inc. proposed in 1989 that the Society for Analytical Chemists of Pittsburgh (SACP) offer an annual symposium exploring the origin, development, implementation, and commercialization of scientific instrumentation of established and major significance. The objective of the symposium is to recognize researchers and the development and application of instrumentation by preserving the early, and in some cases, more mature history of the important contributions as well as the cooperation between inventors, scientists, engineers, entrepreneurs, and marketing organizations.

The Twenty-Seventh Annual Waters Symposium recognizes the introduction of commercial super-resolution nanoscopy instrumentation. The symposium will include speakers who have been involved with super-resolution nanoscopy from its early development through commercialization and application. This symposium highlights the rich history of super-resolution nanoscopy including the award of the 2014 Nobel Prize in Chemistry to Eric Betzig, W.E. Moerner and Stefan Hell for their pioneering efforts in the development of super-resolved fluorescence microscopy," which brings "optical microscopy into the nanodimension that has formed the basis of super-resolution nanoscopy.

This year's Waters Symposium will feature Eric Betzig, one of the three Nobel Laureates who were honored for this breakthrough development.

The SACP is extremely pleased to welcome the following innovators to Pittcon 2016



Eric Betzig, Janelia Research Campus

Eric Betzig is a Group Leader at the Janelia Research Campus of the Howard Hughes Medical Institute where his group develops novel optical imaging tools in order to open new windows into molecular, cellular, developmental, and neurobiology.



Teng-Leong Chew, Janelia Research Campus

Chew joined Janelia in 2014 to serve as the Director for the Advanced Imaging Center. Here, he leads the effort in building the unique collaborative imaging center that serves as the gateway through which the wider scientific world can access Janelia's cutting-edge microscopy capabilities.



Bo Huang, University of California, San Francisco

Dr. Bo Huang is an Associate Professor in the Department of Pharmaceutical Chemistry at University of California, San Francisco. His has been interested in developing light microscopy methods and fluorescent probes for the investigation of genome organization, molecular complex architecture and neuron development.



Timothy Harris, Janelia Research Center

Since 2008 Tim has been at Janelia where he is a Group Leader and Director of Applied Physics, an in house group for neuroscience measurements research and development.



Alex Soell, Carl Zeiss AG

Alex Soell is the vice president of marketing at Carl Zeiss Microscopy, LLC.

Proposals are solicited for the 2017 James L. Waters Symposia to recognize the collaborative work of those who pioneered the invention, development, implementation, and commercialization of analytical instrumentation of established and exceptional importance. Proposals should include a brief discussion of the topic and a list of potential symposium participants who can speak authoritatively on that topic. **Please submit proposals by April 30, 2016 to:** Waters Symposium Committee Chairman, Society for Analytical Chemists of Pittsburgh, 300 Penn Center Boulevard, Suite 332, Pittsburgh, PA 15235-5503, USA

JAMES L. WATERS, ENTREPRENEUR, SPONSOR OF THE WATERS SYMPOSIUM AT PITTCON



James L. Waters has been a unique contributor to the Pittcon Technical Program since 1990 through his funding of the James L. Waters Annual Symposium to recognize pioneers in the conception, development, implementation, and commercialization of scientific instrumentation of major and established significance.

Mr. Waters has been an entrepreneur since his graduation from Columbia University in 1946. At age 22, he established J. L. Waters, Inc. manufacturing IR gas analyzers, sold that company in 1955, and established Waters Associates in 1958. He developed an airborne hydrometer, flame photometer

detectors, and refractometers for various applications. He further developed the refractometer into a sensor for the then little-known liquid chromatograph (LC), and eventually a small-volume sensor for gel-permeation chromatograph (GPC).

Waters Associates' first GPC, introduced at the 1964 Pittcon, was a great commercial success. In 1968, Mr. Waters refocused his efforts on chromatographic sensors and introduced their first LC system in 1969. Waters Associates trademarked the tagline, "The Liquid Chromatography People", after they helped purify positional isomers of a precursor to vitamin B12 for Nobel Laureate Robert Woodward of Harvard University. In 1992 Waters introduced software for chromatography, and in 1994 HPLC columns for drug assays and a benchtop LC-MS. All

of these actions fueled the growth of Waters Associates, which, under Mr. Waters' leadership from 1958 to 1980, grew from 5 to 1100 employees with an annual sales volume around \$100 million, and to 4000 employees worldwide with an annual sales volume in excess of \$1 billion.

Mr. Waters has been a private venture capitalist since 1980. He is currently President of Waters Business Systems and enjoys working with young entrepreneurs. Mr. Waters endowed the James L. Waters Chair in Analytical Chemistry at Northeastern University. The name "Waters" has become synonymous with "LC" in the scientific community.

Excerpted from the biography in the Walk of Fame in Pittcon 99, Orlando, Florida and LC/GC North America, 23 (8), August 2005.

2017 PITTSBURGH CONFERENCE MEMORIAL NATIONAL COLLEGE GRANTS PROGRAM

The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (a Pennsylvania non-profit Corporation) and its co-sponsoring technical societies, The Society for Analytical Chemists of Pittsburgh (SACP) and The Spectroscopy Society of Pittsburgh (SSP) proudly announce the 2017 Pittsburgh Conference Memorial National College Grants (PCMNG) Program.

Grants will be awarded to small college science departments for the purchase of scientific equipment, audio-visual or other teaching aids, and/or library materials for use in the teaching of science at the undergraduate level.

Based on anticipated funds, we expect that at least ten (10) colleges will be selected to receive grants. The amount requested in each proposal may not exceed \$10,000.

To be eligible for an award, schools must meet the following criteria.

1. Enrollment must not exceed 5000 full-time students.
2. No more than 25% of the operating budget may come from national or state governments. Two-year community colleges sponsored by political subdivisions of a state are not bound by criteria one and two.
3. Requests for materials to be used only for research purposes will not be funded.
4. Awards may be used as part of "Matching Grant" programs; use of matching funds to increase the overall impact of the grant will be considered in the evaluation of proposals and is highly encouraged.
5. Schools are ineligible for the PCMNG program for a three-year period following receipt of the PCMNG grant (award recipients from 2014, 2015, and 2016 are not eligible for the 2017 program).

Faculty members are urged to participate in the 2017 Pittsburgh Conference Memorial National College Grants Program by obtaining an application form from our website at www.pittcon.org (click on College Grants) and submitting it along with your proposal via email by **October 1, 2016** to pcmngc@pittcon.org

Award winners will be announced by February 2017. Selected schools will join the list of over 200 institutions honored since the start of this program in 1974.

2016 Pittsburgh Conference Memorial National College Grants Program Award Recipients

Baldwin Wallace UniversityBerea, OH
Charleston Southern UniversityNorth Charleston, SC
Davidson CollegeDavidson, NC
DePauw UniversityGreencastle, IN
DeSales UniversityCenter Valley, PA
Lycoming CollegeWilliamsport, PA
Monmouth CollegeMonmouth, IL
Pacific UniversityForest Grove, OR
Rhodes CollegeMemphis, TN
Ripon CollegeRipon, WI
Saint Michael's CollegeColchester, VT
Tennessee Wesleyan CollegeAthens, TN
The College of St. Scholastica (CSS)Duluth, MN
Westminster CollegeNew Wilmington, PA

2017 Pittsburgh Conference Achievement Award Call for Nominations

The Society for Analytical Chemists of Pittsburgh (SACP) solicits nominations for the 2017 Pittsburgh Conference Achievement Award. The Award is presented annually at Pittcon to recognize individuals for outstanding achievements in the fields of analytical chemistry and/or applied spectroscopy within 10 years after completion of their Ph.D. work. The award recipient will be invited to Pittcon and will be included as a speaker in the Pittsburgh Conference Achievement Award Symposium.

The award recipient will be invited to the SACP/SSP Awards Reception and Dinner during the Conference and his/her photo and bio-sketch will be included in the conference program. The award recipient will be presented with a scroll and a cash award in an amount to be determined by the SACP chairman.

To be eligible for the 2017 award, nominees must have completed their Ph.D. no earlier than March 1, 2005.

A letter of nomination, curriculum vitae and at least one seconding letter should be emailed to: sacpinfo@pittcon.org with "2017 Pittsburgh Conference Achievement Award Nomination" in the subject line.

NOMINATION DEADLINE IS APRIL 24, 2016

2017 Pittsburgh Spectroscopy Award Call for Nominations

The Spectroscopy Society of Pittsburgh (SSP), a sponsor of the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, is the sponsor of the annual Pittsburgh Spectroscopy Award. This award is for recognition of outstanding contributions in the field of applied spectroscopy and is presented at Pittcon.

Nominations should include a letter of recommendation listing the candidate's accomplishments, the candidate's vitae, a letter seconding the nomination from another person and, if convenient, a letter from a third person supporting the nomination.

Nominations should be sent to:

Pittsburgh Spectroscopy Award Committee
2017 Pittsburgh Spectroscopy Award Chairman
c/o Spectroscopy Society of Pittsburgh
300 Penn Center Blvd., Suite 332
Pittsburgh, PA 15235-5503

Phone: (412) 825-3220 ext.212
www.ssp-pgh.org

NOMINATION DEADLINE IS APRIL 30, 2016

2017 Pittsburgh Analytical Chemistry Award Call for Nominations

The Society for Analytical Chemists of Pittsburgh is accepting nominations for the 40th Annual Pittsburgh Analytical Chemistry Award, which will be presented at Pittcon 2017. The award is established in recognition of an individual's significant contributions to the field of analytical chemistry including:

- introduction of a significant technique, theory or instrument
- providing exceptional training or a fertile environment for progress in analytical chemistry

The winner will receive a cash award and travel costs to Pittcon 2017 in Chicago, Illinois and will be included as a speaker in Pittsburgh Analytical Chemistry Award Symposium in his/her honor.

To nominate a candidate for the 2017 Pittsburgh Analytical Chemistry Award, please email a nominating letter and the candidate's CV to sacpinfo@pittcon.org with "2017 Pittsburgh Analytical Chemistry Award Nomination" in the subject line, and the following information:

- a full list of publications,
- a list of all graduate and postdoctoral students advised
- courses taught for the last 10 years.

Supporting letters of nomination will also be accepted, but should be limited to one page. Nominations must include at least two seconding letters.

NOMINATION DEADLINE IS APRIL 30, 2016

SHORT COURSES (BY DATE)

A broad variety of high quality Short Courses that provide continuing education and professional development opportunities at a reasonable cost are featured. Listed below are the Short Courses that are offered including tentative dates. Please visit the Pittcon website, www.pittcon.org, where you will find the most up-to-date listing of courses by subject matter and detailed information on the content, instructor, time, date and fee for each course. Also, visit the website to register online for the courses that interest you and for information on discounts. Take three or more Short Courses and your Pittcon 2016 registration will be waived!

2016 Short Course Prices

½ Day	\$400
1 Day	\$750
1 ½ Days	\$1125
2 Days	\$1450

Purchase of a textbook is recommended for some courses, where indicated.

Saturday, March 5 (8:30 am – 5:00 pm)

- #145 **Accessories and Techniques for FT-IR Sample Analysis** (Richard Larsen, Jasco, Inc.)
- #3 **Essentials of Modern HPLC/UHPLC 1: Fundamentals and Applications** (Michael Dong, MWD Consulting + Text \$70.00)
- #144 **Interpretation of Electrospray Mass Spectra of Small Molecules** (Earl Michael Thurman, University of Colorado)
- #91 **Introduction to Chromatography of Proteins, Peptides, and Related Molecules** (Thomas Wheat, Waters)
- #138 **Introduction to Two-Dimensional Liquid Chromatography** (Dwight Stoll, Gustavus Adolphus College/Peter Carr, University of Minnesota)
- #11 **Language and Matter: Technical Writing for Analytical Scientists and Managers** (Anthony Parker, A. A. Parker Consulting, LLC/Joseph Marcinko, Polymer Synergies, LLC)
- #137 **Modern Methods for Chemometric Analysis** (Michael Madden, Analyze IQ)
- #123 **Nanomaterials: Energy and Environmental Applications** (Randy Vander Wal, Penn State University)
- #146 **Perspectives and Progress in Inductively Coupled Plasma Atomic Emission (ICP-AES) Spectrometry - New Instrumental Configurations for Multi-Element Analysis** (Isaac Brenner, Brenner Scientific)
- #141 **Practical Introduction to Near IR and Raman Spectroscopy** (Fred Long, Spectroscopic Solutions)
- #28 **Time Management for Scientists** (Rick Parmely, Polished and Professional)
- #87 **Wastewater Microbiology Laboratory for Operators** (Toni Glymph, MWRD Greater Chicago + Text \$115.00)

Saturday, March 5 (8:30 am – 12:30 pm)

- #121 **Light Scattering Solutions for Environmental Issues** (Ana Morfesis, Malvern Instruments Inc.)
- #15 **Sampling for Particle Size Analysis** (Alan Rawle, Malvern Instruments Inc.)

Saturday, March 5 / Sunday, March 6

Two-Day Courses (8:30 am – 5:00 pm both days)

- #98 **Analytical Excellence: Assuring Data Integrity and Laboratory Compliance** (Christopher Burgess, BAC Ltd / Robert McDowall, RD McDowall Ltd)
- #90 **Chemistry Laboratory Techniques for the Chemist and Technician – A Comprehensive Review** (Bryan Ham, U.S. Customs and Border Protection + Text \$115.00)
- #44 **Control Charting – A Tool for Monitoring Testing Process** (Polona Carson / John Carson, P&J Carson Consulting, LLC)
- #2 **Getting Started with Excel and VBA in the Laboratory (Laptop Required)** (William Neil / Martin Echols, Bristol Myers Squibb)
- #30 **Getting the Most out of Capillary Gas Chromatography** (Matthew Klee, XO Associates LLC)
- #38 **Methods Development (QbD) With Risk Based Strategy Validation Procedures and Compliance Issues** (Shib Mookherjea, ValQual International, Inc.)
- #92 **Practical Gas Chromatography** (Eugene Barry, UMass Lowell / Thomas Brettell, Cedar Crest College + Text \$160.00)

Sunday, March 6 (8:30 am – 5:00 pm)

- #1 **Chemometrics Techniques for Quantitative Analysis** (Richard Kramer, Applied Chemometrics + Text \$75.00)
- #4 **Essentials of Modern HPLC/UHPLC 2: Operation, Troubleshooting, and Method Development** (Michael Dong, MWD Consulting + Text \$70.00)
- #46 **Highly Successful Strategies for LC/MS Quantitation: Current Applications and Emerging Technologies** (Rick King, Pharmacadence Analytical Services, LLC)
- #12 **Industrial Problem Solving Using Thermal Analysis Techniques** (Anthony Parker, A. A. Parker Consulting, LLC / Joseph Marcinko, Polymer Synergies, LLC)
- #119 **New Technical Specifications for the Pre-Analytical Process in Molecular Diagnostics** (Mikael Kubista, TATAA Biocenter)
- #29 **Powerful Communications: Public Speaking for Scientists** (Rick Parmely, Polished and Professional)
- #6 **Practical LC-MS Method Development for Small Molecules** (Perry Wang, US FDA + Text \$240.00)
- #88 **Solid Phase Microextraction (SPME) and Other Sampling and Sample Preparation Technologies for Laboratory and On-site Applications** (Nathaly Reyes-Garces, University of Waterloo / Janusz Pawliszyn, University of Waterloo + Text \$100.00)
- #18 **Statistically Sound Calibration Studies, Detection Limits, and Quantitation Limits** (Lynn Vanatta, Volunteer Chemist/Statistician)

Sunday, March 6 (8:30 am – 12:30 pm)

- #20 **Chemical Imaging: Applications** (Giuseppe Bonifazi, Sapienza – Università di Roma)
- #42 **Chiral Separations** (Zachary Breitbart, University of Texas at Arlington / Daniel Armstrong, University of Texas at Arlington)
- #10 **Introduction to ICP Mass Spectrometry** (Robert Houk, Iowa State University)
- #79 **LC-MS-MS Analysis of Emerging Contaminants (EDCs, PPCPs and PFCs) and Nanomaterials in the Environment** (Damia Barcelo, ICRA)
- #13 **Long-Term Archiving of Laboratory Data** (Burkhard Schaefer, BSSN Software GmbH)
- #139 **Two-Dimensional Liquid Chromatography for Pharmaceutical Analysis** (Dwight Stoll, Gustavus Adolphus College / Kelly Zhang, Genentech)

Sunday, March 6 (1:00 pm – 5:00 pm)

- #21 **Chemical Imaging: Fundamentals** (Giuseppe Bonifazi, Sapienza – Università di Roma)
- #133 **Creative Chemical Cocktails and Food** (Aaron Prater, JCCC)
- #93 **Karl Fischer Analysis of Gas, Liquids and Solids** (Frederick Fiddler, Metrohm)
- #53 **Multivariate Calibration as an Aid to Develop Atomic Spectroscopy methods** (Jose Andrade, University of A Coruna)
- #124 **Scanning and Transmission Based Electron Microscopy and Spectroscopy** (Randy Vander Wal, Penn State University)

Sunday, March 6 / Monday, March 7

One and a Half-Day Course (8:30 am – 5:00 pm and 8:30 am – 12:30 pm)

- #147 **Overview on Advances in Compliant Multi-Parameter Analysis of Solid and Liquid Wastes** (Daniel Solomon, Egodan / Isaac Brenner, Brenner Scientific)

SHORT COURSES (BY DATE)

Sunday, March 6 / Monday, March 7

Two-Day Course (8:30 am – 5:00 pm both days)

- #71 **cGMPs for Pharmaceutical laboratories: Current Regulations and Best Practices to Support Lifecycle Management** (Anthony DeStefano, Consultant / Kim Huynh-Ba, Pharmalytik)

Monday, March 7 (8:30 am – 5:00 pm)

- #56 **Basic HPLC - Fundamentals, Applications, and Troubleshooting** (Fredric Rabel, ChromHELP, LLC)
- #16 **Fundamentals of Particle Size Analysis with an Emphasis on Light Scattering Techniques** (Alan Rawle, Malvern Instruments Inc. / Ulf Nobbmann, Malvern Instruments)
- #22 **Handheld Vibrational Spectrometers: State-of-the Art Instrumentation and Novel Applications** (Heinz Siesler, University of Duisburg-Essen)
- #31 **Instrumentation and Methods of Petroleum and Gas Analysis by Gas Chromatography** (Matthew Klee, Dani Instruments Inc)
- #120 **Introduction to Quantitative Real-Time PCR** (Mikael Kubista, TATAA biocenter)
- #103 **Laboratory Information Management Systems - LIMS** (Siri Segalstad, Segalstad Consulting AS)
- #49 **LC/MS Strategies for the Identification of Impurities, Degradants, and Metabolites** (Mike Lee, Milestone Development Services + Text \$90.00)
- #32 **Leadership at the Bench: Effective Communications for Technical Managers** (Rick Parmely, Polished and Professional)
- #80 **Measurement Uncertainty - Part 1 - An Introduction** (Bernard King, Consultant)
- #81 **Meeting FDA and EU Requirements for Data Integrity in GXP Laboratories** (Bob McDowall, RD McDowall Ltd)
- #72 **Safety in the Laboratory, Part 1** (James Kaufman, Laboratory Safety Institute + Text \$74.00)

Monday, March 7 (8:30 am – 12:30 pm)

- #17 **Automating the Lab: LEAN Lab Operations and Integrated Lab Informatics systems** (Geoff Turnbull, CSols, Inc.)
- #23 **Cultural Heritage and Hyperspectral Imaging: Learning-by-Cases** (Giuseppe Bonifazi, Sapienza - Università di Roma)
- #47 **Developing and Implementing Calibration Programs** (Jon Doyle, PCI)
- #5 **Drug Discovery and Development Processes** (Michael Dong, MWD Consulting)
- #48 **Introduction to Gas Chromatography/Infrared Spectroscopy** (John Schneider, Argonne National Laboratory)
- #101 **Lab-on-a-Chip Devices I** (Jaime Castillo-León, Sol Voltaics AB + Text \$135.00)
- #33 **Measurement and Interpretation of pH in Aqueous and NonAqueous Solutions and a Host of Other Stuff** (Bill Tindall, Analytical Science Solutions)

Monday, March 7 (1:00 pm – 5:00 pm)

- #70 **Analytical Ionic Liquids in GC and Mass Spectrometry** (Leonard Sidisky, Sigma Aldrich Corp / Daniel Armstrong, U. of Texas at Arlington)
- #96 **Examples of Analytical Data Treatment Using Microsoft® Excel™: Part 1 – Some Basics** (Mark Stauffer, University of Pittsburgh - Greensburg)
- #50 **Maintaining the Validated State of Analytical Laboratory Instrumentation in GMP/GLP Environments** (Freddie Maisonet, PCI)
- #62 **Method Translation in Gas Chromatography to get the Same Chromatogram** (Jaap de Zeeuw, Restek)
- #94 **Practical Introduction to Near-Infrared Method Development** (Keith Freel, Metrohm)
- #51 **Primer on XRF Spectrometry: Instrumentation** (Charles Wu, University of Western Ontario)
- #8 **Sample Preparation: How to Choose and Optimize Your Sample Prep Needs** (Kelly Williams / Jenny Sprung, Labconco)

Monday, March 7 / Tuesday, March 8

One and a Half-Day Course (8:30 am – 5:00 pm and 8:30 am – 12:30 pm)

- #14 **Statistics for the Non-Statistician with Applications to Analytical Chemistry** (James De Muth, University of Wisconsin + Text \$75.00)

Monday, March 7 / Tuesday, March 8

Two-Day Course (8:30 am – 5:00 pm both days)

- #7 **Internal Auditing** (Chris Gunning, AZLA)

Tuesday, March 8 (8:30 am – 5:00 pm)

- #95 **An Introduction to Mass Spectrometry Including Biomolecule Applications** (Bryan Ham, U.S. Customs and Border Protection + Text \$115.00)
- #89 **Analytical Organic Mass Spectrometry** (William Budde, Retired)
- #82 **Auditing GMP Regulated Laboratories: Preparation and Execution** (Bob McDowall, RD McDowall Ltd / Chris Burgess, Burgess Analytical Consultancy Ltd)
- #39 **Highlights of FDA GLP** (Shib Mookherjee, ValQual International, Inc.)
- #75 **LIMS and ELN: How to Select, Plan and Implement the Right Software Solutions for Your Laboratory** (Howard Rosenberg, CSols, Inc.)
- #83 **Measurement Uncertainty - Part 2 - MU The Easy Way** (Bernard King, Consultant)
- #69 **Pharmaceutical Risk Management for the Analytical Chemist** (Kim Huynh-Ba, Pharmalytik)
- #104 **Practical Validation of IT Systems in the Regulated Industries** (Siri Segalstad, Segalstad Consulting AS)
- #76 **Safety in the Laboratory, Part 2** (James Kaufman, Laboratory Safety Institute + Text \$74.00)
- #107 **Technical Writing at Work** (Steven Schultz, Writing at Work, Inc.)
- #35 **Technical Writing for Scientists** (Rick Parmely, Polished and Professional + Text \$155.00)

Tuesday, March 8 (8:30 am – 12:30 pm)

- #57 **Basic HPLC Method Development** (Fredric Rabel, ChromHELP, LLC)
- #64 **Characterization of Coated Polymers** (Bernhard Dringenberg, BJD-analytics)
- #67 **Coaching as a Powerful Leadership Tool** (Janice Sabatine, Avanti Strategies)
- #52 **Evolution of On Site Analysis** (John Schneider, Argonne National Laboratory)
- #73 **How to Select an ICP-Mass Spectrometer: The Most Important Analytical Considerations** (Robert Thomas, Scientific Solutions + Text \$86.00)
- #102 **Lab-on-a-Chip Devices II** (Winnie E. Svendsen, DTU Nanotech, Technical University of Denmark + Text \$135.00)
- #54 **Laboratory Workflow Reengineering for a LIMS or ELN Implementation** (Kurt Robak, CSols, Inc.)
- #55 **Maintaining Calibration Programs – Compliance Perspective (483s, Warning Letters and Consent Decree)** (Andy Ferrell, PCI)
- #97 **Pharmacokinetics and Pharmacodynamics for the Analytical Scientist** (Marcel Musteata, Albany College of Pharmacy and Health Sciences)

Tuesday, March 8 (1:00 pm – 5:00 pm)

- #58 **Basic Preparative HPLC – Fundamentals and Applications** (Fredric Rabel, ChromHELP, LLC)
- #125 **Designed for Safety: Fume Hoods and Biosafety Cabinets** (Brian Garrett, Labconco/ Beth Mettlach)
- #129 **Environmental Sampling Statistics** (Randy Vander Wal, Penn State University)
- #110 **Examples of Analytical Data Treatment Using Microsoft® Excel™: Part 2 – More Advanced Topics** (Mark Stauffer, University of Pittsburgh - Greensburg)
- #68 **Group Coaching for Leadership Development** (Janice Sabatine, Avanti Strategies)
- #74 **Implementation of United States Pharmacopeia (USP) New Chapters <232> <233> and <2232> on Elemental Impurities in Pharmaceutical Products and Dietary Supplements** (Robert Thomas, Scientific Solutions + Text \$86.00)
- #143 **LC-MS for the Beginners** (Subhra Bhattacharya, Thermo Fisher Scientific/Stephen Roemer)
- #65 **Physical Chemistry of Macromolecules - Basic Principles** (Bernhard Dringenberg, BJD Analytics)
- #34 **Selection and Preparation of Buffers for Aqueous and Partially Aqueous Solvents, for Example: LC Mobile Phases and Reaction Mixtures** (Bill Tindall, Analytical Science Solutions)

SHORT COURSES (BY DATE)

Tuesday, March 8 / Wednesday, March 9

One and a Half-Day Course (8:30 am – 5:00 pm and 8:30 am – 12:30 pm)

- #115 **Getting the Most out of your Data: Introduction to Multivariate Data Analysis** (Mikael Kubista, TATAA Biocenter / Jose Andrade, University of A Coruna)

Wednesday, March 9 (8:30 am – 5:30 pm)

- #108 **Analytical Sampling and Sample Preparation** (Doug Raynie, South Dakota State University)
#84 **Auditing GXP Computerized Systems for Data Integrity** (Bob McDowall, RD McDowall Ltd)
#99 **Confidence in Analytical Results and Measurement Uncertainty** (Christopher Burgess, BAC LTD)
#40 **Highlights of Process Analytical Technology (PAT) and FDA Directives** (Shib Mookherjea, ValQual International, Inc.)
#77 **How To Be A More Effective Chemical Hygiene Officer** (James Kaufman, Laboratory Safety Institute + Text \$74.00)
#78 **Keeping Your Analytical Method in Compliance: Validation, Verification and Transfer of Analytical Methods for Pharmaceutical Products** (Kim Huynh-Ba, Pharmalytik)
#43 **Understanding ISO/IEC 17025 Requirements** (Robert Knake, A2LA)
#36 **"Mirror, Mirror on the Wall" – A Fairytale of Leadership** (Rick Parmely, Polished and Professional)
#126 **Trace Level Analytical Method Validation in Pharmaceutical and in Food Industry** (Gyorgy Vas, Intertek/VasAnalytical)

Wednesday, March 9 (8:30 am – 12:30 pm)

- #37 **Applications of Two-Dimensional X-ray Diffraction** (Bob He, Bruker AXS + Text \$120.00)
#86 **Computer Systems Validation (CSV) Script Writing Course / Workshop** (Kurt Robak, CSols, Inc.)
#66 **Conductivity, Diffusivity, Heat Capacity** (Bernhard Dringenberg, BJD-analytics)
#106 **Doing It Right - Ethical Decision Making for Scientists and Engineers** (John Chionchio, Ballard Spahr LLP)
#59 **HPLC and TLC Analysis of Herbal Medicines/Supplements for Purity and Content** (Fredric Rabel, ChromHELP, LLC)
#25 **Imaging Based Morphology in Closed Domains and Nano-particles Characterization** (Giuseppe Bonifazi, Sapienza - Università di Roma)
#9 **Introduction to GLP Regulations and Bioanalytical Method Validation by LC-MS** (Perry Wang, US FDA)
#19 **Light Scattering Techniques for Protein, Polymer, and Nanoparticle Characterization** (Sigrid Kuebler, Wyatt Technology)
#63 **Problems with FT-IR Spectra and How to Avoid Them** (Ellen Miseo / Jenni Briggs, Hamamatsu)
#113 **Separations: Fundamentals of Advanced Gel Permeation & Size Exclusion Chromatography Detection** (Ulf Nobbmann, Malvern)
#117 **Writing for Excellent Customer Service and Support** (Steven Schultz, Writing at Work, Inc.)

Wednesday, March 9 (1:00 pm – 5:00 pm)

- #61 **A Hands-On Example on How to Develop a PLS Regression Model** (Jose Andrade, University of A Coruna)
#112 **Delivering a Successful Laboratory Informatics Project** (Elyssa DeAlmeida, CSols)
#26 **Digital Imaging for Materials and Products Characterization: Lab Scale Applications** (Giuseppe Bonifazi, Sapienza - Università di Roma)
#132 **Fume Hoods: Today's Ducted and Ductless Options** (Beth Mettlach, Labconco)
#142 **Gases and Gas Delivery Systems for Analytical Applications** (Frank Kandl, Airgas)
#140 **Laboratory Renovation for Safety, Efficiency and User Experience Improvement Part II – What about Software?** (Katherine Temple, CSols, Inc.)
#114 **Optical Rheology: Get G' and G'' from Light Scattering!** (Ulf Nobbmann, Malvern)
#122 **Particle Size and Zeta Potential Characterization of Nano Particles** (Ana Morfesis, Malvern Instruments)

Wednesday, March 9 / Thursday, March 10

Two-Day Courses (8:30 am – 5:00 pm both days)

- #24 **Basic Theory, Instrumentation and Applications of Vibrational Spectroscopy (Raman, Mid-Infrared and Near-Infrared) in Material Science** (Heinz Siesler, University of Duisburg-Essen)
#118 **How to Develop Validated HPLC Methods: Rational Design with Practical Statistics and Troubleshooting** (Brian Bidlingmeyer, Consultant)
#45 **Implementation of Laboratory Quality Assurance Program using Control Charts** (John Carson / Polona Carson, P&J Carson Consulting, LLC)
#105 **ISO 17025 Preparing for Lab Accreditation** (Siri Segalstad, Segalstad Consulting AS)

Thursday, March 10 (8:30 am – 5:00 pm)

- #109 **Green Analytical Chemistry** (Doug Raynie, South Dakota State University)
#85 **How QC Laboratories Can Comply with both 21 CFR 11 and EU GMP Annex 11 Regulations** (Bob McDowall, R D McDowall Ltd)
#135 **Nanocrystallite and Nanoparticle Size Analysis with an X-Ray Diffractometer** (Scott Speakman, PANalytical)
#41 **Qualification and Validation of Laboratory Instruments and Equipment for Regulatory and QS Compliance (IQ, OQ, PQ)** (Shib Mookherjea, ValQual International, Inc.)
#128 **Solventless Sample Preparation Prior to Mass Spectrometric Analysis** (Gyorgy Vas, Intertek / VasAnalytical)
#100 **Trend Analysis for the Pharmaceutical and Regulated Industries** (Christopher Burgess, BAC Ltd)

Thursday, March 10 (8:30 am – 12:30 pm)

- #127 **Ambient Air Monitoring: What are the Right Tools for the Job?** (Massimo Santoro / Nicola Watson, Markes International)
#136 **Color Measurement – The Dimensions of Color** (Marke Reid, The Tintometer Ltd)
#60 **Hydrophilic Interaction Chromatography (HILIC) - Companion to Reversed Phase HPLC** (Fredric Rabel, ChromHELP, LLC)
#27 **Imaging Based Morphology: Fundamentals** (Giuseppe Bonifazi, Sapienza - Università di Roma)
#130 **Microcalorimetry Applications: Where Does Microcalorimetry Fit into the Workflow?** (Eddie Esposito, Malvern Instruments)
#131 **Practical Introduction to Titration Method Development** (Carlos Bazan / Jay Sheffer, Metrohm)
#116 **Practical Ion Chromatography – Steps to Successful Method Development** (Kerri-Ann Hue / Frederick Fiddler, Metrohm + Text \$100.00)
#134 **Practical Pyrolysis-GC-MS for Polymer and Material Characterization** (Terry Ramus, Diablo Analytical, Inc.)
#111 **Preparing your Lab for Unexpected Downtime: Disaster Planning for Your LIMS, CDS, and Supporting Infrastructure** (Anthony Lisi, CSols Inc)

AGENDA OF SESSIONS

SUNDAY AFTERNOON, MARCH 6, 2016

WALTER H. COULTER LECTURE

W.E. (William Esco) Moerner, Stanford University –
How Optical Single-molecule Detection in Solids Led
to Super-resolution Nanoscopy in Cells and Beyond

AWARD AND SYMPOSIA

The Pittcon Heritage Award

ACS-ANYL - Tracing the Metabolome: Application of
Stable-Isotope Tracers in Bioanalytical Chemistry

Emerging Leaders in Biological Mass Spectrometry

Enabling Sample Preconcentration Methods for Bioanalysis

Frontiers of In Situ and In Vivo Spectroscopic Imaging

Wearable and Point-of-Care Sensor Technologies for
Biomonitoring

WORKSHOP

Light Sources in Analytical Chemistry: Solid State Light Sources
and Beyond

ORGANIZED CONTRIBUTED SESSIONS

Advances in Mass Spectrometry of RNA – Half Session

Ionophore-Based Chemical Sensors I

R&D to QC: Bridging the Gap – Half Session

ORAL SESSIONS

Bioanalytical: LC Techniques - Half Session

Bioanalytical: LC/MS Techniques - Half Session

Chemical Methods - Half Session

Gas Chromatography Innovations

GC Optimization - Half Session

Instrument Innovations - Half Session

Measurement Strategies - Sensors and Spectroscopy

Process Analytical Techniques - Half Session

POSTER SESSIONS

Sunday Posters

ACS Division of Analytical Chemistry Posters

MONDAY MORNING, MARCH 7, 2016

AWARDS AND SYMPOSIA

Chromatography Forum of Delaware Valley Dal Nogare Award

The Pittsburgh Conference Achievement Award

ACS-ANYL - BRAIN Initiative Advancements in Neurochemical
and Physiological Measurements

Advances in Raman Spectroscopy

Innovative Applications of Mass Spectrometry in
Biopharmaceutical and Diagnostic Development

Neurotransmission at Single and Nano-Resolved Bio-Structures

Omics for Environmental and Public Health Protection

SEAC - Nano-Electroanalysis for a Sustainable World

ORGANIZED CONTRIBUTED SESSIONS

Infrared Spectroscopy Beyond the Diffraction Limit

Ionophore-Based Chemical Sensors II

New Perspectives on the History of Chromatography

ORAL SESSIONS

Biomedical: Advances in Point-of-Care Technologies

Capillary Electrophoresis

Data Analysis and Manipulation

Environmental LC

Fluorescence and Luminescence Advances

FTIR and Terahertz Applications

GCMS of Environmental Analysis

Innovative Approaches to Science Education - Half Session

Microfluidics/Lab-on-a-Chip - Bioanalytical and Others

Neurochemistry

Pharmaceutical-GC and LC

Synthesis and Characterization of Nano Particles

POSTER SESSIONS

Agriculture

Clinical/Toxicology

Drug Discovery

Food Safety

Microfluidics/Lab-on-a-Chip

Process Analytical Techniques

Safety

Sampling and Sample Preparation - Pharmaceutical,
Clinical/Toxicology, Food Safety, and Others

MONDAY AFTERNOON, MARCH 7, 2016

AWARDS AND SYMPOSIA

LCGC Lifetime Achievement and Emerging Leader in
Chromatography Award

SEAC - Charles N Reilly and Royce W Murray Award

Emerging Platforms for Lab-on-a-Chip Analyses

Innovative Applications of Surface-Enhanced Raman Spectroscopy

Miniature Mass Spectrometers

Nanomedicine, From Diagnostics to Large Animal Therapy

Non-Traditional Human Biometrics for Threat Assessment:
Using Chemical Forensics for National Security and
Intelligence Applications

Novel Mass Spectrometric Approaches and Applications to
Polymer Analysis

The Twenty-Seventh James L. Waters Symposium
on Super-resolution Microscopy

Trials and Tribulations of Dietary Supplement Analysis:
Authentication, Adulteration and Contaminant Testing

ORGANIZED CONTRIBUTED SESSIONS

Cell Phone Spectroscopy - Handheld Spectroscopy for the Citizen
Isolation and Characterization of Impurities/Degradation Product:
Understanding Your Impurity Profile Throughout the
Development Process

ORAL SESSIONS

Biomedical: Advances in Detection and Therapeutics of Cancer

Environmental Applications of Elemental Analysis

Environmental GC

Food Product Quality and Component Characterization

LC Method Development - Half Session

LC Optimization - Half Session

Neurochemistry

Unique Developments in Spectroscopy - Half Session

POSTER SESSIONS

Art and Archaeology

Chemical Methods

Commercial Products Characterization

Data Analysis and Manipulation

Education/Teaching

Electrochemistry

Materials Science

Physical Measurements

Polymer Characterization and Analysis

Portable Instruments

Quality/QA/QC

Sensors

Thermal Analysis

AGENDA OF SESSIONS

TUESDAY MORNING, MARCH 8, 2016

AWARDS AND SYMPOSIA

Pittsburgh Analytical Chemistry Award
The Coblenz Society/ABB - Bomem-Michelson Award
ACS-ANLY - Chemometrics: A New Dimension in Chromatography
Advances in Analytical Methodologies for the Detection of Food Allergens and Gluten
Advances in Two-Dimensional Liquid Chromatography
Separations of Biopharmaceuticals
Graphene Nanomaterials for Bio/Sensing Applications
JAIMA - The State-of-the-Art Technologies from Japan: Analytical Instruments with/for Nano-Chemistry Technology and Advanced Diagnosis (I)
Ultrahigh-Resolution Mass Spectrometry: A New Frontier

ORGANIZED CONTRIBUTED SESSIONS

High Performance SFC for the Analysis of Pharmaceuticals, Nutraceuticals, Natural Products and Metabolomics
Molecular Modelling and Quantum Mechanical Calculations: From Small Molecules to Large Multimeric Protein Complexes
SEAC Young Investigator Session
Supercritical CO₂-SFE/SFC: Advances in Extraction and Purification for Pharmaceutical and Natural Products

ORAL SESSIONS

Biomedical: Advances in Glucose Monitoring and Therapeutics of Diabetes - Half Session
Capillary Electrophoresis
Electrochemistry - New Approaches and Techniques
Enhancements in Pharmaceutical and Environmental Separations
Environmental Air Quality and Analysis
Magnetic Resonance - Half Session
Mass Spectrometry - Bioanalytical
Materials Characterization and Engineering
Pharmaceutical-MS, UV-VIS and Others
Sensors - Biomedical

POSTER SESSIONS

Environmental Air Quality and Analysis
Environmental and Geochemical Analysis: Soils, Minerals, and Agriculture
Environmental Applications of Elemental Analysis and Speciation
Environmental Organic Analysis: VOCs, Pesticides, and Others
Environmental Water Quality and Analysis
Environmental, Food and Elemental Analyses - Atomic Spectroscopy
Sampling and Sample Preparation - Environmental

TUESDAY AFTERNOON, MARCH 8, 2016

AWARDS AND SYMPOSIA

Pittsburgh Spectroscopy Award
RSC - JAAS Emerging Investigator Lectureship Award
ACS-ANYL - New Approaches to Nuclear Safeguards and Forensics Analysis
Emerging Mass Spectrometry-Based Techniques for Biomolecular Analysis
Emerging Pollutants in the Environment – from Sources to Effects
Emerging Technologies for Disease Biomarker Detection
JAIMA - The State-of-the-Art Technologies from Japan: Analytical Instruments with/for Nano-Chemistry Technology and Advanced Diagnosis (II)
New Advances in Analytical Mass Spectrometry
SEAC - New Trends in Electrochemical Neurochemistry
The Challenge of Detection for Drugged Driving

WORKSHOP

Core-Shell versus Fully Porous HPLC Particles – The Current State of the Art in HPLC Columns

ORGANIZED CONTRIBUTED SESSIONS

LIMS Live @ Pittcon: Best Practices and Lessons Learned From The Laboratory
Quantifying the Tumor Microenvironment
SEAC - The Student Session in Electroanalysis
Specialty Gas Analysis

ORAL SESSIONS

Biomedical: Nanotechnology - Half Session
Consumer Products Characterization - Half Session
Detection of Illicit Drugs - Half Session
Environmental and Instrumentation Application of LC/MS - Half Session
Environmental Applications of Electrochemistry and Sensors - Half Session
Food Product Quality and Component Characterization II
Forensic Trace Analysis - Half Session
Laser Induced Breakdown Spectroscopy (LIBS) and Glow Discharge in Atomic Spectroscopy - Half Session
LC/MS Biological Applications
Polymer Characterization and Applications
Sampling and Sample Preparation-Environmental and Food (ID, Safety and Contaminants)

POSTER SESSIONS

Advances in Biomedical Applications
Advances in Metabolomics, Proteomics, Lipidomics
Bioanalytical and Neurochemistry
Bioanalytical: Miscellaneous Analytical Techniques
Bioanalytical: Separation Techniques
High-Throughput Chemical Analysis
Surface and Microscopic Characterization of Nanostructures and Biological Materials

WEDNESDAY MORNING, MARCH 9, 2016

AWARDS AND SYMPOSIA

Satinder Ahuja Award for Young Investigators in Separation Sciences
ACS-ANYL - Supported Bilayers in Bio/Chemical Analysis
Analytical Applications of Terahertz Time Domain Spectroscopy (THz-TDS)
Frontiers of Plasmonics
IAEAC: International Association of Environmental Analytical Chemistry - Upconverting Nanocrystals: Near Infrared Excitable Probes for Background-Free Luminescent Sensing
Ion Mobility/Mass Spectrometry for Metabolomics and Clinical Analysis
Precision Bioanalytical Measurements
Standoff Detection Methods for Security Applications
Sum Frequency Generation (SFG) Vibrational Spectroscopic Studies on Proteins and Peptides at Interfaces

WORKSHOP

Analytical Information Markup Language (AnIML) Data Standards

ORGANIZED CONTRIBUTED SESSIONS

Food Contaminant Methods
On-Site Detection of THC and Related Drugs
PAI-NET - Characterization of Micro/Nano Liquid Phases

ORAL SESSIONS

Biomedical: New Technologies for Breath Analysis (Half Session)
Clinical/Toxicology
Electrochemistry - Biological Applications
Environmental, Pharm and Nano Methods Development in Atomic Spectroscopy
Food Contaminants
LIMS-No One Size Fits All
Mass Spectrometry-Environmental, ICP-MS and Others
Pharmaceutical Applications of Liquid Chromatography
Portable Instruments - Half Session
Sensors - Bioanalytical and Homeland Security/Forensics
Thermal Analysis

POSTER SESSIONS

Applications of LC/MS
Capillary Electrophoresis
Forensics and Homeland Security
Liquid Chromatography
Pharmaceutical-IC, LC, and SFC
Pharmaceutical-MS, LC/MS and Others
Practical Chromatography in Today's Laboratory

SEAC POSTER SESSION

AGENDA OF SESSIONS

WEDNESDAY AFTERNOON, MARCH 9, 2016

AWARDS AND SYMPOSIA

Ralph N Adams Award
The Coblenz Society - Williams-Wright Award
ACS-ANYL - Advances in Instrumentation for Ion Mobility Mass Spectrometry
Advancing Strategies for Chronic In Vivo Sensing
Analytical Challenges Relating to the Discovery, Development, Manufacturing and Use of Cancer Immunotherapy Medicines
Analytical Chemistry of Oil and Gas Prospecting in Brazil
Big Data in Analytical Sciences - Challenges and Solutions
Electrical and Electrochemical Sensing and Detection based on Nucleic Acid Recognition
Vibrational Spectroscopy of Biodegradable Plastics: Evolution, Revolution or Back to the Future

WORKSHOPS

CACA - How to be Successful in Your Career
Natural Health Products: Scientific Approaches to Securing Product Quality and Safety

ORGANIZED CONTRIBUTED SESSIONS

High Throughput Analysis for Food Safety and Cosmetics: Challenges and Validation
Precision Bioanalytical Measurements
Technology Strategies for Explosives Sensing

ORAL SESSIONS

Advances in Fuel and Petrochemical Analyses
Bioanalytical: Using Microfluidics/Lab-on-a-Chip Techniques
Environmental Water Quality and Analysis
GC Fuels, Energy and Petrochemical
Mass Spectrometry - Bioanalytical and Omics
Metabolomics, Proteomics, and Genomics
Raman, SERS, UVR Applications
Surface and Microscopic Characterization of Nanostructures and Biological Materials
Trace Explosives Detection - Half Session

UNDERGRADUATE POSTER SESSION

THURSDAY MORNING, MARCH 10, 2016

SYMPOSIA

ACS-ANLY - Advances in Electrokinetic Methods for Bioanalysis
Advances in Vibrational Spectroscopy for Medical Diagnostics
Computational Chemistry Coupled to Analytical Measurements: A Synergistic Relationship
Identification and Analysis for Food Safety
Integrated Microfluidics
New Bioanalytical Separations for Molecular Mechanisms of Disease
Overcoming the Obstacles to Making Measurements in the Brain
SAS - Handheld Spectrometers
Single Cell Molecular Analysis

ORGANIZED CONTRIBUTED SESSION

Recent Advances in Ion Analysis

ORAL SESSIONS

Bioanalytical: Fluorescence/Luminescence Techniques
Electrochemistry - New Methods and Applications
Food Safety Evaluations - Half Session
Liquid Chromatography Column Chemistry
Microfluidics/Lab-on-a-Chip - Bioanalytical I
Novel Applications with Gas Chromatography Mass Spectrometry
Novel Synthesis and Applications of Nanomaterials
Sampling and Sample Preparation - Bioanalytical, Neurochemistry, and Material Science
Sensors - Others
Vibrational Spectroscopy Instrumentation and Applications

POSTER SESSIONS

Application of Mass Spectrometry
Fluorescence and Luminescence
Fuels, Energy and Petrochemical
New Developments in GC
UV/VIS
Various Applications of GCMS
Vibrational Spectroscopy Advances

THURSDAY AFTERNOON, MARCH 10, 2016

SYMPOSIA

ACS-ANLY - Ultrasensitive Bioanalysis on the Pico-to Femtoliter Scales
Analytical Techniques in Neuroscience
Bioanalytical Chemistry Using the Next Generation of Nanomaterials
Bioinformatics: Metabolite Identification and Quantification
Micro and Nano-Scale Optofluidic Lasers for Biological Applications
Nanofiber Materials Overcome Enduring (Bio) Analytical Challenges
SEAC - Nanoengineered Biosensors

ORGANIZED CONTRIBUTED SESSION

Biosensing Devices for Neuron Mapping

ORAL SESSIONS

Bioanalytical: Electrochemical Techniques
Bioanalytical: Sampling and Sample Preparation - Half Session
Bioanalytical: Techniques Using Sensors
Computers in Chemistry - Half Session
Glycan Analysis - Half Session
LC and Sample Matrix Solutions - Half Session
Microfluidics/Lab-on-a-Chip - Bioanalytical II

TECHNICAL PROGRAM

SUNDAY, MARCH 6, 2016
AFTERNOON**The Wallace H. Coulter Lecture** **Session 10***The Wallace H. Coulter Lecture*

Sunday Afternoon, Sidney Marcus Auditorium, Bldg A, Level 4

5:00	(10-1)	How Optical Single-Molecule Detection in Solids Led to Super-Resolution Nanoscopy in Cells and Beyond W.E. (WILLIAM ESCO) MOERNER, Stanford University
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AWARDS **Session 20***The Pittcon Heritage Award*

Sunday Afternoon, Sidney Marcus Auditorium, Bldg A, Level 4

4:45		Presentation of the 2016 Pittcon Heritage Award posthumously awarded to Kenji Kazato and Kazuo Ito, founders of JEOL - accepted by Gon-emon Kurihara, President of JEOL
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SYMPOSIUM **Session 30***ACS-ANYL - Tracing the Metabolome: Application of Stable-Isotope Tracers in Bioanalytical Chemistry*

arranged by Cynthia K Larive, University of California-Riverside and Gregory A Barding, California State Polytechnic University

Sunday Afternoon, Room B308

Cynthia K Larive, University of California-Riverside, Presiding

1:30		Introductory Remarks - Cynthia K Larive and Gregory A Barding
1:35	(30-1)	Stable Isotope Labeling and UHPLC/MS Strategies for Probing Dynamics of Plant Specialized Metabolism A DANIEL JONES, Michigan State University, Zhenzhen Wang, Xiaoxiao Liu, Banibrata Ghosh
2:10	(30-2)	Developments in ¹³C-based Metabolomics ARTHUR S EDISON, University of Georgia
2:45	(30-3)	Chemical Isotope Labeling LC-MS for Quantitative Metabolomics with High Metabolomic Coverage LIANG LI, University of Alberta
3:20		Recess
3:35	(30-4)	Lipid Metabolic Profiling Using Stimulated Raman Scattering Microscopy MENG WANG, Baylor College of Medicine
4:10	(30-5)	Monitoring the Incorporation of Stable-Isotope Labeled Alcohols by Bacteria with GC-MS GREGORY A BARDING, California State Polytechnic University, Rakesh Mogul, Nicole G Perkins

SYMPOSIUM **Session 40***Emerging Leaders in Biological Mass Spectrometry*

arranged by Amanda B Hummon, University of Notre Dame and Heather R Desaire, University of Kansas

Sunday Afternoon, Room B302

Amanda B Hummon, University of Notre Dame, Presiding

1:30		Introductory Remarks - Amanda B Hummon and Heather R Desaire
1:35	(40-1)	New Mass Spectrometry Methods Show HIV Vaccine Candidates' Protein Structures are Misfolded HEATHER R DESAIRE, University of Kansas
2:10	(40-2)	Novel Strategies in Top-down Proteomics YING GE, University of Wisconsin Madison
2:45	(40-3)	Multi-Tier Approach to Understand the Biology of Alzheimer's Disease RENÁ ROBINSON, University of Pittsburgh
3:20		Recess

3:35	(40-4)	Old Photochemistry Brings New Capabilities in Unsaturated Lipid Analysis YU XIA, Purdue University, Zheng Ouyang, Xiaoxiao Ma, Craig Stinson
4:10	(40-5)	Evaluating Small Molecule Histone Inhibitors with High Resolution Mass Spectrometry and 3D Cell Cultures AMANDA B HUMMON, University of Notre Dame, Simone Sidoli, Peter E Feist, Monica M Schroll, Benjamin A Garcia

SYMPOSIUM **Session 50***Enabling Sample Preconcentration Methods for Bioanalysis*

arranged by Adam T Woolley, Brigham Young University

Sunday Afternoon, Room B304

Adam T Woolley, Brigham Young University, Presiding

1:30		Introductory Remarks - Adam T Woolley
1:35	(50-1)	Bottom-up Proteomics of E.coli Using Dynamic pH Junction Preconcentration and CZE-ESI-MS/MS NORMAN J DOVICH, University of Notre Dame, Guijie Zhu, Liangliang Sun
2:10	(50-2)	Electrokinetic Sample Preconcentration and Hydrodynamic Sample Injection for Capillary Electrophoresis Using a Pneumatic Microvalve RYAN T KELLY, Pacific Northwest National Laboratory, Yongzheng Cong, Katipamula Shanta, Tang Keqi
2:45	(50-3)	Solid Phase Microextraction in Bioanalysis JANUSZ PAWLISZYN, University of Waterloo
3:20		Recess
3:35	(50-4)	Microfluidic Integration of Solid-Phase Extraction with Fluorescence Labeling for Microfluidic Analysis ADAM T WOOLLEY, Brigham Young University, Suresh Kumar, Vishal Sahore, Radim Knob, Mukul Sonker
4:10	(50-5)	Liquid Biopsies: Microfluidic Enabling the Clinical Utility of These Markers STEVEN A SOPER, University of North Carolina

SYMPOSIUM **Session 60***Frontiers of In Situ and In Vivo Spectroscopic Imaging*

arranged by Ji-Xin Cheng and Mikhail Slipchenko, Purdue University

Sunday Afternoon, Room B305

Ji-Xin Cheng, Purdue University, Presiding

1:30		Introductory Remarks - Ji-Xin Cheng and Mikhail Slipchenko
1:35	(60-1)	Correlated Raman and Mass Spectrometric Chemical Imaging of Multiscale Spatiotemporal Signaling in Microbial Communities PAUL W BOHN, University of Notre Dame, Nameera Baig, Nydia Morales-Soto, Sage B Dunham, Jonathan V Sweedler, Joshua D ShROUT, Sneha Poliseti
2:10	(60-2)	Nanotechnology for In-Vivo and Intraoperative Cancer Detection and Image-Guided Surgery SHUMING NIE, Emory University
2:45	(60-3)	Nonlinear Microscopy to Detect and Grade Cancer WARREN S WARREN, Duke University
3:20		Recess
3:35	(60-4)	Multi-Parametric and Multi-Spectral Photoacoustic Microscopy SONG HU, University of Virginia
4:10	(60-5)	Vibrational Spectroscopic Imaging of Molecular Dynamics in Living Systems JI-XIN CHENG, Purdue University

SYMPOSIUM Session 70

Wearable and Point-of-Care Sensor Technologies for Biomonitoring

arranged by Ian Papautsky and William R Heineman, University of Cincinnati

Sunday Afternoon, Room B401

Ian Papautsky, University of Cincinnati, Presiding

1:30		Introductory Remarks - Ian Papautsky and William R Heineman
1:35	(70-1)	Personal Exposure Monitoring Using Portable Samplers and Paper Analytical Devices CHARLES HENRY, Colorado State University
2:10	(70-2)	Pencil and Paper Diagnostic Devices ANDRES W MARTINEZ, California Polytechnic State University
2:45	(70-3)	Electrochemical Metal Determination for Point-of-Care Assessment of Environmental Exposure IAN PAPAUTSKY, University of Cincinnati
3:20		Recess
3:35	(70-4)	Ionic Liquid Electrochemistry and Biointerface Design for Reliable and Smart Sensors XIANGQUN ZENG, Oakland University
4:10	(70-5)	Monitoring Corrosion of Biodegradable Magnesium Implants with Hydrogen Gas Sensors WILLIAM R HEINEMAN, University of Cincinnati, Tingting Wang, Daoli Zhao, Zhongyun Dong, William Hoagland, David Benson

WORKSHOPS Session 80

Light Sources in Analytical Chemistry: Solid State Light Sources and Beyond

arranged by Mirek Macka, University of Tasmania

Sunday Afternoon, Room B402

Mirek Macka, University of Tasmania, Presiding

1:30		Introductory Remarks - Mirek Macka
1:35	(80-1)	Gatherers and Foragers? Analytical Scientists in the Quest for Better Light Sources MIREK MACKA, University of Tasmania
2:05	(80-2)	Applications of Cavity Ring-Down and Cavity-Enhanced Absorption Spectroscopy in Atmospheric Chemistry HANS DIETER OSTHOFF, University of Calgary, Charles A Odame-Ankrah, Youssef M Taha, Jason Pak, Connie Z Ye, Nick R Jordanov
2:35	(80-3)	A Fourier-Domain Fluorescence Excitation Emission Matrix Spectrometer and Its Applications in Measuring Oxidative Stability of Industrial Liquids HANS-PETER LOOCK, Queen's University, Nicholas L Andrews, James Z Fan, Oliver Reich, Alexander Dudelzak, Hengameh Omrani
3:05		Recess
3:20	(80-4)	Deep UV-LEDs in Detectors for HPLC and Capillary Electrophoresis PETER CH HAUSER, University of Basel, Duy Anh Bui
3:50	(80-5)	Solid State Light Sources in Capillary Electrophoresis DAN XIAO, Sichuan University
4:20	(80-6)	Quantum Cascade Lasers: How to Revolutionize Mid-Infrared Gas and Liquid Phase Diagnostics BORIS MIZAIOFF, Ulm University

ORGANIZED CONTRIBUTED SESSIONS Session 90

Advances in Mass Spectrometry of RNA - Half Session

arranged by Norman Chiu, University of North Carolina at Greensboro

Sunday Afternoon, Room B403

Norman Chiu, University of North Carolina at Greensboro, Presiding

1:30	(90-1)	Toward Detection of Isomeric/Isobaric MicroRNA Biomarkers NORMAN CHIU, University of North Carolina at Greensboro
1:50	(90-2)	New LC-MS/MS Strategies for Modified Oligonucleotides and RNAs PATRICK A LIMBACH, University of Cincinnati, Robert L Ross
2:10	(90-3)	Mass Spectrometry, RNA and Infectious Disease: tRNA Reprogramming and a Second Genetic Code Control Mycobacterial Dormancy PETER DEDON, Massachusetts Institute of Technology
2:30	(90-4)	Identification and Quantitation of RNA Post-Transcriptional Modifications by Nano-flow Liquid Chromatography - Tandem Mass Spectrometry and Database Searching. HIROSHI NAKAYAMA, RIKEN CSRS, Masato Taoka, Nobuhiro Takahashi, Toshiaki Isobe

ORGANIZED CONTRIBUTED SESSIONS Session 100

Ionophore-Based Chemical Sensors I

arranged by Philippe Buhlmann, University of Minnesota and Eric Bakker, University of Geneva

Sunday Afternoon, Room B404

Philippe Buhlmann, University of Minnesota, Presiding

1:30	(100-1)	pH Independent Fluorescent Ion Sensors ERIC BAKKER, University of Geneva
1:50	(100-2)	Measurement of Carbon Dioxide in Urine to Guide the Treatment of Patients in Severe Sepsis or Septic Shock ERNO LINDNER, The University of Memphis, James G Atherton, Marcin Guzinski, Jasinski Artur, Bradford D Pendley
2:10	(100-3)	Potentiometric Nanosensors Towards Direct Detection of Nucleic Acids RÓBERT E GYURCSÁNYI, Budapest University of Technology and Economics, Istvan Makra, Gyula Jägerszki, Alexandra Brajnovits, Peter Fürjes, Márton Bojtár
2:30	(100-4)	Potentiometric Detection of Biomacromolecules Based on Surface Molecular Imprinting RONGNING LIANG, Yantai Institute of Coastal Zone Research, CAS, Wei Qin
2:50		Recess
3:05	(100-5)	Voltammetric Ionophore-Based Electrode for Protamine in Human Blood SHIGERU AMEMIYA, University of Pittsburgh
3:25	(100-6)	Conducting Polymer-Coated Electrode and Its Application to the Thin Layer Electrolysis Cell for Coulometric Determination YUMI YOSHIDA, Kyoto Institute of Technology, Mao Fukuyama, Kohji Maeda
3:45	(100-7)	Biofouling of Ionophore-Doped Ion-Selective Electrode Membranes Revisited PHILIPPE BUHLMANN, University of Minnesota, Adam Dittmer
4:05	(100-8)	Metastable Photoacids Towards Activatable and Controllable Ion Sensing Bulk Membranes for Cations Detection KARIN Y CHUMBIMUNI-TORRES, University of Central Florida, Parth K Patel

ORGANIZED CONTRIBUTED SESSIONS Session 110

R&D to QC: Bridging the Gap - Half Session

arranged by Justin Shearer, Dow AgroSciences

Sunday Afternoon, Room B312

Justin Shearer, Dow AgroSciences, Presiding

1:30	(110-1)	Back to the Future: Bringing Life to an Old Crop Protection Product JENNIFER HOLLIE JONES, Dow AgroSciences, Tammy Hamilton, Grant Von Wald, Maciej Turowski, Binghe Gu, Chengli Zu, Scott Kelso, Edward Bellinger, Justin Shearer
1:50	(110-2)	Effective Method Transfer: Ensuring End Results MARY ELLEN P MCNALLY, DuPont Crop Protection, Stephen Platz
2:10	(110-3)	Transferring Analytical Methods to a Quality Control Laboratory AMANDA DARLAND, Dow AgroSciences
2:30	(110-4)	R&D to QC: An R&D Perspective in Chromatographic Method Development JUSTIN SHEARER, Dow AgroSciences, Suresh Annangudi Palani, Daniel Kneuppel, Rose Nelson

ORAL SESSIONS Session 120

Bioanalytical: LC Techniques - Half Session

Sunday Afternoon, Room B315

Sean M Burrows, Oregon State University, Presiding

1:30	(120-1)	Characterization of New 2 µm Particle Size, 25 nm Pore Size Analytical Size Exclusion Chromatography Column with Larger Exclusion Limit Useful for the Separation of Biomolecules Using UHPLC and HPLC CRYSTAL BENNER, Tosoh Bioscience LLC, Atis Chakrabarti
1:50	(120-2)	Studies of Drug Interactions with Alpha₁-Acid Glycoprotein by Using On-Line Immunoprecipitation and High Performance Affinity Chromatography CONG BI, University of Nebraska-Lincoln, Ryan Matsuda, Zitha Isingizwe, Chenhua Zhang, David Hage
2:10	(120-3)	HPAE-PAD Applications for Stepwise Biosimilar Development Processes: Monosaccharide and Sialic Acid Determinations HUA YANG, Thermo Fisher Scientific, Linda Lopez
2:30	(120-4)	Analysis of Hormone-Protein Binding in Solution by Ultrafast Affinity Extraction XIWEI ZHENG, University of Nebraska-Lincoln, Cong Bi, Marrison Brooks, David Hage

TECHNICAL PROGRAM

ORAL SESSIONS Session 130

Bioanalytical: LC/MS Techniques - Half Session

Sunday Afternoon, Room B315

Sean M Burrows, Oregon State University, Presiding

3:05	(130-1)	Discovery of Brown Recluse Spider Sex Pheromones Using Advanced Ultrafast Liquid Chromatography – Tandem Mass Spectrometry Methodologies CASEY BURTON, Missouri University of Science and Technology, Ariel Donovan, Jennifer Parks, William Stoecker, Honglan Shi
3:25	(130-2)	Analysis of Herceptin Oxidation Variants Using a Supercapacitor Reverse Phase Column Coupled with an Orbitrap Mass Spectrometer SHANHUA LIN, Thermo Fisher Scientific, Ilze Birznies, Christopher Pohl, Xiaodong Liu, Jessica Wang, Terry Zhang, Jonathan Josephs
3:45	(130-3)	Quantitation of Endogenous Adenosine in Mouse Blood, Cell Lysate and Lysosomes by LC-MS/MS Using Surrogate Matrix Method XIAO DING, Genentech
4:05	(130-4)	Isomeric Separation of Glycopeptides Using Porous Graphitic Carbon (PGC) LC at High Temperature RUI ZHU, Texas Tech University, Jingfu Zhao, Yehia Mechref

ORAL SESSIONS Session 140

Chemical Methods - Half Session

Sunday Afternoon, Room B316

Richard Bormett, Renishaw, Presiding

1:30	(140-1)	Bromide-Assisted Anisotropic Growth of Surfactant-Free Gold Nanoparticles MELISSA KERR, North Carolina Central University, Fei Yan
1:50	(140-2)	Simultaneous Reduction of Metal Ions by Multiple Reducing Agents Initiate the Asymmetric Growth of Metallic Nanocrystals MAHMOUD MAHMOUD, Georgia Institute of Technology
2:10	(140-3)	Novel Optical Properties of Segmented Au-Ag Nanocylinders: Effects of Metallic Junctions on Surface Plasmon Resonance VINEET KUMAR, North Carolina State University, Gufeng Wang
2:30	(140-4)	Measurement of Oxidative Potential of Particulate Matter by DTT assay SHIORI OTA, Tokai University, Kazuhiro Misawa, Yoshika Sekine

ORAL SESSIONS Session 150

Gas Chromatography Innovations

Sunday Afternoon, Room B310

Olujide T Akinbo, Butler University, Presiding

1:30	(150-1)	Method Translation in Gas Chromatography to Get the Same Chromatogram JAAP DE ZEEUW, Restek, Chris English, Chris Nelson, Jack Cochran
1:50	(150-2)	Chemometric Treatment of GC-VUV Data - Samples in a New Light JAMES J HARYNUK, University of Alberta, Keisean Stevenson, Seo Lin Nam, Lawrence A Adutwum
2:10	(150-3)	All 5 Phases are Not the Same! Considerations for Method Development and Selection RAMKUMAR DHANDAPANI, Phenomenex, Tim Anderson, Kristen Parnell
2:30	(150-4)	Flow-through Microfluidic Photoionization Detectors for Rapid and Highly Sensitive Vapor Detection HONGBO ZHU, University of Michigan, Robert Nidetz, Menglian Zhou, Jiwon Lee, Sanketh Buggaveeti, Katsuo Kurabayashi, Xudong Fan
2:50		Recess
3:05	(150-5)	Safeguarding a Mass Detector from Difficult Sample Components AMANDA B DLUGASCH, Waters Corporation, Thomas E Wheat, Patricia R McConville
3:25	(150-6)	Wide Range Inert Dilution System for Gas Standard Generation STANLEY D STEARNS, Valco Instruments Co. Inc., Alex Plistil, Sunny Sinlapadetch, David McCharthy, Huamin Cai
3:45	(150-7)	Multimode Plasma Emission Detector YVES GAMACHE, Analytical Flow Products
4:05	(150-8)	Polyionic Ionic Liquid GC Stationary Phase Evaluations LEONARD M SIDISKY, Supelco/Sigma-Aldrich, Greg A Baney, James L Desorcie, Gustavo Serrano, Daniel Shollenberger

ORAL SESSIONS Session 160

GC Optimization - Half Session

Sunday Afternoon, Room B309

David Benanou, Veolia, Presiding

1:30	(160-1)	Evaluation and Application of Sample Preparation Techniques for the Determination of Residual Volatiles in Biological Matrices Using GC-FID ADRIENE MALSBURY, Bristol-Myers Squibb, William Fish, Frank Tomasella
1:50	(160-2)	A New Web-Based Application for Modelling Gas Chromatographic Separations REBECCA STEVENS, Restek Corporation, Jaap de zeeuw, Amanda Rigdon, Linx Waclaski, Dan Li
2:10	(160-3)	Overcoming New Problems With Old Solutions: Enhanced Separations With GC Retention Gap Columns RAMKUMAR DHANDAPANI, Phenomenex, Tim Anderson, Kristen Parnell
2:30	(160-4)	Improved Inertness Performance for Polyethylene Glycol GC Columns KENNETH G LYNAM, Agilent Technologies, Ngoc-A Dang, Allen Vickers, Yun Zou

ORAL SESSIONS Session 170

Instrument Innovations - Half Session

Sunday Afternoon, Room B316

Richard Bormett, Renishaw, Presiding

3:05	(170-1)	Rapid Analysis of SO₂ to Determine Catalyst Efficiency DEBBIE ALCORN, INFICON
3:25	(170-2)	Portable Gas Analyzer for Continuous Monitoring of Sulfur Dioxide in Gas Streams SAYED A MARZOUK, UAE University, Mohamed Alnaqbi, Muna Bufaroosha, Mohamed Al-Marzouqi
3:45	(170-3)	Triple Mode of Action of L-tyrosine Derived Probes: Solvent Mediated Flip-Flop Halide (iodide/fluoride) Sensors and Reversible Chromogenic pH Indicators SANJAY KUMAR MANDAL, IISER Mohali
4:05	(170-4)	Saving Time and Improving Accuracy by Eliminating the Need for Standards and Calibration in GC/FID Analyses JONES ANDREW, Activated Research Company, Charlie Spanjers

ORAL SESSIONS Session 180

Measurement Strategies - Sensors and Spectroscopy

Sunday Afternoon, Room B313

Stephanie Archer-Hartmann, Complex Carbohydrate Research Center, Presiding

1:30	(180-1)	Real-Time Voltammetric Characterization of Non-Electroactive Metal Complexation THUSHANI SIRIWARDHANE, University of South Carolina, Shawn McElmurry, Parastoo Hashemi
1:50	(180-2)	Phthalocyanine Based Microfluidic Sensors for the Detection of Oxidative Stress KEVIN J KLUNDER, Colorado State University
2:10	(180-3)	Multiple Light Scattering to Characterize Emulsions with Polymers JONATHAN DENIS, Formulaction, Yoann Lefevre, Pascal Bru, Christelle Tisserand, Gérard Meunier
2:30	(180-4)	A Practical Approach for Maximizing ICP-MS Data: A Closer Look at Microwave Sample Prep, The Steps that Precede It, and How to Minimize External Factors that Affect Data Quality JOHAN NORTJE, Milestone Inc.
2:50		Recess
3:05	(180-5)	Obtaining Maximum Information from Fast Chemical Reactions Using a Photodiode Array (PDA) UV-Visible Spectrophotometer IAN ROBERTSON, PerkinElmer Limited, Steve Upstone, Christopher Lynch
3:25	(180-6)	Microfluidic Visual Rheometer CHRISTELLE TISSERAND, Formulaction, Patrick Abgrall, Patrycja Adamska, Gérard Meunier
3:45	(180-7)	Real-time Investigation of Antibiotics-induced Oxidative Stress and Superoxide Release in Bacteria Using an Electrochemical Biosensor XIAOBO LIU, Clarkson University, Mouna Marrakchi, Michael Jahne, Shane Rogers, Silvana Andreescu
4:05	(180-8)	Fabrication of Micro Ir/IrO₂ pH Sensor for Dental Applications CHINDANAI RATANAPORNCHAROEN, Tokyo Medical and Dental University, Miyuki Tabata, Yuji Miyahara, Tatsuro Goda, Akira Matsumoto, Junji Tagami, Yuichi Kitasako, Masaomi Ikeda

ORAL SESSIONS

Session 190

Process Analytical Techniques - Half Session

Sunday Afternoon, Room B309

David Benanou, Veolia, Presiding

3:05	(190-1)	A Model Study of Pseudo-Absolute Quantitative Analysis Using Gas Chromatography – Vacuum Ultraviolet Spectroscopy LING BAI, The University of Texas at Arlington, Jonathan Smuts, Phillip Walsh, Kevin A Schug
3:25	(190-2)	Rapid Process Control Using GC-ION Mobility Spectrometry CHANDRASEKHARA HARIHARAN, ION-GAS GmbH, Wolfgang Vautz
3:45	(190-3)	Facilitating Complex Analysis Using Multiple Fast Temperature Programming Zones DALE ASHWORTH, Valco Instruments Co. Inc., Huamin Cai, Martin Brisbin, Chris Bishop, William Coontz, Andrew Rochon, Steve Werner, Stanley D Stearns
4:05	(190-4)	Analyzing Trace Level Nitric Oxide in a Flammable Gas Matrix KENNETH WONG, Air Liquide

SUNDAY POSTER SESSION

Session 200

Sunday posters will be on display from 3:30 PM to 7:30 PM with authors present from 5:30 PM to 7:30 PM. The location for the Sunday posters is Room A412.

Sunday Poster Session

Sunday Afternoon, Room A412

(200-1 P)	Influence of Particle Size Distribution on Protein Digestibility and Functionality ALBERTA ARYEE, Agriculture & Agri-Food Canada, Joyce I Boye
(200-2 P)	Increasing Stability of a Core-Shell Particle MARK WOODRUFF, Fortis Technologies, Ken Butchart
(200-3 P)	Rapid Screening of Virgin and Recycled Polymer Resins Using FTIR and Raman Libraries of Pre-Computed Mixture Spectra WILLIAM COSTA, Fiveash Data Management, Inc., Bill McCarthy, Todd Strother
(200-4 P)	The Complimentary Nature of NMR and SPME GCMS for the Analysis of Fermented Beverages NEIL FITZGERALD, Marist College, Samantha E Soprano, Sarah R Johnson, John C Edwards
(200-5 P)	Evaluation of an Integrated Optic-Fiber-Microfluidic Analyzer for Polyphenols Measurement MARIA CANIZARES-MACIAS, Universidad Nacional Autónoma de México, Oscar Sandoval-Ventura, Luis F Olguin-Contreras
(200-6 P)	Selective Separation and Detection of Catecholamines with Capillary Electrophoresis MAOJUN GONG, Wichita State University, Qiyang Zhang
(200-7 P)	Cold EI – Approaching the Ideal GC-MS Interface and Ion Source AVIV AMIRAV, Tel Aviv University, Bogdan Belgorodsky, Uri Keshet, Alexander Fialkov, Tal Alon
(200-8 P)	New Sampling Device for the Analysis of Lung Cancer Biomarkers in Exhaled Breath MOHAMED ABDEL-REHIM, Stockholm University
(200-9 P)	Ceramic Ion Source for Catalytic Pyrolysis and Catalytic Combustion Ionization Detection of Selected Constituents in Complex Petroleum and Biofuel Samples PAUL L PATTERSON, Detector Engineering & Technology, Inc., Jennifer Seroy
(200-10 P)	Using Microscopy to Measure Rates of Heterogeneous Reactions WALTER BOWYER, Hobart and William Smith Colleges, Gabriella Mylod
(200-11 P)	Crowding in Cell-Like Environments Alters Diffusion and Enzyme Kinetics KRISTIN M SLADE, Hobart and William Smith Colleges, Michael Conroy, Sophia Melvin
(200-12 P)	Effects of Macromolecular Crowding on YADH Enzyme Mechanism KRISTIN M SLADE, Hobart and William Smith Colleges, Allison Wilcox
(200-13 P)	Mixed Valence Mn,La,Sr-oxide based Magnetic Nanoparticles Coated with Silica Nanoparticles for Immunosensor Fabrication AMOS MUGWERU, Rowan University
(200-14 P)	Hydrophilic Interaction Chromatography (HILIC) and Enzymatic/Spectrometric Methods for the Determination of Uric Acid and Creatinine in Human Biofluids YUEGANG ZUO, University of Massachusetts Dartmouth, Si Zhou, Xiaofei Lu, Ningning Zhang, Faten Albalawi
(200-15 P)	Profiling/Monitoring Activated Carbons for Drinking Water HENRY G NOWICKI, PACS Inc
(200-16 P)	Profiling/Monitoring Gas Phase Activated Carbon Systems HENRY G NOWICKI, PACS Inc
(200-17 P)	Lignin Waste Transformed to High Quality Activated Carbons HENRY G NOWICKI, PACS Inc
(200-18 P)	A Rapid Hydrophilic Interaction Liquid Chromatography (HILIC) Method for Determination of Trace Nitrate and Nitrite in Snow and Rain Samples XIAOFEI LU, University of Massachusetts Dartmouth, Yuegang Zuo
(200-19 P)	Occurrence and Identification of Bisphenol A and Other Alkylphenols in Sea Shore Crabs JOSEPH MICHAEL, University of Massachusetts Dartmouth, Yuegang Zuo
(200-20 P)	Evaluation of Porous Layer Thickness of Core Shell Particle for Separation of Proteins NORIKAZU NAGAE, ChromaNIK Technologies Inc., Tomoyasu Tsukamoto

ACS POSTER

Session 210

ACS posters will be on display from 3:30 PM to 7:30 PM with authors present from 5:30 PM to 7:30 PM. The location for the ACS posters is Room A412.

ACS Division of Analytical Chemistry Poster Session

Sunday Afternoon, Room A412

(210-1 P)	Phospholipid/Aromatic Thiol Hybrid Bilayers CHAO LI, Auburn University, Mingming Wang, Matthew Ferguson, Wei Zhan
(210-2 P)	Dynamic Records of Spatiotemporal Pb: Lichens versus Trees and Sediments NATHAN W BOWER, Colorado College, Ben Greydanus, Sam Kramer, Eric Wolatz, Stephen Getty, Craig Lundstrom
(210-3 P)	Dating Paintings and Prints Using ATR-FTIR: A Philatelic Case Study from Lodz Ghetto NATHAN W BOWER, Colorado College, Conor J Blanchet, Michael S Epstein
(210-4 P)	SPME/GC-MS Analysis of Dynamic Compositional Changes in the Volatile Components in Red Wine After "Breathing" AMBER I HILLS, East Stroudsburg University, Jon S Gold, Richard S Kelly
(210-5 P)	Development of Portable Elisa System for Infectious Disease Diagnosis KAZUHIRO MORIOKA, Tokyo Metropolitan University, Harpal Singh, Hizuru Nakajima, Akihide Hemmi, Masayuki Shimojima, Le Van An, Szazaly AbuBakar, Hulie Zeng, Shungo Kato, Masami Sugamata, Ming Yang, Katsumi Uchiyama
(210-6 P)	Applications of a Quartz Crystal Microbalance for Monitoring Bacterial Biofilm Growth and Removal HUNTER J SISMAET, Northeastern University, Pegah N Abadian, Edgar D Goluch
(210-7 P)	A Capillary Electrophoresis Approach to the Characterization and Application of Graphene Quantum Dots as Sensing Agents LEONA SIRKISOON, Wake Forest University, Honest Makamba, Shingo Saito, Christa Colyer
(210-8 P)	A pH Sensor for Non-Invasive In Vivo Detection and Imaging of Implant Associated Infection UNAIZA UZAIR, Clemson University
(210-9 P)	Scanning Electro Spray Microscopy with Nanopipettes ELIZABETH M YUILL, Indiana University, Wenqing Shi, Lane A Baker
(210-10 P)	Phosphoproteomics Studies of Human Immunodeficiency Virus-1 KEVIN MARK, LaGuardia Community College City University of NY, Pratikumar Rathod, Emmanuel Chang, Hsin-Pin Ho, Xu Yu, Mathias Lichtenfeld
(210-11 P)	Segmented Flow Sampling with Theta Pipettes ANUMITA SAHA-SHAH, Indiana University, Curtis M Green, Lane A Baker
(210-12 P)	Mapping Local Permeability Change During Degradation with Scanning Ion Conductance Microscopy-Scanning Electrochemical Microscopy (SICM-SECM) WENQING SHI, Indiana University, Lane A Baker
(210-13 P)	Profiling N, N'-Dibutylbenzimidazolium Salt and Its Derivatives Using CYCLIC Voltammetry HUGGINS Z MSIMANGA, Kennesaw State University, Andrew Montalvo, Daniela Tapu
(210-14 P)	Comparative Study of Elemental Nutrients in Organic and Conventional Vegetables by Laser Induced Breakdown Spectroscopy (LIBS) CHET R BHATT, Mississippi State University
(210-15 P)	Photoacoustic Spectroscopy with SF₆, An Optically Thick Greenhouse Gas HAN PARK, University of Tennessee at Chattanooga
(210-16 P)	Integrating Authentic Research Experiences into Undergraduate Analytical Chemistry FEI YAN, North Carolina Central University, Melissa Kerr
(210-17 P)	Proteomic Analysis of Tetrahymena Thermophila Using MALDI-TOF/TOF DOUGLAS BEUSSMAN, St. Olaf College, Harrison VanDolah
(210-18 P)	Possible Age and Location Differences in Human Scent Profiles DOUGLAS BEUSSMAN, St. Olaf College, Laura Muehlbauer
(210-19 P)	LC-QTOF Detection of Methamphetamine in Packaging Residue DOUGLAS BEUSSMAN, St. Olaf College, Matthew Bock
(210-20 P)	Environmental Toxins from Decorative Candles DOUGLAS BEUSSMAN, St. Olaf College, Allison Sager
(210-21 P)	Analysis of Fibers Via Isotope Ratio Mass Spectrometry DOUGLAS BEUSSMAN, St. Olaf College, Elaine Macon, Hannah Brown
(210-22 P)	Withdrawn
(210-23 P)	HPLC Method Development for Analysis of Dissolution Samples of a Highly Soluble Drug Substance in a Hydrophobic Matrix MATTHEW LOUCKS, Banner Life Sciences, Angela Moore, Wayne Craig, Sara Draper
(210-24 P)	Confocal Raman Microscopy Investigation of the Kinetic Barrier to PAH Partitioning into Individual C₁₈-Silica Particles DAVID A BRYCE, University of Utah, Jay P Kitt, Joel M Harris
(210-25 P)	Development of a Flow-Based Electrogenerated Chemiluminescent Detection of Biogenic Amines on a Microfluidic Chip ERIN GROSS, Creighton University, Leah Schaffer, Emily Lowry, Charles Henry, Rachel M Feeny, John Wydallis

TECHNICAL PROGRAM

MONDAY, MARCH 7, 2016 MORNING

Monday Morning

AWARDS Session 220

Chromatography Forum of Delaware Valley Dal Nogare Award

arranged by Mary Ellen McNally, E.I. DuPont de Nemours and Company

Monday Morning, Room B312

Mary Ellen McNally, E.I. DuPont de Nemours and Company, Presiding

8:30		Introductory Remarks - Mary Ellen McNally
8:35		Presentation of the 2016 Dal Nogare Award to Stephen Weber, University of Pittsburgh, by Mary Ellen McNally, E.I. DuPont de Nemours and Company
8:40	(220-1)	Opportunities and Challenges with Capillary Liquid Chromatography STEPHEN WEBER, University of Pittsburgh
9:15	(220-2)	How Much Performance is Lost in LC by Optimizing Only Velocity and Column Length Using Limited Number of Particle Size? PETER W CARR, University of Minnesota, Adam Matula, Dwight R Stoll
9:50	(220-3)	UHPLC-MS for Multiplexed Neurochemical Analysis ROBERT T KENNEDY, University of Michigan
10:25		Recess
10:40	(220-4)	Integrated Microfluidic Separations Devices Interfaced to Mass Spectrometry J MICHAEL RAMSEY, University of North Carolina at Chapel Hill, Erin Redman, William Black
11:15	(220-5)	The Second Dimension is a Strange Place - Fundamental Aspects of the Optimization of the Second Dimension in Two-Dimensional Liquid Chromatography DWIGHT R STOLL, Gustavus Adolphus College, John Halvorson, Carston Dammann, Eli Larson, Alex Wilson, David C Harmes, Monika Dittmann, Sarah C Rutan, Abraham Lenhoff

AWARDS Session 230

The Pittsburgh Conference Achievement Award

arranged by Amit Ghosh, Bayer Materials Science LLC

Monday Morning, Room B314

Amit Ghosh, Bayer Materials Science LLC, Presiding

8:30		Introductory Remarks - Amit Ghosh
8:35		Presentation of the 2016 Pittsburgh Conference Achievement Award to Jared L Anderson, Iowa State University, by Elias S Absey, Chair, Society for Analytical Chemists of Pittsburgh
8:40	(230-1)	Exploiting Ionic Liquids, Magnetic Ionic Liquids, and Polymeric Ionic Liquids in Sample Preparation and Multidimensional Gas Chromatography JARED L ANDERSON, Iowa State University
9:15	(230-2)	The Impact and Evolution of High Efficiency Chiral and Achiral Separations DANIEL W ARMSTRONG, University of Texas at Arlington
9:50	(230-3)	Use of Metal-Organic Frameworks in Sample Preparation Analytical Schemes: An Overview of Their Performance in Solid-Phase Extraction Modes VERÓNICA PINO, University of La Laguna, Priscilla Rocio-Bautista, Juan H Ayala, Jorge Pasán, Catalina Ruiz-Pérez, Ana M Afonso
10:25		Recess
10:40	(230-4)	Achiral LSER Investigation of HPLC Retention on Cinchona Alkaloid-Based Chiral Stationary Phases APRYLL M STALCUP, Dublin City University
11:15	(230-5)	Applications of Conductive Ionic Liquids in Chemical Analysis JON R KIRCHHOFF, University of Toledo, Joshua A Young, Amila M Devasurendra, LM Viranga Tillekeratne, Jared L Anderson, Cheng Zhang

SYMPOSIUM Session 240

ACS-ANYL - BRAIN Initiative Advancements in Neurochemical and Physiological Measurements

arranged by Michael L Heien, University of Arizona

Monday Morning, Room B308

Michael L Heien, University of Arizona, Presiding

8:30		Introductory Remarks - Michael L Heien
8:35	(240-1)	New Platforms for Multiplexing Electrochemical Measurements In Vivo MICHAEL L HEIEN, University of Arizona
9:10	(240-2)	Simultaneous Detection of Dopamine Release and Multiple Single-Unit Activity in Awake and Behaving Rats STEPHEN COWEN, University of Arizona, Michael L Heien, Kate L Parent, Daniel F Hill, Jean-Paul Wiegand, Michael A Miller, Christopher W Atcherley
9:45	(240-3)	New Nano Tools for Molecular Sensing and Imaging of Single Neuron-Neuron Communication X NANCY XU, Old Dominion University, Pavan K Cherukuri, Preeyaporn Songkiatissak
10:20		Recess
10:35	(240-4)	In Vivo Multiphoton Microscopy of Mouse Brain CHRIS XU, Cornell University
11:10		Open Discussion

SYMPOSIUM Session 250

Advances in Raman Spectroscopy

arranged by Sanford A Asher, University of Pittsburgh

Monday Morning, Room B304

Sanford A Asher, University of Pittsburgh, Presiding

8:30		Introductory Remarks - Sanford A Asher
8:35	(250-1)	Micro-Scale Spatially Offset Raman Spectroscopy (Micro-SORS) PAVEL MATOUSEK, Rutherford Appleton Laboratory, Claudia Conti, Marco Realini, Chiara Colombo, Giuseppe Zerbi
9:10	(250-2)	Recent Advances in Raman Optical Activity (ROA) Methodology and Applications LAURENCE A NAFIE, Syracuse University, Rina K Dukor
9:45	(250-3)	Fast Raman Imaging Using Optimized Binary Compressive Detection DOR BEN-AMOTZ, Purdue University, Owen G Rehrauer, Bharat R Mankani, Gregory T Buzzard, Bradley J Lucier, Stanley Chan
10:20		Recess
10:35	(250-4)	Stimulated Raman Scattering Microscopy of Vibrational Tags WEI MIN, Columbia University
11:10	(250-5)	Nanoparticle Based Analysis of Cells, Molecules and Tissue by SERS DUNCAN GRAHAM, University of Strathclyde, Samuel Mabbott, Lee Barrett, Steven Asiala, Kirsten Gracie, Karen Faulds

SYMPOSIUM Session 260

Innovative Applications of Mass Spectrometry in Biopharmaceutical and Diagnostic Development

arranged by William Christopher Lamanna, Sandoz

Monday Morning, Room B305

William Christopher Lamanna, Sandoz, Presiding

8:30		Introductory Remarks - William Christopher Lamanna
8:35	(260-1)	Characterization of Filgrastim Using Intact and Top-Down MS WILLIAM CHRISTOPHER LAMANNA, Sandoz, Johann Holzmann, Hansjoerg Toll
9:10	(260-2)	Tandem Mass Spectrometry as an Excellent Quantification Tool to Guide Process Development for Optimal Host Cell Protein Removal in Biopharmaceutical Products DONALD WALKER, Genentech
9:45	(260-3)	Antibody Characterization with Ultrahigh-Resolution Mass Spectrometry: Selecting Well Behaved Molecules for Optimal Product Quality Attributes LISA MARZILLI, Pfizer, Inc., Mellissa Ly, Elaine Stephens, Heather S DeGruttola, Andrew E Saati, Jason C Rouse
10:20		Recess

10:35	(260-4)	Advanced Process Control Using Fast Analytics to Monitor Multiple Critical Quality Attributes of a Monoclonal Antibody LI ZANG, Biogen
11:10	(260-5)	Analysis of Glycosaminoglycan Non-Reducing End Structures by Liquid Chromatography Tandem Mass Spectrometry and Its Uses in Discovering New Disease-Specific Biomarkers ROGER LAWRENCE, BioMarin, Heather Prill, Evelyn Wang, Raymond Y Wang, Jeffery D Esko, Brett Crawford, Marzia Pasquali, Toni Pollock, William Christopher Lamanna, Nancy Pryer

SYMPOSIUM

Session 270

Neurotransmission at Single and Nano-Resolved Bio-Structures

arranged by Mei Shen, University of Illinois at Urbana-Champaign and Christian A Amatore, CNRS & ENS

Monday Morning, Room B303

Mei Shen, University of Illinois at Urbana-Champaign, Presiding

8:30		Introductory Remarks - Mei Shen and Christian Amatore
8:35	(270-1)	Electrochemical Cytometry of the Contents of Nanometer Vesicles Out and Inside Cells ANDREW EWING, University of Gothenburg and Chalmers University
9:10	(270-2)	Detection of Ionic Neurotransmitters at Biological Nanostructures via Versatile Nanosensor Probes MEI SHEN, University of Illinois at Urbana-Champaign
9:45	(270-3)	Electrochemical Approaches to Monitoring Neural Activity R MARK WIGHTMAN, University of North Carolina at Chapel Hill
10:20		Recess
10:35	(270-4)	Full Fusion During Vesicular Exocytosis: A Real Release Stage or a Hoax? CHRISTIAN A AMATORE, CNRS & ENS
11:10	(270-5)	Coulter Counter Voltage Trapping of Nanoparticles with Sub-Nanometer Size Resolution HENRY WHITE, University of Utah, Sean German, Martin Edwards, Yulun Zhang

SYMPOSIUM

Session 280

Omic for Environmental and Public Health Protection

arranged by Jeanette Van Emon, U.S. EPA and Hercules Moura, CDC

Monday Morning, Room B309

Jeanette Van Emon, U.S. EPA, Presiding

8:30		Introductory Remarks - Jeanette Van Emon and Hercules Moura
8:35	(280-1)	Applications of Accelerator Mass Spectrometry to Human Health Research TED OGNIBENE, Lawrence Livermore National Laboratory
9:10	(280-2)	Proteomic Approaches for Molecular Epidemiological Studies ROLF U HALDEN, Arizona State University, Nicole Hansmeier, Tzu-Chiao Chao, Julie B Herbstman, Lynn R Goldman, Frank R Witter
9:45	(280-3)	Proteomic Applications in Microbiology HERCULES MOURA, CDC NCEH-DLS, John R Barr
10:20		Recess
10:35	(280-4)	Development of Metagenomic Tools for Identification and Characterization of Infectious Agents from Clinical Samples and for Microbiome Association Studies JAMES POSEY, CDC
11:10	(280-5)	Proteomics for Adverse Outcome Pathway Discovery for Environmental Contaminants JEANETTE VAN EMON, U.S. EPA

SYMPOSIUM

Session 290

SEAC - Nano-Electroanalysis for a Sustainable World

arranged by Joaquin Rodriguez Lopez, University of Illinois

Monday Morning, Room B310

Joaquin Rodriguez Lopez, University of Illinois, Presiding

8:30		Introductory Remarks - Joaquin Rodriguez Lopez
8:35	(290-1)	Chemically Modified 3D Energy-Storage Architectures DEBRA R ROLISON, U.S. Naval Research Laboratory, Jeffrey W Long, Christopher N Chervin, Joseph F Parker, Megan B Sassin
9:10	(290-2)	Sunlight-Driven Hydrogen Formation by Membrane-Supported Photoelectrochemical Water Splitting NATHAN S LEWIS, Caltech
9:45	(290-3)	Elucidating Charge Transfer on Polymer Nano-Structures for a New Concept in Energy Storage JOAQUIN RODRIGUEZ LOPEZ, University of Illinois
10:20		Recess
10:35	(290-4)	Ion Transport in 1D and 3D Networked Porous Nanostructure Electrodes SANG BOK LEE, University of Maryland, Eleanor Gillette
11:10	(290-5)	Operando Methods for the Characterization Energy Materials HECTOR D ABRUNA, Cornell University

ORGANIZED CONTRIBUTED SESSIONS

Session 300

Infrared Spectroscopy Beyond the Diffraction Limit

arranged by Ellen Miseo, Hamamatsu Corporation and Craig Prater, Anasys Instruments

Monday Morning, Room B311

Ellen Miseo, Hamamatsu Corporation, Presiding

8:30	(300-1)	Advancing the Field of Infrared Nanospectroscopy for Materials and Life Sciences CRAIG PRATER, Anasys Instruments
8:50	(300-2)	Resonance Enhanced AFM-IR Induced by Quantum Cascade Laser ALEXANDRE DAZZI, University Paris-Sud, Jeremie Mathurin, Ariane Deniset-Besseau, Johanna Saunier, Najet Yagoubi, Kevin Kjoller
9:10	(300-3)	Unprecedented Nanoscale Chemical Characterization of Materials Using AFM-Based Infrared Spectroscopy CURTIS MARCOTT, Light Light Solutions, Dillon Eoghan, Kevin Kjoller
9:30	(300-4)	Withdrawn
9:50		Recess
10:05	(300-5)	AFM-IR Spectroscopy and Imaging of Biodegradable Polymers JOHN F RABOLT, University of Delaware, Liang Gong, Isao Noda, Bruce Chase
10:25	(300-6)	Nanoscale Molecular Imaging of Polymer Systems Using AFM-IR MARK RICKARD, Dow Chemical, Gregory Meyers, Carl Reinhardt, Jamie Stanley
10:45	(300-7)	Absorption Spectroscopy and Imaging from the Visible through Mid-IR with 20 nm Resolution Using AFM Probes ANDREA CENTRONE, NIST
11:05	(300-8)	Open Discussion

ORGANIZED CONTRIBUTED SESSIONS

Session 310

Ionophore-Based Chemical Sensors II

arranged by Philippe Buhlmann, University of Minnesota and Eric Bakker, University of Geneva

Monday Morning, Room B404

Philippe Buhlmann, University of Minnesota, Presiding

8:30	(310-1)	Magnetic Nanoparticles as Dispersible Electrodes JUSTIN J GOODING, University of New South Wales, Roya Tavallaie, Elizabeth Morago, Saimon M Silva, Kyloon Chuah
8:50	(310-2)	Development of an Ultra-Selective Optode Nanosensor for Potassium Imaging ALI SAHARI, Northeastern University, Tim Ruckh, Richard Hutchings, Heather Clark
9:10	(310-3)	Low Detection Limit of Ion-Selective Electrodes; Is the Story Really Over? ALEKSANDAR RADU, Keele University, Lukasz K Mendecki, Sergio Granados-Folci, Christina McGraw, Peter Dillingham
9:30	(310-4)	Multifunctional Detection and Delivery ELIZABETH (LISA) HALL, University of Cambridge, Nadia Tsao
9:50		Recess

TECHNICAL PROGRAM

10:05	(310-5)	Printed Paper-Based Ion-Selective Optode Devices DANIEL CITTERIO, Keio University, Hiroyuki Shibata, Terence G Henares, Nobutoshi Komuro, Koji Suzuki
10:25	(310-6)	Conducting Polymers Nanospheres for Sensors – Receptor or Transducers? AGATA MICHALSKA, University of Warsaw, Katarzyna Klucinska, Anna Kisiel, Krzysztof Maksymiuk
10:45	(310-7)	Signal Transduction Based on Constant-Potential Coulometry for Solid-Contact ISEs JOHAN BOBACKA, Åbo Akademi University, Ulriika Vanamo, Elisa Hupa, Ville Yrjänä
11:05	(310-8)	Plasticizer-Free Paper-Based Ion-Selective Optodes XUEWEI WANG, University of Michigan, Mark Meyerhoff, Yu Qin

ORGANIZED CONTRIBUTED SESSIONS

Session 320

New Perspectives on the History of Chromatography

arranged by Richard Ulrych, Chemical Heritage Foundation

Monday Morning, Room B407

Sarah Reisert, Chemical Heritage Foundation, Presiding

8:30	(320-1)	Building the Market for Ion Chromatography: The Early Days ARTHUR WILLIAM FITCHETT, Thermo Fisher Scientific
8:50	(320-2)	Early Days in GC 1957-1962 HAROLD MONROE MCNAIR, Virginia Tech
9:10	(320-3)	Evolution of Capillary Chromatography and Capillary Electrophoresis: A Personal Perspective MILOS V NOVOTNY, Indiana University
9:30	(320-4)	The Development of HPLC Method Development LLOYD R SNYDER, LC Resources Inc.
9:50		Recess
10:05	(320-5)	Pioneering Days of Chromatography in Lab Automation JACK GILL, Chemical Heritage Foundation
10:25	(320-6)	The Role of Temperature Programming in F&M's Success AARON J MARTIN, Marlabs, Retired
10:45	(320-7)	Liquid Chromatography Before It Became HPLC JAMES WATERS, Chemical Heritage Foundation
11:05	(320-8)	Chromatography In, or Next to Chemistry? Discipline Formation and Identity of Chromatography Practitioners in the 1960s and 1970s APOSTOLOS GERONTAS, Coburg University of Applied Sciences

ORAL SESSIONS

Session 330

Biomedical: Advances in Point-of-Care Technologies

Monday Morning, Room B313

Mustafa Culha, Yeditepe University, Presiding

8:30	(330-1)	Low-Cost Molecular Diagnostics on a Smartphone HYUNGSOON IM, Massachusetts General Hospital, Cesar M Castro, Huilin Shao, Monty Liang, Jun Song, Divay Pathania, Lioubov Fexon, Changwook Min, Rosemary H Tambouret, Misha Pivovarov, Ralph Weissleder, Hakho Lee
8:50	(330-2)	Smartphone Based Detection of Stress Biomarkers in Saliva AADHAR JAIN, Cornell University, Elizabeth Rey, David Erickson, Dakota O'Dell, Seoho Lee
9:10	(330-3)	A Smartphone Platform for Quantitative Point-of-Care Detection of Micronutrient Deficiencies DAKOTA O'DELL, Cornell University, Seoho Lee, Jessica Hohenstein, David Erickson
9:30	(330-4)	Bed-Side Detection of Volatile Human Metabolites for Medical Applications CHANDRASEKHARA HARIHARAN, ION-GAS GmbH, Wolfgang Vautz, Sascha Liedtke
9:50		Recess
10:05	(330-5)	Improved Optical Cavity Based Biosensor with Differential Detection Method Through Simultaneous Detection TONY BUJANA, Letourneau University, DongGee Rho, Cody Joy, Peter Cowles, Seunghyun Kim
10:25	(330-6)	A PDMS/Paper Hybrid Microfluidic Biochip for Multiplexed Instrument-Free Bacterial Meningitis Diagnosis MAOWEI DOU, University of Texas El Paso, Sanjay Sharma Timilsina, Juan Sanchez, Delfina Dominguez, Xiujun James Li
10:45	(330-7)	Measuring Biochemical Effects of Pulmonary Rehabilitation and OMT on COPD Patients through LC-MS-MS Analysis of Plasma Metabolites CHEN ZHANG, Michigan State University, Sherman Gorbis, John Wang, A Daniel Jones
11:05	(330-8)	Surface-Enhanced Raman Scattering for In Situ Analysis of Living Systems MUSTAFA CULHA, Yeditepe University

ORAL SESSIONS

Session 340

Capillary Electrophoresis

Monday Morning, Room B302

Christopher R Harrison, San Diego State University, Presiding

8:30	(340-1)	Quantitation of Kinase Activity in a Social Amoeba Using Capillary Electrophoresis and a Peptide Substrate Reporter MICHELLE L KOVARIK, Trinity College, Kunwei Yang, Allison J Tierney
8:50	(340-2)	Development of a Degradation Resistant Peptide Reporter for Monitoring E3 Ligase and Proteasome Activity GREGERY WOSS, University of North Carolina at Chapel Hill, Nancy Allbritton, Marcey Waters, Adam Melvin, Kaiulani Houston
9:10	(340-3)	A New Analytical Technique to Profile Multiple Steroids in Individual Female Zebrafish to Study Endocrine Disruption VINCENT T NYAKUBAYA, West Virginia University, Paige A Reed, William J Feeney, Regina Rockwell, Amber Kantes, Jennifer Ripley-Stueckle, Lisa A Holland
9:30	(340-4)	A Miniaturized Immunoaffinity Capillary Electrophoresis Based-Biomarker Analyzer for Bioanalytical Applications NORBERTO A GUZMAN, Princeton Biochemicals, Inc., Daniel E Guzman
9:50		Recess
10:05	(340-5)	Electrophoretic Technologies for Catecholamine Detection MAOJUN GONG, Wichita State University, Qiyang Zhang, Maddukuri Naveen
10:25	(340-6)	Integrating Microscale Enzyme Reactions Into Capillary Separation SRIKANTH GATTU, West Virginia University, Cassandra Crihfield, Lisa A Holland, Anthony Moncrief
10:45	(340-7)	Investigation of Oxidative Metabolism by Electrochemistry/Capillary Electrophoresis/Mass Spectrometry Using a Novel Sheathless Interface Design NHAN TO, University of Kansas, Ryan T Johnson, John Stobaugh, Craig E Lunte
11:05	(340-8)	Manipulation of the EOF in Phospholipid Coated Capillaries Through the Incorporation of Different Metal Cations CHRISTOPHER R HARRISON, San Diego State University, Shane Wells, Eduardo De La Toba, Srilatha Vydhya

ORAL SESSIONS

Session 350

Data Analysis and Manipulation

Monday Morning, Room B301

A Peter Snyder, Retired Government, Presiding

8:30	(350-1)	Quantitative Evaluation of Spectral Interferences in Atomic Emission Spectroscopy MATTHIEU BAUDELET, University of Central Florida, Jessica Chappell, Brandon Seesahai, Martin Richardson, Michael Sigman
8:50	(350-2)	Comparison of Various Methods for the Determination of Uncertainty due to Long Term Stability DANIEL BIGGERSTAFF, o2si Smart Solutions, Huichen Stavros, Mark Filla
9:10	(350-3)	Lifecycle of Analytical Methods: Development of Equivalent Dissolution Methods for Immediate-Release Oral Dosage Forms Post-Approval IVELISSE COLON, Vertex Pharmaceuticals, Taryn Ryan, Joseph Medendorp
9:30	(350-4)	Investigating Robustness and Ruggedness of Analytical Methods Employing aQBD Principles PETER ANDREAS LUND JACOBSEN, Fertin Pharma
9:50		Recess
10:05	(350-5)	Chemometrics for Big Data ROBERT A LODDER, University of Kentucky, Anne Brooks
10:25	(350-6)	Air Quality Networks- Results from Validation and Lessons on Calibration JOHN R SAFFELL, Alphasense Ltd., Roderic L Jones
10:45	(350-7)	Using Prior Probabilities to Increase the Confidence of Chemical Identification TYLER A ZIMMERMAN, NIST, Tytus D Mak, W Gary Mallard, Nirina R Andriamaharavo, Dmitrii V Tchekhovskoi, Stephen E Stein
11:05	(350-8)	Applied Analytics: Using Performance-Based Analytical Test Methodology for Monitoring Laboratory Methods Required by EPA Tier III Standards JOHN MAURER, Valero

ORAL SESSIONS Session 360

Environmental LC

Monday Morning, Room B408

Ariel Donovan, Missouri University Science and Technology, Presiding

8:30	(360-1)	Intrigues of Analyte Peak Distortion in Ion Chromatography by Overloaded Matrix Ions –Trace Analysis of Bromate in High Ionic Strength Samples MICHAEL K PAPPPOE, University of Alberta, Mohammad H Naeeni, Charles A Lucy
8:50	(360-2)	Multi-Dimensional Ion Chromatography for Trace Ion Analysis RONG LIN, Thermo Fisher Scientific, Kannan Srinivasan, Herb Wagner
9:10	(360-3)	Assessment of Amino Acid Stability in the Early Oceans by Liquid Chromatography-Mass Spectrometry ERIC T PARKER, Georgia Institute of Technology, Karen L Britton, Aaron S Burton, Daniel P Glavin, Jason P Dworkin, Jeffrey L Bada
9:30	(360-4)	Increase Sample Productivity in the Environmental Lab with High Pressure Ion Chromatography FRANK HOEFLER, Thermo Fisher Scientific, David G Moore, Yan Liu
9:50		Recess
10:05	(360-5)	A Novel Cation Exchange Stationary Phase for Analysis of Common Cations and Amines Using Ion Chromatography MANI JAYARAMAN, Thermo Fisher Scientific, Christopher Pohl, Charanjit Saini, Yan Liu
10:25	(360-6)	Effects of Titanium Dioxide Nanoparticles on Endocrine Disruption in Zebrafish MARRIAH ELLINGTON, West Virginia University, Cassandra Cribfield, Sara Melow, Lisa A Holland
10:45	(360-7)	Trace Analysis of Guanidine Compounds in Surface Water with Resorcinarene-Based Ion Chromatography Columns ROGER G HARRISON, Brigham Young University, Tayyabeh Panahi, John Lamb
11:05	(360-8)	Analysis of Molecular Markers of Animal Waste by LC-MS/MS SREE HARSHITHA VELAGA, Tennessee Technological University, Sreedharan Lakshmi Narayanan, John Harwood

ORAL SESSIONS Session 370

Fluorescence and Luminescence Advances

Monday Morning, Room B315

Chenzhong Li, Florida International University, Presiding

8:30	(370-1)	Measuring Displacement on the Micron Scale: Novel Luminescent Spectral Rulers for Orthopedic Applications MELISSA M ROGALSKI, Clemson University, Donald Benza, Hunter Pelham, Nakul Ravikumar, Dakotah Anderson, Johnathan Heath, John D DesJardins, Jeffrey N Anker
8:50	(370-2)	Simplified Two-Photon Synchronous Scanning Fluorescence for Resolution of Co-Localized Emitters CHRISTOPHER K ALMLIE, Oregon State University, Sean M Burrows, Kuan-Jen Chen, Karan A Patel
9:10	(370-3)	Development of Chitosan-Modified Near Infrared Fluorescent Graphene Oxide Nanocomposite MINH H DUONG, University of North Dakota, Steve Xu Wu, Julia Xiaojun Zhao
9:30	(370-4)	Studying Chemical Reaction, Mass Transport and Their Coupling in 3D Multi-layer Catalysts at Single-Molecule Level BIN DONG, Georgia State University, Chen Y Pei, Xiao X Chao, Wen Y Huang, Ning Fang
9:50		Recess
10:05	(370-5)	Slowing Down of Nanoparticle Diffusion on Sub-Micrometer Oil Droplet-Aqueous Buffer Interface Studied with Three Dimensional Tracking YANING ZHONG, North Carolina State University, Luyang Zhao, Gufeng Wang
10:25	(370-6)	Two-Photon Metal Enhanced Fluorescence Properties of Gold Nanostars LIXIA ZHOU, Oregon State University, Sean M Burrows
10:45	(370-7)	DNA-Aligner Controlled Nicking and Extension for Isothermal Amplification of Nucleic Acids TAO ZHANG, Zhejiang University
11:05	(370-8)	Construction of Convenient Biosensors Based on Optical Techniques QIAOLI YUE, Liaocheng University, Chenzhong Li

ORAL SESSIONS Session 380

FTIR and Terahertz Applications

Monday Morning, Room B316

Chin I Shyr, The Pittsburgh Conference, Presiding

8:30	(380-1)	EPA Methods 320 and 18 by Portable GC/FTIR for Total Source Emission Determination MARTIN L SPARTZ, Prism Analytical Technologies, Inc., Anthony S Bonanno, Charles Mark Phillips, Peter P Behnke, Kelly R McPartland
8:50	(380-2)	A Novel Infrared Interferometer Suitable for 3D Infrared Hyperspectral Imaging RYUJI TAO, Kagawa University, Akira Nishiyama, Kenji Wada, Ichiro Ishimaru
9:10	(380-3)	New Methodology for Finding Optimal Spectral Matches in Reference Databases GREGORY BANIK, Bio-Rad Laboratories, Inc., Ty Abshear, Karl Nedwed
9:30	(380-4)	Experimental Optimization of IR pMAIRS Using A New Analytical Concept TAKESHI HASEGAWA, Kyoto University, Nobutaka Shioya, Takafumi Shimoaka, Miyako Hada
9:50		Recess
10:05	(380-5)	ATR-FTIR Spectroscopic Imaging of Pharmaceutical Formulations Under Continuous Flow SERGEI KAZARIAN, Imperial College London, Andrew Ewing
10:25	(380-6)	Advances in Pattern Recognition for the Remote Detection of Sulfur Dioxide by Passive Infrared Spectrometry BRIAN W DESS, University of Iowa, Gary W Small
10:45	(380-7)	Demonstration of Detection of Hidden Persons and Illegal Substances with an Array of Quantum Cascade Lasers and Cantilever Enhanced Photoacoustic Spectroscopy SAULI SINISALO, Gasera Ltd., Ismo Kauppinen
11:05	(380-8)	Measurement of Trace HF in Clean Rooms and Ambient Air ISMO KAUPPINEN, Gasera Ltd., Tuomas Hieta, Timo Rajamäki, Sauli Sinisalo

ORAL SESSIONS Session 390

GCMS of Environmental Analysis

Monday Morning, Room B401

Archana Kumar, Genentech, Presiding

8:30	(390-1)	Continuous Monitoring of Polycyclic Aromatic Hydrocarbons Using Automatic Thermal Desorption-Gas Chromatography FRANCK AMIET, Chromatotec Inc., Michel Robert, Damien Bazin
8:50	(390-2)	Method Development for Evaluation of Pesticides Residue in Lake Lanier-Georgia Gwinnett County's Drinking Water Resource Using Disposable Pipette Extraction (DPX) and Gas Chromatography-Mass Spectrometry (GC-MS) HONGXIA GUAN, Georgia Gwinnett College, Huang Wenlin, Xiaoping Li, Simon Mwongela, Rashad Simmons
9:10	(390-3)	Overcoming Cost and Supply: Let's Use Nitrogen LEE MAROTTA, PerkinElmer, Jacob Rebholz, Roger Bardsley, Tom Hartlein
9:30	(390-4)	Analytical Method Development for 2,4,6,8-Tetrachlorodibenzothiohophene (TCDT) in River Sediments Utilizing GCxGC-TOFMS and APGC-TQS MAURA K MCGONIGAL, Penn State, Frank Dorman, Kari Organtini, Robert Parette, Wendy Pearson, Doug Stevens, Adam Ladak
9:50		Recess
10:05	(390-5)	A Kendrick Mass Defect Approach Towards the Characterization of Hydraulic Fracturing Fluids PAULINA PIOTROWSKI, The Pennsylvania State University, Frank Dorman, Jonathan D Byer, Joseph E Binkley
10:25	(390-6)	Collaboration of Government (EPA), Industry, Academia to Update EPA Method 625 to Solid Phase Extraction for Drinking and Wastewater Analysis Combining Stir-Bar Sorptive Extraction and EPA Method 6800 ANIL SRINIVAS CHAITANYA VISHNUVAJHALA, Duquesne University, Weier Hao, Matt Pamuku, Andrew Boggess, Mizanur Rahman, Skip Kingston, David Singer, Ed Pfannkoch
10:45	(390-7)	Analysis of Vapor Mercury in Ambient Air and Flue Gas Emissions Using Thermal Desorption Trap Hyphenated with Gas Chromatography/Mass Spectrometry PAOLO BENEDETTI, IIA - CNR, Carlo Crescenzi, Ettore Guerriero
11:05	(390-8)	Soil Gas: Are Targets Being Missed? LEE MAROTTA, PerkinElmer, Roberta Provost

TECHNICAL PROGRAM

ORAL SESSIONS

Session 400

Innovative Approaches to Science Education - Half Session

Monday Morning, Room B409

Hubert MacDonald, The Pittsburgh Conference, Presiding

8:30	(400-1)	Teaching Through Research (Mini) Projects of Industrial Relevance JURICA BAUER, Inholland, Rosalba Bellini, Gertjan Heijne, Mark Jansen, Iris Kuiper, Maarten Kuiper, Lieke van Hemert, Mark Verheij, John Vessies, Niek Persoon
8:50	(400-2)	Promote Science Education Through Collaborative Learning YI HE, John Jay College/CUNY, Sandra Swenson
9:10	(400-3)	Open Source Instruments for Environmental Monitoring and Science Education JACK SUMMERS, Western Carolina University, Benjamin Hickman
9:30	(400-4)	Application of Environmental Data for Public Health Response Actions JAMES S HOLLER, ATSDR

ORAL SESSIONS

Session 410

Microfluidics/Lab-on-a-Chip - Bioanalytical and Others

Monday Morning, Room B406

Vishal Sahore, Brigham Young University, Presiding

8:30	(410-1)	Droplet Microfluidic Device: Application of Nucleosome Preparation to Nucleosome Analysis YI XU, University of Illinois at Urbana-Champaign, Richard M Graybill, Mallika V Modak, Jeong-Heon Lee, Tamas Ordog, Ryan C Bailey
8:50	(410-2)	3D-Printed Analytical Devices Facilitate Investigation of Stored Erythrocytes Used in Transfusion Medicine CHENGPENG CHEN, Saint Louis University, Dana Spence, R Scott Martin
9:10	(410-3)	Investigation of Bacterial Behavior in Water Filtration Processes by Using Nanofluidic Devices NIL TANDOOGAN, Northeastern University, Kai-Tak Wan, Edgar D Goluch
9:30	(410-4)	A Novel Chemiluminescence Signal Amplification Strategy Based on Microchip Electrophoresis Platform for Highly Sensitive MicroRNA Detection SHULIN ZHAO, Guangxi Normal University, Jian Li, Jingjin Zhao, Yong Huang, Yi-Ming Liu
9:50		Recess
10:05	(410-5)	Singe Molecule Nanoelectrophoresis within Thermoplastics COLLEEN ONEIL, University of North Carolina at Chapel Hill, Swathi Pullagurla, Steven A Soper
10:25	(410-6)	Parallel Functionality Determination of shRNA Knockdown Constructs Using Microfluidic Technologies KRISTEN ENTWISTLE, Michigan State University, Dana Spence
10:45	(410-7)	A Universal Droplet Microfluidic Strategy for On-Chip Operations Including Reagent Injection, Sample Washing, and Droplet Tagging STEVEN R DOONAN, University of Illinois at Urbana-Champaign, Richard M Graybill, Dongkwan Lee, Yi Xu, Ryan C Bailey
11:05	(410-8)	Reversible Wettability Switching in Fabric-Based Microfluidic Devices TANYA NARAHARI, Northeastern University, Dhananjaya Dendukuri, Tripurari Choudhary, Shashi K Murthy

ORAL SESSIONS

Session 420

Neurochemistry

Monday Morning, Room B402

Rose Ann Clark, Saint Francis University, Presiding

8:30	(420-1)	Fast-Scan Cyclic Voltammetry Measurements of Serotonin Release and Reser Pools in R6/2 Huntington's Disease Model Mice RACHEL C GEHRINGER, The University of Kansas, Sam V Kaplan, Sarah Fantin, Michael A Johnson
8:50	(420-2)	Combining Voltammetry, Mathematical Modeling and 2-Photon Microscopy to Correlate In Vivo Serotonin Chemistry to Physiology AYA ABDALLA, University of South Carolina, Christopher W Atcherley, Yunju Jin, Michael L Heien, Janet Best, Michael C Reed, David Linden, Parastoo Hashemi
9:10	(420-3)	Coregulation of Serotonin and Histamine in the Mouse Premammillary Nucleus SRIMAL A SAMARANAYAKE, University of South Carolina, Aya Abdalla, Rhiannon Robke, H Frederick Nijhout, Michael C Reed, Janet Best, Parastoo Hashemi

9:30	(420-4)	Application of In Vivo Fast-scan Cyclic Voltammetry to Examine the Impact of (+)-Methamphetamine of the Regulation of Norepinephrine and Dopamine KEN WAKABAYASHI, State University of New York at Buffalo, Jinwoo Park
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9:50		Recess
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10:05	(420-5)	Characterization of Spontaneous Transient Adenosine in Rat Brain Slices SCOTT T LEE, University of Virginia, B Jill Venton
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10:25	(420-6)	Comparing Contralateral Catecholamine Release with Simultaneous Voltammetric Measurements MEGAN E FOX, University of North Carolina at Chapel Hill, R Mark Wightman
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10:45	(420-7)	Insights into the Effects of Non-stimulant ADHD Drugs on Catecholamine Transmission in the Rat Brain Using In Vivo Fast-scan Cyclic Voltammetry ROHAN BHIMANI, The State University of New York at Buffalo, Jinwoo Park
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11:05	(420-8)	Investigation of Enkephalin-Evoked Catecholamine Secretion in Adrenal Tissue by Fast-Scan Cyclic Voltammetry LARS DUNAWAY, North Carolina State University, Leslie A Sombers
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ORAL SESSIONS

Session 430

Pharmaceutical-GC and LC

Monday Morning, Room B403

Sam Subramaniam, Miles College, Presiding

8:30	(430-1)	Analyte Stability and Side Reactions During Pharmaceutical Analysis LEAH XIONG, Merck Co., Nathan D Contrella, Leih-Shan Yeung, Cory Bottone, Brian Regler, Justin Pennington, Eugenia Muschajew
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8:50	(430-2)	A New Tool for Residual Solvent Analysis of Technical Grade Hexanes KENNETH G LYNAM, Agilent Technologies, John Oostdijk, Johan Kuipers, Ramaprasad Ganni
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9:10	(430-3)	Development and Validation of a Fast Ion-Paired Reversed Phase Stability-Indicating Method for the Assay of Thiabendazole and Estimation of its Related Compounds PENG ZHANG, Merial, A Sanofi Company, Jingzhi Tian, Abu Rustum
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9:30	(430-4)	Determining Lithium in Pharmaceutical Products SACHIN P PATIL, Thermo Fisher Scientific, Jeffrey Rohrer
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9:50		Recess
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10:05	(430-5)	Two Dimensional Liquid Chromatography (2D-LC), A "Must-Have" Tool in Pharmaceutical Development, When 1D-LC is Inadequate IMAD A HAIDAR AHMAD, Novartis, Adrian Clarke, James Tam, Xue Li, Thomas Tarara, Andrei Blasko
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10:25	(430-6)	Enantioresolution of Several Amino Alcohol Drugs Containing Multiple Stereogenic Centers Using Immobilized Polysaccharide-Based HPLC Chiral Stationary Phases MOHAMED HEFNAWY, King Saud University
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10:45	(430-7)	Introducing Modern LC Column Technology into a Research-Led Pharmaceutical Teaching Environment WILLIAM J LOUGH, University of Sunderland
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11:05	(430-8)	Improved Gas Chromatographic (GC) Quantification of Acidic and Neutral Cannabinoids AMANDA RIGDON, Restek Corporation, Jack Cochran, Joan Serdar, Corby Hilliard, Linx Waclaski, Rebecca Stevens
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ORAL SESSIONS

Session 440

Synthesis and Characterization of Nano Particles

Monday Morning, Room B405

Ashish Tripathi, Leidos, Inc., Presiding

8:30	(440-1)	Antibacterial Activities and Cytotoxicity of Green Synthesized Stable Gold Nanoparticles from Flavonoid Derivatives FRANCIS JUMA OSONGA, Binghamton University, Idris Yazgan, David C Luther, Apryl P Jimenez, Phuong N Lee, Omowunmi Sadik
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8:50	(440-2)	Wavelength Selective Photocatalysis Using Gold-Platinum Nano-Rattles MAHMOUD MAHMOUD, Georgia Institute of Technology, Batyr Garlyyev, Mostafa A El-Sayed
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9:10	(440-3)	Reversible Electron Delocalization of Molecule-Like CdSe Nanoclusters Using Z-Type Ligand Functionalization KATIE N LAWRENCE, Indiana University-Purdue University Indianapolis
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9:30	(440-4)	Characterization Techniques for Nanomaterials – An Overview CHADY STEPHAN, PerkinElmer
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9:50		Recess
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10:05	(440-5)	A Novel Nanoparticle Tracking Analysis System for Improved Determinations of Nanoparticle Concentration and Size Distribution DARIUSZ STRAMSKI, Manta Instruments Inc, Kuba Tatarikiewicz, Rick A Reynolds, Monette Karr, Rick Cooper
10:25	(440-6)	Coupled Calorimetric-Manometric Technique for the Study of Sorption and Thermodynamic Properties of Macroscopic and Nanosized Materials KRISTINA LILOVA, Setaram Inc., Link Brown
10:45	(440-7)	Exploring the Effects of Surface Ligand Structural Parameters on Exciton Delocalization of CdSe Nanocrystals MEGHAN TEUNIS, Indiana University-Purdue University Indianapolis
11:05	(440-8)	Metallic and Hybrid Nanomaterials: Fabrication and Applications SIMONA HUNYADI MURPH, Savannah River National Lab

POSTER SESSION

Session 450

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Agriculture

Monday Morning, Exposition Floor, 400 Aisle

(450-1 P)	Growth Performance of Chicory to Plant Growth Regulators RAMESHBHAI P DABHI, J & J College of Science, Alpesh M Patel, Maheshkumar B Chauhan
(450-2 P)	Analysis of Sugarcane Growing Soils at Kakamega North District Kenya for Micro and Macro Nutrients ONDITI O ANAM, Jomo Kenyatta University of Agriculture and Technology
(450-3 P)	Fast and Precise Nitrogen and Carbon Determination Using an Elemental Analyzer GUIDO GIAZZI, Thermo Fisher Scientific, Liliana Krotz, Francesco Leone, Dominique Chevalier
(450-4 P)	Carbon/Nitrogen Ratio in Soils and Plants Using an Elemental Analyzer GUIDO GIAZZI, Thermo Fisher Scientific, Liliana Krotz
(450-5 P)	Development of Electrochemical Detection System Combining with Nitrocellulose Membrane for Quantitative Immunochromatography WATARU IWASAKI, Natl. Inst. Adv. Ind. Sci. Technol. (AIST), Mizuki Ryu, Ramachandra Rao Sathuluri, Ryoji Kurita, Osamu Niwa, Masaya Miyazaki

POSTER SESSION

Session 460

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Clinical/Toxicology

Monday Morning, Exposition Floor, 400 Aisle

(460-1 P)	Benzo[a]pyrene Levels in Mainstream Smoke from Spectrum Research Cigarettes JARED HUGHES, Centers for Disease Control and Prevention, Wayne Chen, Bryan Hearn, Shirley Ding, Clifford Watson
(460-2 P)	Selected Carbonyl Levels in Mainstream Smoke from Spectrum Research Cigarettes MICHELE CHAN, Centers for Disease Control and Prevention, Shirley Ding, Clifford Watson, Xizheng Yan
(460-3 P)	Absolute Quantification of Apolipoproteins in Serum and the Efficacy of Trypsin While Utilizing Ultra Performance Liquid Chromatography - Isotope Dilution Mass Spectrometry (UPLC-IDMS) MICHAEL L ANDREWS, Centers for Disease Control and Prevention, Bryan A Parks, Christopher Toth, Jeffrey Jones, Kuklenyik Zsuzsanna, Michael S Gardner, Jon Rees, David Schieltz, John R Barr
(460-4 P)	Mainstream Smoke Deliveries of Tobacco Specific Nitrosamines in Spectrum Clinical Research Cigarettes PATRICK CHEN, Centers for Disease Control and Prevention, Clifford Watson, Shirley Ding, Liqin Zhang, Josh Wong
(460-5 P)	Separation of Vitamin D2 and D3 for Clinical Application MARK WOODRUFF, Fortis Technologies, Ken Butchart
(460-6 P)	Measurement of Ammonia Emanating from Human Skin as a Possible Biomarker for Physical/Mental Stress Responses SHOTA FURUKAWA, Tokai University, Minami Takahashi, Keita Kimura, Shiro Ikeda, Yoshika Sekine, Asai Satomi, Umezawa Kazuo, Hayato Miyachi
(460-7 P)	Measurement of Acetic Acid Emanating from Human Skin as a Potential Biomarker for Quality of Sleep MINAMI TAKAHASHI, Tokai University, Furukawa Shota, Keita Kimura, Yoshika Sekine, Satomi Asai, Kazuo Umezawa, Miyachi Hayato
(460-8 P)	LC-MS/MS Determination of Interactions Between Sunitinib and Green Tea Polyphenol by Equilibrium Dialysis MATTHEW VERGNE, Lipscomb University, Lincoln Shade

(460-9 P)	Identification of Hypocretin-1 in Cerebrospinal Fluid: A Potential Diagnostic Biomarker for Narcolepsy HEMASUDHA CHATRAGADDA, Duquesne University, Skip Kingston, Birgitte R Kornum, Matt Pamuku
(460-10 P)	ICP-MS – A Perfect Tool for the Bio-monitoring of Trace Elements in Body Fluids EWA M PRUSZKOWSKI, PerkinElmer, Inc.
(460-11 P)	Incorporation of Amphiphilic Dendrimers in Supported Lipid Bilayers to Enhance Stability and Functionalization CHARLES J RUIZ, University of California, Riverside, Samuel S Hinman, Quan Cheng, Ling Peng
(460-12 P)	Chiral Capillary Electrophoresis-Mass Spectrometry: Turning an Analytical Technique into High Throughput Screening of Chiral Compounds Using Novel Polymerized beta-D-Glucopyranoside Surfactants LIU YIJIN, Georgia State University, Shahab S Shamsi
(460-13 P)	Measurement of Diacetyl and 2-Nonenal Emanating from Human Skin by Passive Flux Sampler KEITA KIMURA, Tokai University, Shota Furukawa, Minami Takahashi, Yoshika Sekine, Kazuo Umezawa, Satomi Asai, Hayato Miyachi
(460-14 P)	Aptamer-Modified Gold Nanoparticles Coupled with Nitrocellulose Membranes for Detection of Thrombin by LDI-MS CHIA-YIN CHANG, National Taiwan Ocean University
(460-15 P)	On-line Membrane Assisted Distillation Coupled with Ion Chromatography: A Novel Approach to Determine Trace Fluoride in Serum LOU CHAOYAN, Zhejiang University
(460-16 P)	SERS Probe for Rapid Detection of Erythropoietin in Urine UGUR TAMER, Gazi University, Yesim Selbes, Gokhan M Caglayan, Nejedt Saglam
(460-17 P)	Electrochemical Measurement of Thyroid Hormone for Rapid Diagnostics Technology BARBARA CATA, Northern Kentucky University, Celeste A Morris
(460-18 P)	Forensics Meets Green Chemistry: Removing Known Carcinogens from Blood Alcohol Content Protocols for Safer Applied Spectroscopy Laboratories SARAH E GRAY, Armstrong State University, Mathew Holmes
(460-19 P)	Preparation and Evaluation of Nifedipine-Cyclodextrin Complex Microspheres with In-Vitro Studies SUNILKUMAR H CHAUDHARI, Mantri Health Care, Shailesh Jain
(460-20 P)	A Rapid and Sensitive SERS Based Measles Detection RAMESH KATTUMENU, Argent Diagnostics Inc
(460-21 P)	The Efficiency of Multi-Sample Analysis Using Dual Gradient LCMS System WATANABE SATORU, Shimadzu Corporation, Nakayama Daisuke, Yamaguchi Tadayuki, Inohana Yusuke

POSTER SESSION

Session 470

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Drug Discovery

Monday Morning, Exposition Floor, 400 Aisle

(470-1 P)	Automated Mass-Directed Purification of Bioactive Peptides LAINE STEWART, Gilson, Inc., Luke Roenneburg, Karen Klemann
(470-2 P)	Synthesis of Nanosized Poly B-aminoester Holding Chlorambucil Drug as Slow Release Drug System for Antitumor FAHIMA MOSAAD HELALY, National Research Centre (NRC)
(470-3 P)	Synthesis, Characterization and Antibacterial Studies of Cobalt Complexes of Isomeric Aminophenol Schiff Bases TOLUOLOPE M FASINA, University of Lagos, Felicia N Ejiah, Oluwale B Familoni, Neerish Revaprasadu
(470-4 P)	Mass Spectral and Chromatographic Studies on Substituted Cathinones: Bath Salt-type Aminoketone Designer Drugs YOUNIS ABIEDALLA, Auburn University, Randall Clark, Jack DeRuiter, Karim Abdel-Hay
(470-5 P)	An In Vitro Microfluidic Platform to Unravel Mechanisms of Action of Drug Therapies used in Multiple Sclerosis TIFFANY BELL, Michigan State University, Dana Spence
(470-6 P)	Streamlining Compound Isolation Automatically with UPLC to Prep Chromatography Using Mass-Directed Auto Purification JO-ANN M JABLONSKI, Waters Corporation, Andrew J Aubin, Wendy Harrop, Thomas E Wheat
(470-7 P)	Phytochemical Screening and Antimicrobial Activity of <i>Boerhavia Verticillata Poir.</i> and <i>Fagonia Schweinfurthii Hadidi</i> YAMINI A JOSHI, M G Science Institute
(470-8 P)	Aluminum-Based MOF Composite as Polymer Monoliths for Microextraction of Sulfonamides YUNG-HAN SHIH, Chung Yuan Christian University, Kuen-Yun Wang, Hsi-Ya Huang
(470-9 P)	Preparation and Study of Tramadol Imprinted Micro- and Nanoparticles by Precipitation Polymerization: Microwave Irradiation and Conventional Heating Method MARYAM HASSANPOUR MOGHADAM, Pharmaceutical Research Center, School of Pharmacy
(470-10 P)	Spectral Characterization of Cytochrome P450cam Active Site Using NMR Methods Including ¹³C-Doubled Filtered ¹H-¹H Noesy Experiments for Mapping Distances REMIGIO USAI, Marquette University, James R Kincaid, Daniel S Sem, Daniel Kaluka

TECHNICAL PROGRAM

- (470-11 P) **Synthesis, Anti-TB and Crystallography of Benzothiazole Analogues** KATHARIGATTA NARAYANASWAMY VENUGOPALA, King Faisal University, Al-Dhubeab Bander
- (470-12 P) **Inhibition of Human Cytochrome P450 Enzymes by Rottlerin, A Naturally Occurring Constituent of Mallotus Philippensis Using an In-Vitro Cocktail Approach and Liquid Chromatography-Tandem Mass Spectrometry** ATUL S RATHORE, Bharati Vidyapeeth Deemed University, L Sathiyarayanan, Kakasaheb R Mahadik
- (470-13 P) **Photostability of Pharmaceutical Drug Substance as Free Acid and Salt** JENNY WANG, Genentech Inc., Geoffrey Yeh, Lulu Dai, Christine Gu, Kelly Zhang

POSTER SESSION

Session 480

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Food Safety

Monday Morning, Exposition Floor, 400 Aisle

- (480-1 P) **Analysis of Local Brews in Jua, Kiambu County, Kenya, for Methanol and Ethanol by Gas Chromatography** ONDITI O ANAM, Jomo Kenyatta University of Agriculture and Technology, Momanyi M Moraa
- (480-2 P) **Cannabinoids and Residual Solvents by Headspace GC** TIM ANDERSON, Phenomenex, Kristen Parnell, Ramkumar Dhandapani
- (480-3 P) **Melamine in Pet Food** TIM ANDERSON, Phenomenex, Kristen Parnell, Ramkumar Dhandapani
- (480-4 P) **Impact of HPLC Stationary Phase Selection on Matrix Effects During LC-MS/MS Analysis of Multiple Mycotoxins in Corn** EMILY R BARREY, Supelco/Sigma-Aldrich, Lynne Perez-Blanco, Olga I Shimelis, Michael Ye, Jennifer Claus
- (480-5 P) **UHPLC/MS/MS Analysis of Lipophilic Marine Toxins from Homogenized Shellfish** EMILY R BARREY, Supelco/Sigma-Aldrich, Olga I Shimelis, Michael Ye, Jennifer Claus
- (480-6 P) **Utilizing Mass Spectrometry for Gluten Detection for Use in Gluten-Free Foods** SOPHIE BROMILOV, University of Manchester, Lee Gethings, Peter Shewry, Michael Buckley, Michael Bromley, Phil Johnson, Clare Mills
- (480-7 P) **Easy Development of an MRM Method for Analysis of Environmental Contaminants in Milk Using SPME and GC-MS/MS** NICOLE M LOCK, Shimadzu Scientific Instruments, Di Wang, Laura Chambers, Brahm Prakash, Robert Clifford, Shilpi Chopra
- (480-8 P) **Analysis of Target Pesticides in Essential Oils Using a Novel GC/MS/MS System** THOMAS DILLON, PerkinElmer, Samuel Tolley, Adam J Patkin, Sharanya Reddy
- (480-9 P) **A Raman Spectroscopic Method for Determination of Erucic Acid in Canola Oils** ELIF ERCIOGLU, Hacettepe University, Ismail H Boyaci, Tumay H Temiz, Serap Durakli Velioglu, Murat H Velioglu
- (480-10 P) **Multiple Foodborne Pathogen Analysis Using a 96-Well Assay in Less than 5 Hours** STUART FARQUHARSON, Real-Time Analyzers, Inc, Chetan Shende, Kathryn Dana
- (480-11 P) **Stand-Off Raman Detection of Adulteration in Honey** KENNETH GARCIA, Alabama A&M University, Carlton Farley, Aschalew Kassu, Anup Sharma
- (480-12 P) **Evaluating the Extraction Efficiency of Food Borne Pathogens on Automated Homogenizer Platforms** SHARI GARRETT, Omni International, James Atwood, Brandon Easparro
- (480-13 P) **Nitrogen/Protein Determination in Infant Food by Dumas Combustion Method in Alternative to Kjeldahl Method** GUIDO GIAZZI, Thermo Fisher Scientific, Liliana Krotz
- (480-14 P) **Non-Targeted Screening of Nutritional Supplements with GC, GC×GC, TOFMS, and HR-TOFMS** ELIZABETH M HUMSTON-FULMER, Leco Corporation, David E Alonso, Jonathan D Byer, Joseph E Binkley, Lorne E Fell
- (480-15 P) **Synthesis, Physico-Chemical Characterization and Potential Biological Activity of Newly Synthesized Cu(II) and Ni(II) Complexes of N-(Benzyloxycarbonyl)-1H-pyrazole-1-Carboxamide (HL) ligand** ZELJKO JACIMOVIC, Faculty of Metallurgy and Technology, Milica Kosovic, Goran Bogdanovic, Slađana Novakovic, Nedeljko Latinovic, Gerald Giester
- (480-16 P) **Combining SERS with Liquid-Liquid Extraction Method for Simple, Rapid Detection of Rhodamine B in Raw Food** HUAIZHI KANG, Xiamen University
- (480-17 P) **Concurrent High Sensitivity Conductometric Detection of Sulfide and Cyanide in a Suppressed Anion Chromatography System** HONGZHU LIAO, University of Texas at Arlington, Purnendu Dasgupta, Akinde Kadjo
- (480-18 P) **A Computational Study Assisted Nano-Aptasensor for Detection of Tetracycline in Honey with a DNA Aptamer** SAI WANG, Beijing University of Chemical Technology
- (480-19 P) **Simple, Rapid Extraction of Chlorinated Pesticides in Poultry Fat by Solid Phase Extraction and GC/ECD** ALLEN MISA, Phenomenex, Ramkumar Dhandapani, Tim Anderson

- (480-20 P) **Approaches to Measuring both Trace and Nutritional Elements in Food in a Single Analysis by ICP-MS** KENNETH NEUBAUER, PerkinElmer, Stan Smith
- (480-21 P) **Comparative Evaluation of the Antibacterial Activities of the Essential Oils of Rosmarinus Officinalis L. Obtained by Hydrodistillation and Solvent Free Microwave Extraction Methods** OMOBOLA OLURANTI OKOH, University of Fort Hare
- (480-22 P) **Impact of Thermal Processing on the Solubility and Detection of Peanut Allergens Using LC-MS/MS based Targeted Proteomics with Multiple-Reaction Monitoring (MRM)** REBEKAH L SAYERS, University of Manchester, Phil E Johnson, Justin T Marsh, Clare Mills, Helen Brown
- (480-23 P) **Measurement of Arsenic in Wine by Hydride Generation – Flame Atomic Absorption** NICK SPIVEY, PerkinElmer Inc., Kenneth Neubauer, Stan Smith
- (480-24 P) **Determination of Organic Tin Pesticides in Fruits and Vegetables by Gas Chromatography Coupled to Tandem Mass Spectrometry** XIAOBO LIU, Shimadzu
- (480-25 P) **Determination of 198 Pesticide Residues in Eggplant Using Gas Chromatography Tandem Mass Spectrometry/Mass Spectrometry (GCMS/MS)** WANG YAN, Shimadzu
- (480-26 P) **A Direct Ultra-Performance Liquid Chromatography-Mass Spectrometry Method for the Simultaneous Quantitation of Fatty Acids in Olive Oils of Different Origins** ZEID ABDULLAH ALLOTHMAN, King Saud University
- (480-27 P) **Development of On-Line SFE-SFC System and Its Application for Food Contaminant Analysis** SHIN-ICHI KAWANO, Shimadzu (China) Co., Ltd., Xiaohua Liu, Lingling Shen, Yan Wang, Taohong Huang, Naoki Hamada, Yuki Hashi
- (480-28 P) **High Resolution Accurate Mass (HRAM) Collision Energy Profile of Residues of Concern for Food Safety** DANIEL BIGGERSTAFF, o2si Smart Solutions, Huichen Stavros, Min Cai
- (480-29 P) **Quantification of Pesticide Residues in Fruits and Vegetables by Gas Chromatography - Mass Spectrometry** KAELBY SUCHEVITS, California University of PA
- (480-30 P) **Study of Sugar and Humectant Profiles in Smokeless Tobacco Products Using an LC-ESI-MS/MS Method** LIQUN WANG, Battelle, Roberto Bravo, Stephen Stanfill, Liza Valentin, Clifford Waston
- (480-31 P) **High-Throughput Screening of Domoic Acid in Shellfish by Laser Ablation Electrospray Ionization (LAESI)-MS** PEARSE MCCARRON, National Research Council, Kelley Reeves, Callee M Walsh, Pamela Cantrell, Wade A Rourke, Sinead O'Brien, Daniel Beach
- (480-32 P) **Development and Implementation of a Fast, Reliable and Sensitive Analytical Test for Determining Methylmercury in Fish** ANA MARIA MUÑOZ, Lasallian University, Claudio Jiménez, Daniel E León
- (480-33 P) **Characterization of Adulterated Argan Oil Using a Portable Gas Chromatography Mass Spectrometer** PRESHIOUS REARDEN, 1st Detect Corporation, Parminder Kaur
- (480-34 P) **A New Insight Into Fish Meat Freshness: ZnO/PPy Modified Biosensor** BUKET SAHYAR (YALCIN), Indesit Company, Merve Kaplan, Ahmet Yavas, Mehmet Ozsoz, Erdal Celik, Semih Otles, Ömer Mindivanli, Metin Ozgul

POSTER SESSION

Session 490

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Microfluidics/Lab-on-a-Chip

Monday Morning, Exposition Floor, 400 Aisle

- (490-1 P) **A Simple and Sensitive Paper-Based Device Coupling Electrochemical Sample Pretreatment and Colorimetric Detection** WILLIAM REIS DE ARAUJO, USP, Thalita G Silva, Thiago Paixao
- (490-2 P) **Mixing Reaction on Paper-Based Analytical Devices** CHING MAN CHOY, California State Polytechnic University, Pomona, Yan Liu
- (490-3 P) **Combining Vibrational Spectroscopy with Microfluidics** KATHLEEN E BERG, Colorado State University, Scott D Noblitt, Monpichar Srisa-Art, Amber T Krummel, Charles Henry
- (490-4 P) **Prostate Cancer Biomarker Detection Using a 16-Sensor Electrochemical Microfluidic Immunoarray** ABBY JONES, University of Connecticut, Brunah A Otieno, Colleen Krause, Mohammed Sherafeldin, Amit Joshi, James F Rusling
- (490-5 P) **Real-Time Profiling of Pancreatic Hormone Secretion Dynamics Using an in Flow Fluorescence Polarization Immunoassay** NIKITA MUKHITOV, Florida State University, Adrian M Schrell, Michael G Roper
- (490-6 P) **Alternating Current Driven Electroosmotic Pumping through Conical Pore Membrane** XIAOJIAN WU, University of Florida, Charles R Martin
- (490-7 P) **Two-Fold Control of Pressure and Flow-Rate for Flow Control and Quality Management in Fluidic Processes** ANNE LE NEL, Fluigent, Thibaut Thupnot, Benjamin Rouffet, Nicolas Petit

- (490-8 P) **A 3D-printed Device for High-Throughput Membrane-Based Cellular Analysis** RUIPENG MU, Michigan State University, Dana Spence
- (490-9 P) **3D-Printed Tools to Enhance Targeted Drug Therapy** CODY WAYNE PINGER, Michigan State University, Dana Spence
- (490-10 P) **Fluorescence-Based Quantification of Oxygen in Paper-Based Cultures of Mammalian Cells** MATTHEW W BOYCE, University of North Carolina at Chapel Hill, Andrew S Truong, Rachael M Kenney, Matthew R Lockett
- (490-11 P) **Methods for Quantifying Hypoxia and the Hypoxic Responses of Cells in Paper-Based Invasion Assays** ANDREW S TRUONG, University of North Carolina at Chapel Hill, Rachael M Kenney, Matthew W Boyce, Christian A Lochbaum, C Chad Lloyd, Matthew R Lockett
- (490-12 P) **A Microfluidic Copper Detection System Incorporating a Ratiometric Fluorescent Quantum Dot Pair** SUMATE PENG PUMKIAT, Oregon State University, Yuan Yuan Wu, Anukul Boonloed, Chandima Bandara, Vincent T Remcho
- (490-13 P) **Ultra-Thin Layer Chromatography with Integrated Silver Colloid-based SERS Detection** RYAN A WALLACE, University of Tennessee, Knoxville, Nickolay V Lavrik, Michael J Sepaniak
- (490-14 P) **Affinity Cell Separation Based on Surface Antigen Expression Difference in a Sequential Concentration Microfluidic Chip** YE ZHANG, Texas Tech University, Dimitri Pappas
- (490-15 P) **Microscale Size-Based Sorting with Capillary Electrophoresis and Phospholipid Additives** CASSANDRA CRIHFIELD, West Virginia University, Lisa A Holland
- (490-16 P) **Kinetic Characterization of Neurotransmitters Release from Neurons Cells Using MicroChip Electrophoresis-ESI/Mass Spectrometry** XIANGTANG LI, Jackson State University, Shulin Zhao, Yiming Liu
- (490-17 P) **High-Throughput Microfluidic Isolation and Analysis of Exosomes** KRISTINA M HERRERA, University of North Carolina at Chapel Hill, Steven A Soper
- (490-18 P) **Quick Production of Microfluidic Devices by Laser Engraving of Wax-Coated Glass Slides** MAURO SERGIO FERREIRA SANTOS, Clemson University, Eric T da Costa, Hong Jiao, Claudimir L do Lago, Ivano G R Gutz, Carlos D Garcia
- (490-19 P) **Microfluidic Platform for Mass Spectrometry-Based Monitoring of Protein-ligand Binding Dynamics** YONGZHENG CONG, Pacific Northwest National Laboratory, Cameron Trader, Ryan T Kelly, Daniel Orton, Erin S Baker, Tao Geng
- (490-20 P) **Low-Cost Microfluidic Devices for the Determination of Renal Health** CHRISTOPHER A HEIST, Oregon State University, Vincent T Remcho, Joel C Pommerenck

POSTER SESSION

Session 500

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Process Analytical Techniques

Monday Morning, Exposition Floor, 400 Aisle

- (500-1 P) **Characterization and Monitoring of Cavitation Through Its Acoustic Emission** NOEMIE CAILLOL, IDEEL, Franck Baco-Antonioli, Sebastien Leinardi, Sylvain Charquet, Serge Henrot, Pascal Pitiot, Davide Zonca, Christine Villard
- (500-2 P) **Monitoring of Tablet Coating Using Raman Spectroscopy** HOEIL CHUNG, Hanyang University, Jaemin Kim, Young Ah Woo
- (500-3 P) **Simple and Rapid Determination of Polyanion-Polycation Binding Ratio Using Pulsed Chronopotentiometry with Polyion-Selective Electrodes** EMMA GORDON, Northern Kentucky University, Kebede L Gemene
- (500-4 P) **How Can Your Process Benefit From External Flow Cells and Optimized Pump Heads?** KATHRYN E MONKS, Knauer, Ingo Piotrowski
- (500-5 P) **Applications of a New Wear Resistant, Chemically Inert Coating that Improves Reliability, Lifetime and Accuracy of Process, Analytical and Sampling Systems** LUKE PATTERSON, SilcoTek Corporation, Min Yuan, David Smith
- (500-6 P) **Withdrawn**
- (500-7 P) **Online Analysis Using LIBS for Industrial Process** RONALD BERGER-LEFEBURE, IVEA
- (500-8 P) **Non-Porous, No Glass, Leak-Free Reference Electrode** ZIAD H TAHA, Innovative Instruments, Inc.
- (500-9 P) **Suggested QC Practices for On-line Analyzers** WILLIAM LIPPS, Shimadzu Scientific Instruments
- (500-10 P) **A Novel Approach to Cleaning Validation for Pharmaceutical Manufacturing by Online SFE-SFC** KENICHIRO TANAKA, Shimadzu Scientific Instruments, Inc., William Hedgepeth, Daisuke Nakayama, Hidetoshi Terada, Minoru Nakashima, Tadayuki Yamaguchi

- (500-11 P) **Advances in Raman Analyzers for In Situ Studies of Small Volume Liquid-phase Reactors** LISA GANSTER, Kaiser Optical, Ian Lewis
- (500-12 P) **Establishing Raman Spectroscopy for the Process Environment** LISA GANSTER, Kaiser Optical, Karen Esmonde-White, Harry Owen, Ian Lewis
- (500-13 P) **In situ Raman Measurements of Pharmaceutical Solids During Process Unit Operations** LISA GANSTER, Kaiser Optical, Karen Esmonde-White, Carsyen Uerpmann, Sean Gilliam, Ian Lewis
- (500-14 P) **Recovery of Challenging Compounds in Cleaning Validation Using Total Organic Carbon (TOC) Analysis** JENNY G WATSON, GE Analytical Instruments, David Wayne

POSTER SESSION

Session 510

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Safety

Monday Morning, Exposition Floor, 400 Aisle

- (510-1 P) **A Cheap and Simple Approach to Monitor Sun Exposure based on Photocatalytic Properties of Titanium Dioxide** PARISA SOWTI, University of New South Wales
- (510-2 P) **A Wide Selection of New Psychoactive Substances Investigated with Proton Transfer Reaction – Mass Spectrometry within the Marie Curie Training Network Proton Ionization Molecular Mass Spectrometry (PIMMS)** MATTEO LANZA, IONICON Analytik, W Joe Acton, Philipp Sulzer, Kostiantyn Breiev, Simone Jürschik, Alfons Jordan, Eugen Hartungen, Gernot Hanel, Jens Herbig, Lukas Märk, Christian Lindinger, Chris A Mayhew, Tilmann D Maerk

POSTER SESSION

Session 520

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Sampling and Sample Preparation - Pharmaceutical, Clinical/Toxicology, Food Safety, and Others

Monday Morning, Exposition Floor, 400 Aisle

- (520-1 P) **Preserving the Free-radical Scavenger Activity of Key Bioactives During Extraction and Purification Processes** VALERIE DESYROY, SilCycle, Vincent Bedard, Genevieve Gingras, Denis Boudriau, Aurelie Meng
- (520-2 P) **Determination of Quinolones in Bovine Kidney Using Hollow-Fiber Supported Liquid Membrane (HF-SLM) and LC-ESI+MS/MS** SIMISO DUBE, University of South Africa
- (520-3 P) **Working with Challenging Samples, Sampling Systems** YVES GAMACHE, Analytical Flow Products
- (520-4 P) **Analytical Method Development for Cleaning Verification of Manufacturing Equipment - Exploring the Effect of the Cleanliness of Stainless Steel Coupons on Sample Recovery** IMAD A HAIDAR AHMAD, Novartis, James Tam, Xue Li, Thomas Tarara, Andrei Blasko
- (520-5 P) **Evaluation of Antibacterial and Wound Healing Properties of Hydro-ethanolic Extracts of Gossypium Barbardense Leaves** NWAMAKA H IGBOKWE, University of Lagos, Eugene E Ikobi, Cecilia I Igwilo
- (520-6 P) **Evaluating the Potential for Cross Contamination when Performing 96-Well Sample Preparation Prior to LC-MS/MS Analysis** HELEN LODDER, Biotage GB Limited, Lee Williams, Victor Vandell
- (520-7 P) **Acrylamide from Coffee Using a Simplified Liquid** ALLEN MISA, Phenomenex, Matthew Brusius, Zeshan Aqeel
- (520-8 P) **Analysis of Food Grains Using Automated Block Digestion** MICHAEL A RUTZKE, Cornell University, Suhas Narkhede, Nick McLeod
- (520-9 P) **Does Weather Effect Pipetting?** GEORGE W RODRIGUES, Artel, Emily Avis, Alf Price, Verena Gerbe

TECHNICAL PROGRAM

MONDAY, MARCH 7, 2016

AFTERNOON

Monday Afternoon

AWARDS Session 530

LCGC Lifetime Achievement and Emerging Leader in Chromatography Award

arranged by Laura Bush, LCGC & Spectroscopy

Monday Afternoon, Room B314

Laura Bush, LCGC & Spectroscopy, Presiding

1:30		Introductory Remarks - Laura Bush
1:35		Presentation of the LCGC 2016 Lifetime Achievement in Chromatography Award to Milton L Lee, Brigham Young University, by Laura Bush, LCGC & Spectroscopy
1:40	(530-1)	Columns in Small-Scale Chromatography MILTON L LEE, Brigham Young University
2:15	(530-2)	Recent Chromatographic and Mass Spectrometric Developments Applied to the Characterization of Recombinant Proteins, Monoclonal Antibodies and Antibody-Drug Conjugates PAT SANDRA, RIC, Koen Sandra
2:50	(530-3)	Analytical Glycoscience: Quo Vadis? MILOS V NOVOTNY, Indiana University
3:25		Recess
3:40		Presentation of the LCGC Emerging Leader in Chromatography Award to Debby Mangelings, Vrije Universiteit Brussel, by Laura Bush, LCGC
3:45	(530-4)	Generic Chiral Separation Strategies for Pharmaceutical Compounds Using Chromatographic and Electrophoretic Techniques DEBBY MANGELINGS, Vrije Universiteit Brussel, Yvan Vander Heyden
4:20	(530-5)	Recent Trends in High-Performance Liquid Chromatographic Separation of Enantiomers BEZHAN CHANKVETADZE, Tbilisi State University

AWARDS Session 540

SEAC - Charles N Reilley and Royce W Murray Award

arranged by Richard M Crooks, University of Texas at Austin

Monday Afternoon, Room B312

Shelley Minter, University of Utah, Presiding

1:30		Introductory Remarks - Shelley Minter
1:35		Presentation of the 2016 SEAC - Charles N Reilley Award to Reginald M Penner, University of California, Irvine by Shelley Minter, SEAC President
1:40	(540-1)	Electrodeposited Nanowires for Faster and More Sensitive Hydrogen Gas Detection REGINALD M PENNER, University of California, Irvine
2:15	(540-2)	A Membrane-Based AC Electroosmotic Pump CHARLES R MARTIN, University of Florida, Pradeep Ramiah Rajasekaran, Xiaojian Wu
2:50	(540-3)	Electrocatalytic Amplification of Single Nanoparticle Collisions Using DNA-Modified Surfaces RICHARD M CROOKS, University of Texas at Austin, Timothy M Alligrant, Radhika Dasari, Keith J Stevenson
3:25		Recess
3:40		Presentation of the 2016 SEAC - Royce W Murray Award to Ryan J White, University of Maryland Baltimore County, by Shelley Minter, SEAC President
3:45	(540-4)	Imaging Molecular Flux Using Protein Channel Based Scanned Probe Microscopy RYAN J WHITE, University of Maryland Baltimore County, Florika Caling Macazo
4:20	(540-5)	Imaging with Nanopipettes LANE A BAKER, Indiana University

SYMPOSIUM Session 550

Emerging Platforms for Lab-on-a-Chip Analyses

arranged by Ryan T Kelly, Pacific Northwest National Laboratory

Monday Afternoon, Room B301

Ryan T Kelly, Pacific Northwest National Laboratory, Presiding

1:30		Introductory Remarks - Ryan T Kelly
1:35	(550-1)	Rapid Screening for Infectious Diseases Using Paper-Analytic Devices CHARLES HENRY, Colorado State University
2:10	(550-2)	High-Throughput Microfluidic Experimentation One Drop at a Time ANDREW J DEMELLO, ETH Zürich
2:45	(550-3)	Simple, Microfluidic Flow Distance-Based Determination of Biomolecule Concentrations ADAM T WOOLLEY, Brigham Young University, Chatterjee Debolina, Sahore Vishal
3:20		Recess
3:35	(550-4)	Automated Droplet Manipulation, Analysis and Screening Based on Sequential Operation Droplet Array Technique QUN FANG, Zhejiang University, Zhu Ying
4:10	(550-5)	Microfluidic Platforms with Integrated Microvalves for Novel Biochemical Analyses RYAN T KELLY, Pacific Northwest National Laboratory, Yongzheng Cong, Tao Geng, Sachin Jambovane, Katipamula Shanta, Spencer Prost, Michael Russcher

SYMPOSIUM Session 560

Innovative Applications of Surface-Enhanced Raman Spectroscopy

arranged by Bhavya Sharma, University of Tennessee, Knoxville

Monday Afternoon, Room B303

Bhavya Sharma, University of Tennessee, Knoxville, Presiding

1:30		Introductory Remarks - Bhavya Sharma
1:35	(560-1)	Ultrafast Surface-Enhanced Raman Spectroscopy RENEE R FRONTIERA, University of Minnesota, Nathaniel C Brandt, Emily L Keller, Alyssa A Cassabaum, James L Brooks
2:10	(560-2)	Detecting Small Molecules Using Probe-Mediated SERS Schemes JON CAMDEN, University of Notre Dame
2:45	(560-3)	Utilization of SERS Nanoparticles as Contrast Agents for Molecular Imaging in Cancer CRISTINA ZAVALA, Stanford University
3:20		Recess
3:35	(560-4)	Gels, Inkjet, and Laser Ablation: A New Toolkit for Surface-Enhanced Raman Spectroscopy MARCO LEONA, The Metropolitan Museum of Art
4:10	(560-5)	Development of Surface Enhanced Spatially Offset Raman Spectroscopy (SESORS) for Neuroscience BHAVYA SHARMA, University of Tennessee

SYMPOSIUM Session 570

Miniature Mass Spectrometers

arranged by R Graham Cooks and Zheng Ouyang, Purdue University

Monday Afternoon, Room B304

R Graham Cooks, Purdue University, Presiding

1:30		Introductory Remarks - R Graham Cooks and Zheng Ouyang
1:35	(570-1)	Introduction of a Multi-Optic Coaxial Ring Ion Trap (MoCRIT) for External Ionization in Portable Mass Spectrometry GUIDO F VERBECK, University of North Texas
2:10	(570-2)	From 2G to 3G - Quantitative Analysis and Biomarker Profiling Using Miniature Mass Spectrometry System ZHENG OUYANG, Purdue University, Ren Yue, Ran Zou, Yuan Su, Graham Cooks, Yu Xia
2:45	(570-3)	Describing and Optimizing Toroidal Trapping Fields for the Development of Miniature Mass Spectrometers STEPHEN A LAMMERT, PerkinElmer, Edgar D Lee, Daniel E Austin, Karl R Warnick
3:20		Recess
3:35	(570-4)	Practical Applications of Outside-the-Lab Mass Spectrometry MITCH WELLS, FLIR Detection, Inc.
4:10	(570-5)	The Development and Performance Enhancement of A Mini-Mass Spectrometer with Continuous Atmospheric Pressure Interface WEI XU, Beijing Institute of Technology, YanBing Zhai, MuYi He

SYMPOSIUM Session 580

Nanomedicine, From Diagnostics to Large Animal Therapy

arranged by Raoul Kopelman, University of Michigan

Monday Afternoon, Room B305

Raoul Kopelman, University of Michigan, Presiding

1:30		Introductory Remarks - Raoul Kopelman
1:35	(580-1)	The Plasmonic Photo-Thermal Death of Cancer in Cells(1) and in Animals(2,3) Using Gold Nano-rod MOSTAFA A EL-SAYED, Georgia Institute of Technology
2:10	(580-2)	Platinum(II) and Gold(III) Compounds for Cancer Diagnosis and Therapy CHI-MING CHE, The University of Hong Kong
2:45	(580-3)	Nanophotonics-Based Diagnostics and Therapy: From Deep In-Vivo Photo-Acoustic Chemical Imaging of Tumors to Photodynamic Treatment of Heart Disease RAOUL KOPELMAN, University of Michigan
3:20		Recess
3:35	(580-4)	Interfacial Assembly of Functional Mesoporous Nanospheres with Multi-Level Architectures for Bioapplications DONGYUAN ZHAO, Fudan University
4:10	(580-5)	Stickyflares: Tracking the Amount and Location of RNA in Single Cells CHAD A MIRKIN, Northwestern University

SYMPOSIUM Session 590

Non-Traditional Human Biometrics for Threat Assessment: Using Chemical Forensics for National Security and Intelligence Applications

arranged by Joachim Dieter Pleil, US EPA and Kevin O'Connell, InQTel

Monday Afternoon, Room B308

Joachim Dieter Pleil, US EPA, Presiding

1:30		Introductory Remarks - Joachim Dieter Pleil and Kevin O'Connell
1:35	(590-1)	Human Biomonitoring and In Vitro Toxicity Testing Applications for Covert Threat Analysis and Security Applications JOACHIM DIETER PLEIL, US EPA, William E Funk
2:10	(590-2)	Noninvasive Infectious Disease Monitoring for Health Applications MICHAEL SCHIVO, University of California, Davis, Cristina E Davis
2:45	(590-3)	Comprehensive Analysis of the Chemicals Within: The Human Exposome and Applications for Threat Assessment GARY W MILLER, Emory University
3:20		Recess
3:35	(590-4)	The US Army Edgewood Chemical Biological Center's Chemical Threat Analysis Within the Framework of the Organization for the Prohibition of Chemical Weapons STANLEY A OSTAZESKI, US Army ECBC, Ethan A Jestel
4:10	(590-5)	Feasibility of Using Breath to Predict Exposure to Ionizing Radiation TERENCE H RISBY, Johns Hopkins University

SYMPOSIUM Session 600

Novel Mass Spectrometric Approaches and Applications to Polymer Analysis

arranged by Charles L Wilkins, University of Arkansas

Monday Afternoon, Room B309

Charles L Wilkins, University of Arkansas, Presiding

1:30		Introductory Remarks - Charles L Wilkins
1:35	(600-1)	Characterization of Synthetic Polymers Using as Little as a Small Molecule Matrix and the Vacuum of the Mass Spectrometer for Ionization SARAH TRIMPIN, Wayne State University, Casey D Foley, Joshua Fischer, Zachary Devereaux, Sashiprabha M Vithanarachchi, Matthew J Allen, Barbara S Larsen
2:10	(600-2)	Model Polymer Systems: Studies by Mass Spectrometry, Ion Mobility, and Computational Strategies DAVID M HERCULES, Vanderbilt University, Sarah M Stow, Tiffany M Onifer, John A McLean
2:45	(600-3)	Shape Selective Studies of Macromolecular Systems JAMES HOWARD SCRIVENS, Teesside University
3:20		Recess

3:35	(600-4)	Shape Sensitive Multidimensional Mass Spectrometry of Synthetic Polymers and Hybrid Materials CHRYS WESDEMIOTIS, The University of Akron
4:10	(600-5)	MALDI-TOF and MALDI-FTICR of Challenging Polymer Analysis Problems CHARLES L WILKINS, University of Arkansas, Evgenia Tisdale

SYMPOSIUM Session 610

The Twenty-Seventh James L Waters Symposium on Super-Resolution Microscopy

arranged by W Richard Howe, University of Pittsburgh

Monday Afternoon, Room B405

W Richard Howe, University of Pittsburgh, Presiding

1:30		Introductory Remarks - W Richard Howe
1:35	(610-1)	Imaging Life at High Spatiotemporal Resolution ERIC BETZIG, Janelia Research Campus
2:10	(610-2)	Accessing the Emerging Imaging Technologies at HHMI Janelia TENG-LEONG CHEW, Janelia Research Campus
2:45	(610-3)	Closing the Gap Between First Implementation and Product – Update on Lattice Light Sheet Commercialization Effort ALEX SOELL, Carl Zeiss Microscopy, LLC
3:20		Recess
3:35	(610-4)	Life Inside the Cell: STORM, CRISPR and Imagenomics BO HUANG, University of California, San Francisco
4:10	(610-5)	Structured Scanned Plane Bessel Microscopy for Super-Resolution Neuroanatomy TIMOTHY HARRIS, HHMI Janelia Research Campus

SYMPOSIUM Session 620

Trials and Tribulations of Dietary Supplement Analysis: Authentication, Adulteration and Contaminant Testing

arranged by Lowri DeJager, U.S. Food and Drug Administration

Monday Afternoon, Room B311

Lowri DeJager, U.S. Food and Drug Administration, Presiding

1:30		Introductory Remarks - Lowri DeJager
1:35	(620-1)	Protecting Consumers One Analysis at a Time: Identifying Harmful Adulterants in Dietary Supplements TRAVIS M FALCONER, U.S. Food & Drug Administration
2:10	(620-2)	Authentication of Foods and Botanical Supplements Using Chemometric Methods JAMES HARNLY, USDA
2:45	(620-3)	DNA Authentication and Adulterant Detection: Dispelling the Myths and Facing the Facts DANICA HARBAUGH REYNAUD, Authen Technologies
3:20		Recess
3:35	(620-4)	Authenticity of Herbal Dietary Supplements: Comparison of Chemical and DNA Barcoding Methods RAHUL PAWAR, CFSAN/FDA, Sara M Handy, Erich Grundel, Raymond Cheng, Nicole Shyong
4:10	(620-5)	Spectroscopic Detection of Adulteration in Botanical Dietary Supplements: What is Licorice? CHARLOTTE SIMMLER, University of Chicago, Guido Pauli, Shao-Nong Chen

TECHNICAL PROGRAM

ORGANIZED CONTRIBUTED SESSIONS

Session 630

Cell Phone Spectroscopy - Handheld Spectroscopy for the Citizen

arranged by Mark Druy, Druy Consulting and Richard Crocombe, PerkinElmer

Monday Afternoon, Room B402

Mark Druy, Druy Consulting, Presiding

1:30	(630-1)	Ready When You Are: Cell Phone Spectrometry When Cellcams Yield RAW Data ALEXANDER SCHEELINE, SpectroClick
1:50	(630-2)	Biomedical Applications of Cellphone Spectroscopy ANSHUMAN DAS, MIT Media Lab
2:10	(630-3)	Optical Smartphone Biosensing Techniques BRIAN T CUNNINGHAM, University of Illinois at Urbana-Champaign, Kenneth Long
2:30	(630-4)	Withdrawn
2:50		Recess
3:05	(630-5)	Quantum Dots and Smartphone Fluorescence Imaging: A Perfect Marriage for Bioassays RUSS ALGAR, University of British Columbia, Eleonora Petryayeva
3:25	(630-6)	Point-of-Care Colorimetric Detection with a Cell Phone IAN PAPAUTSKY, University of Cincinnati
3:45	(630-7)	Mobile Technologies for Personalized Diagnostics and Global Health DAVID ERICKSON, Cornell University
4:05	(630-8)	A Handheld Optoelectronic Nose KENNETH S SJSUCLICK, University of Illinois at Urbana-Champaign, Zheng Li, Maria K LaGasse, Jon R Askim

ORGANIZED CONTRIBUTED SESSIONS

Session 640

Isolation and Characterization of Impurities/Degradation Product: Understanding Your Impurity Profile Throughout the Development Process

arranged by Andy Miles and Paul Wrezel, Regis Technologies

Monday Afternoon, Room B313

Andy Miles, Regis Technologies, Presiding

1:30	(640-1)	Risk Analysis of Impurities in Drug Substances DAN WEISSMUELLER, Regis Technologies
1:50	(640-2)	Low level Impurity Isolations for Impurity Profiling and Structure Elucidation TONY (QI) YAN, Pfizer
2:10	(640-3)	Case Studies Involving Method Development for Trace-Level Impurities PAUL WREZEL, Regis Technologies
2:30	(640-4)	Impurity Identification for API Process Development ZHAO YANQUN, AbbVie, Inc., Wayne Pritts
2:50		Recess
3:05	(640-5)	Emerging Techniques for the Identification of Impurities and Degradation Products in Agricultural Research JEFFRIE A GODBEY, Dow AgroSciences, Jesse L Balcer, Jeffrey R Gilbert, Yelena A Adelfinskaya, Mary D Evenson
3:25	(640-6)	The Development of SFC Stationary Phases for the Optimized Separation of Chemical Mixtures Containing a Wide Range of Polarities MATTHEW PRZYBYCIEL, ES Industries
3:45	(640-7)	Isolation and Characterization of Impurities in the Synthesis of Drug Substance to Support Drug Development QIFENG XUE, Theravance Biopharma US, Inc., Kanaka Hettiarachchi, Ken Ngim, Zhengtian (Titan) Gu
4:05	(640-8)	Open Discussion

ORAL SESSIONS

Session 650

Biomedical: Advances in Detection and Therapeutics of Cancer

Monday Afternoon, Room B302

Rabih E Jabbour, US Army Edgewood Chemical Biological Center, Presiding

1:30	(650-1)	KS-Detect: A Portable, Solar-Thermal, Polymerase Chain Reaction System for the Point-of-Care Diagnosis of Kaposi's Sarcoma RYAN SNODGRASS, Cornell University, Andrea Gardner, Li Jiang, Ethel Cesarman, David Erickson
1:50	(650-2)	Nano-Plasmonic Exosome Platform (nPLEX) for Label-Free Detection and Molecular Profiling of Exosomes HYUNGSOON IM, Massachusetts General Hospital, Huilin Shao, Park Yongil, Vanessa Peterson, Cesar M Castro, Ralph Weissleder, Hakho Lee
2:10	(650-3)	Generate DNA Aptamers Against Glypican 3 with Expanded Genetic Systems LIQIN ZHANG, University of Florida
2:30	(650-4)	Systematic and Quantitative Analysis of Surface N-Sialoglycoproteins in Cancer Cells with Distinct Invasiveness RONGHU WU, Georgia Institute of Technology
2:50		Recess
3:05	(650-5)	DNA "AND" Logic Platform Integrated on Nanoparticle for Programmed Recognition and Therapy of Cancer ZHENBAO LIU, University of Florida, Weihong Tan
3:25	(650-6)	A Core/Shell Structure of Reduced Graphene Oxide/ Mesoporous Silica with Oligonucleotide Gates for Cancer Treatment XIAO LIU, University of North Dakota, Xu Wu, Xuefei Zhang, Yuqian Xing, Julia Xiaojun Zhao
3:45	(650-7)	Simultaneous Photothermo-/Chemotherapy Using Reduced Graphene Oxide Based Nanocomposites YUQIAN XING, University of North Dakota, Xu Wu, Xiao Liu, Julia Xiaojun Zhao
4:05	(650-8)	Imaging of Cancer Protein-Protein Interactions and Small Molecule Inhibitions by a Surface Plasmon Resonance Microarray CHARUKSHA WALGAMA, Oklahoma State University, Zainab Hussain Al Mubarak, Bing Zhang, Mayowa Akinwale, Anuruddha Pathirana, Junpeng Deng, Darrell K Berlin, Doris M Benbrook, Sadagopan Krishnan

ORAL SESSIONS

Session 660

Environmental Applications of Elemental Analysis

Monday Afternoon, Room B315

Eugene F Barry, University of Massachusetts Lowell, Presiding

1:30	(660-1)	Analyzing Mercury from Contaminated Mining Sites Using a Direct Mercury Analyzer SUMEDH PHATAK, Milestone Inc.
1:50	(660-2)	ICP-MS for the Analysis of High Salinity Samples ERICA CAHOON, PerkinElmer, Daniel H Jones
2:10	(660-3)	Nanoparticle Removal During Alum and Ferric Coagulation Characterized by Single Particle ICP-MS ARIEL DONOVAN, Missouri University of Science and Technology, Honglan Shi, Yinfa Ma, Craig Adams, Chady Stephan, Todd Eichholz
2:30	(660-4)	Applications of Single Particle ICP-MS to Environmental Matrices CHADY STEPHAN, PerkinElmer, Kenneth Neubauer
2:50		Recess
3:05	(660-5)	Issues in Deep Ocean LIBS: Internal Calibration and the Effect of Suspended Particles JOSEPH BONVALLET, University of South Carolina, S Michael Angel
3:25	(660-6)	Selective Measurement of Metal Ions at Covalently Functionalized Carbon-Fiber Microelectrodes YUANYUAN YANG, Wayne State University, Ahmad A Ibrahim, Jennifer L Stockdill, Parastoo Hashemi
3:45	(660-7)	MWCNT/Bi Composite Film Modified PGE for Voltammetric Determination of Lead and Cadmium YESIM TUGCE YAMAN, Hacettepe University, Serdar Abaci
4:05	(660-8)	Application of Mössbauer spectrometry in Environmental Studies of Fly Ashes and Road Dusts TADEUSZ SZUMIATA, RADWAG Balances and Scales, Tadeusz Szumiata, Malgorzata Gzik-Szumiata, Katarzyna Brzozka, Bogumil Gorka, Michal Gawronski, Ryszard Swietlik, Marzena Trojanowska

Monday Afternoon

ORAL SESSIONS Session 670

Environmental GC

Monday Afternoon, Room B406

Walter B Wilson, National Institute of Standards and Technology, Presiding

1:30	(670-1)	Multi-Dimensional Micro Gas Chromatography Device for the Rapid and Sensitive Analysis of Volatile Organic Compounds JIWON LEE, University of Michigan, Menglian Zhou, Hongbo Zhu, Robert Nidetz, Katsuo Kurabayashi, Xudong Fan
1:50	(670-2)	SPME On-Fiber Derivatization Using a Stable and Reusable Pentafluorophenyl Hydrazine Standard Gas Generating Vial JUSTEN J POOLE, University of Waterloo, Jonathan J Grandy, German A Gomez-Rios, Emanuela Gionfriddo, Janusz Pawliszyn
2:10	(670-3)	Gas Chromatography-Vacuum Ultraviolet Detection (GC-VUV) for Analysis of Polychlorinated Biphenyls (PCBs) CHANGLING QIU, University of Texas at Arlington, Jonathan Smuts, Kevin A Schug
2:30	(670-4)	Gas Chromatographic Retention Behavior on Select Groups of Isomeric Polycyclic Aromatic Compounds and Their Alkyl-Substituted Derivatives on Stationary Phases of Different Selectivity WALTER B WILSON, National Institute of Standard and Technology, Federica Nalin, Lane C Sander, Leonard M Sidisky, Stephen A Wise
2:50		Recess
3:05	(670-5)	Optimization of Phthalate Analysis by Gas Chromatography-Mass Spectrometry Using Computer Modeling Software DAN LI, Restek Corporation, Rebecca Stevens, Jack Cochran, Amanda Rigdon, Chris English
3:25	(670-6)	Analysis of Greenhouse Gases Using the Dielectric Barrier Discharge Detector MATTHEW MONAGLE, AIC LLC
3:45	(670-7)	Fast, Very Fast and Ultra-Fast Forensic and Homeland Security GC-MS AVIV AMIRAV, Tel Aviv University, Uri Keshet, Alexander Fialkov, Tal Alon
4:05	(670-8)	Passive Monitoring – A Guide to Sorbent Tube Sampling for EPA Method 325 CAROLINE WIDDOWSON, Markes International

ORAL SESSIONS Session 680

Food Product Quality and Component Characterization

Monday Afternoon, Room B316

Ed Guthrie, Agilent Technologies, Presiding

1:30	(680-1)	Analysis of Fat Crystallization Thanks to Microrheology MAXIME BAZIN, Formulation, Giovanni Brambilla, Roland Ramsch, Mathias Fleury, Gérard Meunier
1:50	(680-2)	Atomic Absorption and Potentiometric Analysis of Electrolytes in Food Substances Used for Rapid Muscle Cramp Relief by Athletes STEPHANIE HOOPER MAROSEK, Methodist University, Taylor Tipton
2:10	(680-3)	Microrheological Analyses for Dairy Formulations ROLAND RAMSCH, Formulation, Giovanni Brambilla, Gérard Meunier
2:30	(680-4)	Analysis of Aroma Compounds in Beer by TD–GC–TOF MS with Soft Electron Ionization LAURA MCGREGOR, Markes International Ltd, Caroline Widdowson, Massimo Santoro, Chris Hall, Ken Umbarger
2:50		Recess
3:05	(680-5)	Food Analysis Using Laser Desorption GS-Ion Mobility Spectrometry – Olive Oil as an Example WOLFGANG VAUTZ, ISAS, Sascha Liedtke, Joachim Franzke
3:25	(680-6)	Monitoring of Protein Changes in Pasteurized Liquid Egg Using Capillary Electrophoresis REYHAN S UYSAL, Hacettepe University, Ismail H Boyaci, Esra Acar, Nusret Ertas
3:45	(680-7)	Exploiting Polymeric Ionic Liquids-Based SPME Sorbents Coupled to Gas-Chromatography/Mass Spectrometry for Food Quality and Safety Assessment ERICA A SOUZA-SILVA, Universidade Federal do Rio Grande do Sul, Emanuela Gionfriddo, Nathaly Reyes-Garces, German A Gomez-Rios, Jared L Anderson, Janusz Pawliszyn
4:05	(680-8)	Detection, Identification, and Pattern Recognition of Microbial Volatile Organic Compounds from Virulent and Hypo-Virulent Cryptosporidia Parasitica Species by Headspace-SPME-GC-MS and Chemometrics JINYAN SHE, Mississippi State University

ORAL SESSIONS Session 690

LC Method Development - Half Session

Monday Afternoon, Room B403

William E Barber, Agilent Technologies, Presiding

1:30	(690-1)	Method Transfer and Column Scalability with Superficially Porous Particles WILLIAM LONG, Agilent Technologies, Anne Mack, Stephen Luke, Jason Link
1:50	(690-2)	Isolation of Impurities in Biopharmaceutical Formulations THOMAS E WHEAT, Waters Corporation, Amanda B Dlugasch, Patricia R McConville
2:10	(690-3)	New Technological Solutions to Maximizing Uptime on an Ion Chromatography System DAVID G MOORE, Thermo Fisher Scientific, Pranathi Perati, Sally Eastman
2:30	(690-4)	Accurate Measurement of Analyte Dispersion through Connecting Tubes used in Fast Very High-Pressure Liquid Chromatography FABRICE GRITTI, Waters Corporation, Martin Gilar, Thomas McDonald

ORAL SESSIONS Session 700

LC Optimization - Half Session

Monday Afternoon, Room B404

Rachael Wilson, University of Pittsburgh, Presiding

1:30	(700-1)	Dynamic Temperature Control in Capillary Liquid Chromatography: Increasing Analysis Sensitivity, Speed, and Peak Capacity STEPHEN R GROSKREUTZ, University of Pittsburgh, Rachael Wilson, Stephen Weber
1:50	(700-2)	Towards the Development of a Refractive Index-Based Optical Microcavity Mass Concentration Detector Compatible with Gradient Elution Liquid Chromatography ZACHARY S WIERSMA, University of Illinois at Urbana-Champaign, Todd O Pangburn, Alexandria L Stanton, James H Wade, David Mark Meunier, Ryan C Bailey
2:10	(700-3)	Increasing the Peak Capacity of Quantitative Liquid Chromatography Using Chemometric Curve Resolution DANIEL W COOK, Virginia Commonwealth University, Sarah C Rutan, Dwight R Stoll
2:30	(700-4)	Improving Sensitivity, Resolution, and Peak Capacity of Gradient Elution Capillary Liquid Chromatography with Temperature-Assisted On-Column Solute Focusing RACHAEL WILSON, University of Pittsburgh, Stephen R Groskreutz, Stephen Weber

ORAL SESSIONS Session 710

Neurochemistry

Monday Afternoon, Room B401

Chi Leng Leong, Imperial College London, Presiding

1:30	(710-1)	Measurement of Phasic Dopamine Signals in the Rat Nucleus Accumbens Core and Shell in Response to Noxious Stimuli CHRISTOPHER W ATCHERLEY, Mayo Clinic, Edita Navratilova, Yanhua Xie, Levi Lazarus, Michael L Heien, Frank Porreca
1:50	(710-2)	Oxygen Changes and Dopamine Release during Spreading Depression CADDY N HOBBS, University of North Carolina at Chapel Hill, Justin A Johnson, R Mark Wightman
2:10	(710-3)	Spontaneous, Transient Adenosine Release from Brain During Ischemia-Reperfusion Injury MALLIKARJUNARAO GANESANA, University of Virginia, B Jill Venton
2:30	(710-4)	Treatment on Carbon Nanotube Yarn Microelectrode for Sensitive and Rapid Dopamine Detection In Vivo CHENG YANG, University of Virginia, B Jill Venton, Iliia N Ivanov, Michael D Nguyen, Christopher B Jacobs
2:50		Recess
3:05	(710-5)	Neurochemical Investigation of Epilepsy Using Microdialysis Sampling to Study Multiple Seizure Rat Models AMANDA M FURNESS, University of Kansas
3:25	(710-6)	PKC-β Inhibitors Attenuate Amphetamine and Cocaine Stimulated Dopamine Release ALEXANDROS G ZESTOS, University of Michigan, Robert T Kennedy, Margaret E Gnegy

TECHNICAL PROGRAM

3:45	(710-7)	Clinical Measurements at the Bedside: Dynamic Neurochemical Changes in the Injured Human Brain Monitored Using an Online Microdialysis System MICHELLE L ROGERS, Imperial College London, Chi Leng Leong, Sally A Gowers, Sharon Jewell, Shumaila Khan, Anthony J Strong, Martyn G Boutelle
4:05	(710-8)	Online Clinical Microdialysis: Detecting the Neurochemical Consequences of Spreading Depolarization CHI LENG LEONG, Imperial College London, Michelle L Rogers, Sally A Gowers, Sharon Jewell, Anthony J Strong, Shumaila Khan, Martyn G Boutelle

ORAL SESSIONS

Session 720

Unique Developments in Spectroscopy - Half Session

Monday Afternoon, Room B403

William E Barber, Agilent Technologies, Presiding

3:05	(720-1)	Simultaneous Measurement of N₂O and CH₄ Emissions from Agriculture Using Photoacoustic Detection and QCL Laser ARTO BRANDERS, Gasera Ltd., Ismo Kauppinen, Jaakko Lehtinen
3:25	(720-2)	Infrared Spectroscopic Remote Sensing of Pulsed Signals from Nearby Stars ROBERT A LODDER, University of Kentucky, Anne Brooks
3:45	(720-3)	High Resolution Coherent Multidimensional Spectroscopy PETER CHEN, Spelman College
4:05	(720-4)	Biologics Starting Materials Identified through Opaque Containers by Spatially Offset Raman Spectroscopy (SORS) MATTHEW BLOOMFIELD, Cobalt Light Systems, Darren Andrews, Pavel Matousek

POSTER SESSION

Session 730

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Art and Archaeology

Monday Afternoon, Exposition Floor, 400 Aisle

(730-1 P)	Maximizing the Information Obtained from Small Archaeological Samples by Sequencing DART-MS and Plasma-Chemical Oxidation for AMS Radiocarbon Dating RUTH ANN ARMITAGE, Eastern Michigan University, Kathryn Jakes, Suzanne Baker
(730-2 P)	The Dose Makes the Poison: Quantitation of Pollutant VOCs From Materials Used in A Museum Environment MICHAEL J SAMIDE, Butler University, Gregory D Smith, Jericha Mill
(730-3 P)	Using Reflectance Spectroscopy to Determine the Rate of Formation of Prussian Blue Pigment JACOB APPELEGARTH, Butler University, Michael J Samide
(730-4 P)	Elemental Profiling of Archaeometallurgical Artefacts by ICP Spectrometry SANDA RONCEVIC, University of Zagreb, Ivan Nemet

POSTER SESSION

Session 740

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Chemical Methods

Monday Afternoon, Exposition Floor, 400 Aisle

(740-1 P)	Smart Double-Shelled Zn(OH)₂ Nanoflowers and Ultrathin Zn(OH)₂ Nanosheets: Synthesis and Drug Release Properties REN CAI, University of Florida, Weihong Tan
(740-2 P)	Synthesis and Characterization of Superparamagnetic Manganese Ferrite Nanoparticles SIMONAS RAMANAVICIUS, Vilnius University, Marija Kurtinaitiene, Kestutis Mazeika, Vidas Pakstas, Arunas Jagminas
(740-3 P)	Optimization of Ibuprofen Micronization by the Rapid Expansion of a Supercritical Solution (RESS) ROLF SCHLAKE, Applied Separations, Al Kazianus, Brian Day
(740-4 P)	DNA-Aligner-Controlled Nicking-Based Isothermal Exponential Amplification Reaction for High Sensitive Detection of Nucleic Acids WU WANGHUA, Zhejiang University, Zhou Jianguang, Zhang Tao, Yu Dongdong

(740-5 P)	Electrochemical, Spectroscopic and Chromatographic Techniques for Monitoring the Active Pharmaceutical Ingredients Degradation Kinetics: Which Methodology Fulfills More Principles of the Green Analytical Chemistry? MOHAMED K ABD EL-RAHMAN, Cairo University, Amr M Mahmoud
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(740-6 P)	Investigation of Heterogeneous Reaction Mechanism Between Formaldehyde and MnO₂/CeO₂ at Room Temperature by Gas Analysis Approach HAYASHI HIROKI, Tokai University, Sekine Yoshika
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(740-7 P)	Automated, Low-Level Distillation of Phenolics for Use in Environmental and Manufacturing Applications BRANT HOEKSTRA, OI Analytical, Jonathan Howerton
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(740-8 P)	Identification of 6-chlorotestosterone and Other Designer Anabolic Steroids in Dietary Supplements with Semi-Quantitative Content Determination Using Surrogate Compounds SARAH ELIZABETH VOELKER, U.S. FDA, Forensic Chemistry Center, Lisa M Lorenz, Mary B Jones, Travis M Falconer, Rick A Flurer
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POSTER SESSION

Session 750

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Commercial Products Characterization

Monday Afternoon, Exposition Floor, 400 Aisle

(750-1 P)	Considerations in Sample Preparation and Method Development Using ICP-OES KENNETH NEUBAUER, PerkinElmer, Nick Spivey, Stan Smith, Laura Thompson
(750-2 P)	Chemical Fingerprinting of Tobacco and Related Products by TD-GC-TOF MS LAURA MCGREGOR, Markes International Ltd, Chris Hall, Caroline Widdowson, Nicola Watson, Ken Umbarger
(750-3 P)	Levels of Mercury and Methylmercury in Fish (Prochilodus Magdalenae) Ayapel Marsh (Colombia) EDINELDO LANS CEBALLOS, University of Cordoba, Mauricio Lora Agamez, Amira Padilla Jimenez
(750-4 P)	Mercury Residual and Methylmercury in Canned Tuna Distributed in Monteria -Colombia EDINELDO LANS CEBALLOS, University of Cordoba, Mauro Lombana Agamez, Basilio Diaz Pogutá
(750-5 P)	Automated SPME for the Analysis of Environmental Contaminants in Milk NICOLE M LOCK, Shimadzu Scientific Instruments, Robert Clifford, Di Wang, Laura Chambers, Brahm Prakash, Shilpi Chopra
(750-6 P)	Estimation of Dietary Intake of Essential and Non-Essential Metals through the Consumption of Dietary Supplements Available on Nigerian Retail Market IMAOBONG UDOUSORO, University of Uyo, Ikem Abua, Olujide T Akinbo
(750-7 P)	Analysis of Aflatoxins in Pet Food by UHPLC Using PDA and Fluorescence Detection CATHARINE LAYTON, PerkinElmer, Jason Weisenseel, Wilhad M Reuter
(750-8 P)	Antioxidant Activity of Flavored Tea and Its Content of Phenol, Flavonoid and Tannins ABD EL-MONEIM M AFIFY, Cairo University
(750-9 P)	High Sensitive LC/MS Analysis of Stevia Sweeteners Using Polymer-Based Amino Column RONALD BENSON, Shodex/Showa Denko America, Inc., Junji Sasuga, Satoko Sakai, Tomokazu Umezawa
(750-10 P)	Assigning Unknown Fingernail Polish to Known Manufacturers by Raman Spectroscopy and Multivariate Statistics GARY H NAISBITT, Utah Valley University, Kelsey Hartt
(750-11 P)	Characterizing the Rheological Properties of Wax Emulsions used as Carriers for Biopesticides in Agricultural Pest Management KRISTEN JORDAN, Western Carolina University, Cynthia Atterholt
(750-12 P)	Multivariate Quantification of API Release from Combination Tablets in the Presence of Matrix Effects Using Fiber Optic Dissolution JOSEPH MEDENDORP, Vertex Pharmaceuticals, Taryn Ryan, Mahidhar Shapally, Ivelisse Colon
(750-13 P)	Simultaneous Analysis of Methylisothiazolinone, Salicylic Acid and Parabens in Antidandruff Hair Shampoos by Monolithic Silica High-performance Liquid Chromatographic Column ABDULRAHMAN ALMAJED, King Saud Univesriy, College of Pharmacy
(750-14 P)	Simultaneous Analysis Red Wine Absorbance, CIE Lab Color Indices and Fluorescence Excitation-Emission Matrices ADAM MATTHEW GILMORE, Horiba, Sakiko Akaji
(750-15 P)	Extractables and Leachables Analysis of IV Bag Systems Using Thermal Desorption and Stir Bar Sorptive Extraction with GC Single Quad and GC Time-of-Flight Mass Spectrometric Detection ANDREAS HOFFMANN, Gerstel GmbH & Co.KG, Thomas Albinus, Kurt Thaxton, Elizabeth Almasi

POSTER SESSION

Session 760

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Data Analysis and Manipulation

Monday Afternoon, Exposition Floor, 400 Aisle

- (760-1 P) **Automatic, High-Throughput Motion Classification of Surface-Attached E. Coli Cells Using Bright Field Microscopy Data** SIMON SHEN, Arizona State University, Karan Syal, Nongjian Tao, Shaopeng Wang
- (760-2 P) **Ranking of Variables in the Dataset Using the Degree of Separation: Pure Statistical Method** WALEED MASWADEH, US Army, Jason A Guicheteau, A Peter Snyder
- (760-3 P) **Procurement and Distribution Channels of Commonly Used Drugs in Nigeria: A Case Study of the Pharmaceutical Industry in Abia State** LILIAN I OGUGUO, National Malaria Elimination Programme FMoh, Chidiebere A Odike-Aduaka, Ifeoma Agwo
- (760-4 P) **Effective Data Management in the Analytical Laboratory** TOSHINOBU YANAGISAWA, Shimadzu Corporation, Kazuhito Wakabayashi, Masayuki Shibata, Keisuke Yoshizawa, Ryuji Nishimoto
- (760-5 P) **Combining PLS Classification and Regression Analyses for Robust Monitoring of Nuclear Materials Reprocessing** ROBERT LASCOLA, Savannah River National Laboratory, Patrick O'Rourke

POSTER SESSION

Session 770

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Education/Teaching

Monday Afternoon, Exposition Floor, 400 Aisle

- (770-1 P) **Development of Interactive Learning Modules used in Teaching Instrumental Analysis** YI HE, John Jay College/CUNY, Sandra Swenson, Wong Tiffany, Colleen McNamara
- (770-2 P) **Conservation Science Tutorial Website: Analysis of VOCs Emitted from Museum Construction Materials** JERICHA MILL, Butler University, Michael J Samide, Gregory D Smith
- (770-3 P) **Analytical Chemistry Course Embedded STEM Projects with Trolox Equivalent Antioxidant Capacity Assay** XIAOPING LI, Georgia Gwinnett College, Rashad Simmons
- (770-4 P) **Inexpensive Teaching Instruments for Atomic Emission and Molecular Spectroscopy** ABD AL-KARIM ALI, Miami University, Taryn L Winner, Neil D Danielson
- (770-5 P) **The Antibacterial Effects of Nanoparticles** NEYDA BRIDGITTE CHACON, SUNO
- (770-6 P) **Strategies for Designing Calibration Curves that Extend over Three Decades of Concentration for Ultraviolet-Visible Absorption Spectroscopy** LAUREN GRABOWSKI, University of South Carolina, Scott Goode
- (770-7 P) **Analytical Chemistry Experiments with a Forensic Flavor** ROBERT Q THOMPSON, Oberlin College
- (770-8 P) **HPLC Refurbishment** CONNOR PUTNAM, St. John Fisher College
- (770-9 P) **Analytical Chemistry 2.1: An Open-Access Digital Resource for Undergraduate Education in Analytical Chemistry** DAVID T HARVEY, DePauw University
- (770-10 P) **Introducing Undergraduate Chemists to Chemometrics: Using Microsoft Excel to Illustrate the NIPALS Algorithm used in Principal Component Analysis and Partial Least Squares Regression** MARK T STAUFFER, University of Pittsburgh - Greensburg
- (770-11 P) **Applying Analytical Chemistry to Solve Problems in the Developing World** RHONDA L GROSSE, Chemists Without Borders, Bego Gerber, Marya Lieberman, Steve Chembrau, Satinder Ahuja
- (770-12 P) **Interdisciplinary Undergraduate Research in Chemometrics: The Faculty Perspective** HELEN M BOYLAN, Westminster College, Carolyn Cuff, Stephanie Homitz, Christopher Caroff, Keilah Ireland, Domenic DiSanti
- (770-13 P) **Development of an Undergraduate Laboratory Experiment to Determine Arsenic in Sinus Wash and Tap Water by Inductively Coupled Plasma-Mass Spectrometry** ANNA M DONNELL, University of Cincinnati, Keaton Nahan, Dawone Holloway, Anne P Vonderheide

POSTER SESSION

Session 780

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Electrochemistry

Monday Afternoon, Exposition Floor, 400 Aisle

- (780-1 P) **Laser-based Heating for Nanopore DNA Duplex Analysis** CHRISTOPHER E ANGEVINE, Virginia Commonwealth University, Sarah Seashols-Williams, Joseph E Reiner
- (780-2 P) **A Novel Sandwiched Electrochemiluminescence Immunosensor for Detection of Carcinoembryonic Antigen Based on Carbon Quantum Dots** WANG HUI-SHENG, Liaocheng University
- (780-3 P) **Label-Free DNA Sensors for Detection of BRCA1 Mutation** BRUNO C JANEGITZ, Federal University of Sal Carlos, Lais Ribovski, Valtencir Zucolotto
- (780-4 P) **Conductivity as Sensor for Real-time Monitoring of the Solution Soluble Corrosion Products under Cell Culture Conditions During Corrosion of High Purity Magnesium** KOLADE O OJO, University of Cincinnati, Tracy Hopkins, Sarah Pixley, William R Heineman, Vesselin Shanov, Madhura Joshi, Pravahan Salunke, Keaton Nahan, Guangqi Zhang
- (780-5 P) **Gold Nanoparticles Enzymatic Sensors for Determination of Glucose** ARUNAS RAMANAVICIUS, Vilnius University, Povilas Genys, German Natalija, Almira Ramanaviciene
- (780-6 P) **RC Constant Based Label Free Biomarkers Detection** PRADEEP RAMIAH RAJASEKARAN, University of Florida, Charles R Martin, Jennifer Ottoy
- (780-7 P) **Electrochemical Detection of Evoked Dopamine Release in Zebrafish** MIMI SHIN, University of Kansas, Thomas Field, Michael A Johnson, Mia Furgurson
- (780-8 P) **Quantification of Ion Selectivity of Single Asymmetric Nanopore-Channels for Better Energy Harvesting from Salinity Gradients** WARREN D BROWN, Georgia State University, Yan Li, Dengchao Wang, Maksim Kvetny, Gangli Wang
- (780-9 P) **Charge Transfer Mechanism of Organic Molecules Associated with Dendrimers at Polarized Liquid/Liquid Interfaces** HIROKI SAKAE, Kanazawa University, Hirohisa Nagatani, Hisanori Imura
- (780-10 P) **Study of Electrochemical Hydrogen Evolution and Oxygen Evolution Reactions at Ir and Ru Oxide Alloys with Scanning Electrochemical Microscopy** YUN-BIN CHO, Ewha Womans University, Chongmok Lee, Youngmi Lee
- (780-11 P) **Automated, Accurate pH and Conductivity Measurements Using a Discrete Photometric Analyzer with an ECM Module** MARI KIVILUOMA, Thermo Fisher Scientific, Annu Suonemi-Kahara
- (780-12 P) **Atmospheric Corrosion Study of Metals in an Industrial Environment of Ahmedabad** PAREKH P SUNILKUMAR PUNAMBHAI, CU Shah Science College
- (780-13 P) **Synthesis and Characterization of Silver Coated Electrospun Cobalt Nanotubes and Their Electrocatalytic Activity** AREUM YU, Ewha Womans University, Chongmok Lee, Myung Hwa Kim, Youngmi Lee
- (780-14 P) **Single Microwire Electrodeposition by Electrochemical Liquid-Liquid-Solid Growth** TIM ZHANG, University of Michigan
- (780-15 P) **Simultaneous Detection Heavy Metals by Anodic Stripping Voltammetry Using Carbon Nanotube Thread** DAOLI ZHAO, University of Cincinnati, David R Siebold, Tingting Wang, Noe R Alvarez, Vesselin Shanov, William R Heineman
- (780-16 P) **Low Concentration Detection by Electrogenerated Chemiluminescence Using Bipolar Electrochemistry in a Thin Layer Manner** SONGYAN YU, Auburn University, Mark D Holtan, Sanjun Fan, Curtis Shannon
- (780-17 P) **Atypical Induction of Membrane Potential in Ion Selective Membranes** DEMETRA M PANTELIS, University of Florida, Pradeep R Rajasekaran
- (780-18 P) **Characterization and Spectroelectrochemical Sensing with a Boron Doped Diamond Optically Transparent Electrode Coated with a Charge Selective Polymer Film** CORY A RUSINEK, University of Cincinnati, William R Heineman, Michael Becker, Robert Rechenberg, Daoli Zhao, Necati Kaval
- (780-19 P) **Simultaneous Sensing of α -Tocopherol and Retinol in Micellar Media by Using Poly(2,2 β -(1,4 phenylenedivinylene) bis-8-hydroxyquinoline)/MWCNTs Modified Electrode** HAYATI FILIK, Istanbul University
- (780-20 P) **Electrochemical Investigation of a Series of Uranyl Salen Complexes: Effect of Ligand Conjugation on the U(V)/U(VI) Redox Couple** EMILY E HARDY, Auburn University, Madeleine A Eddy, Anne E Gorden
- (780-21 P) **Predictable Standard Potential of Solid-Contact Ion-Selective Electrodes by Using Prussian Blue Analogues as Solid Contacts** YU ISHIGE, Hitachi Ltd., Stefan Klink, Wolfgang Schuhmann
- (780-22 P) **Electrochemical Behaviour of Highly- and Poorly-doped p-Si-AuNP Electrodes** MEHRAN KASHI, University of New South Wales, Yanfang Wu, Vinicius Goncalves, Moinul Choudhury, Simone Ciampi, Justin J Gooding

TECHNICAL PROGRAM

(780-23 P)	Withdrawn
(780-24 P)	The Effect of Excited Fluorophore on Vesicle Fusion at the Surface of the Electrode NEDA NAJAFINOBAR, Chalmers University of Technology, Jelena Lovric, Johan Dunevall, Hoda M Fathali, Andrew Ewing, Ann-Sofie Cans
(780-25 P)	Novel Electrode PtCr/PAA (Polyamic Acid) for Efficient Ethanol Oxidation Reaction JING ZHANG, Binghamton University
(780-26 P)	Voltammetric Serotonin Measurements in Mouse Models of Depression RACHEL A SAYLOR, University of South Carolina, Aya Abdalla, Parastoo Hashemi
(780-27 P)	Kinetic Size-Spectra of Gas Molecules at Ionic Liquid (IL)-Metal Interface and Its Application for Highly Selective Gas Sensing ZHE WANG, Xavier University
(780-28 P)	New Arginine-Acetaminophen Incorporation for Selective Determination in Serum with Graphene-based Biosensor ZHE WANG, Xavier University
(780-29 P)	Core-shell Nanoparticles Supported on Carbon Nanotubes as Promising Catalyst for Methanol Electro-oxidation MANZAR SOHAIL, Center Of Excellence In Nanotechnology, KFUPM

POSTER SESSION Session 790

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Materials Science

Monday Afternoon, Exposition Floor, 400 Aisle

(790-1 P)	Non-Toxic Corrosion Inhibitor from Tagetes Patula L. for Aluminum in Acid Fluids used in Industrial Operations OLUSEGUN KEHINDE ABIOLA, Federal University of Petroleum Resources, A O Aliyu, E E Elemike
(790-2 P)	Synthesis of Fluorine Substituted LiFeBO₃ Composite Material as a Cathode Material for a Lithium Secondary Battery and Characterization Using the Solid State NMR YOUNGIL LEE, University of Ulsan, JaeMin Bak, Hansol Lee
(790-3 P)	Innovative Instrument Design for Highly Precise Determination of Sulfur and Carbon Concentration MARKUS JUNG, Elementar Analysensysteme GmbH, David Nennstiel, Christian Schmidt
(790-4 P)	Analytical Methods to Estimate Biodurability of Engineered Nanomaterials MARY-LUYZA AVRAMESCU, Health Canada, Pat E Rasmussen, Marc Chénier, H David Gardner
(790-5 P)	Intensity Ratio of Resonant Raman Modes for Chirality Enriched Carbon Nanotubes YANMEI PIAO, National Institute of Standards and Technology, Jeffrey Simpson, Jason Streit, Stephanie Lam, Geyou Ao, Jeffrey Fagan, Angela Hight Walker
(790-6 P)	Liquid-Phase Laser Ablation as a Controlled Method to Produce Graphene Quantum Dots ROSEMARY LYNN EASTERDAY, University of Kentucky, Wenjin Cao, Yiyang Liu, Doo Young Kim, Dong-Sheng Yang
(790-7 P)	Physicochemical Characterization and Nanotoxicity of Polishing Slurries During CMP Process EDUARD DUMITRESCU, Clarkson University, Dinusha Karunaratne, Kenneth Wallace, Silvana Andreescu
(790-8 P)	Polycapillary X-Ray Optics to Play a Key Role in NASA Mars 2020 Mission NING GAO, XOS, Jared Sachs, George Allen, Genevieve DeMarco, George Allen, Larry Wade, Peng Lu, Igor Ponomarev, Jay Burdett, Robert Sharrow, Jaime Luna, Douglas Dawson
(790-9 P)	Preparation and Characterization of Bleached Ground Peanut Hulls HOLLY TRULUCK, Western Carolina University, Melisa J Glatte, Carmen L Huffman
(790-10 P)	Real Time Measurement of Layer Thickness, Erosion Rates and Crater Depth in Glow Discharge Optical Emission Spectrometry SOFIA GAIASCHI, Horiba Jobin Yvon, Simon Richard, Patrick Chapon, Kayvon Savadkouei, Philippe Hunault
(790-11 P)	HH-XRF and HH-LIBS for Alloy Analysis JIYAN GU, Bruker
(790-12 P)	X-Ray Photoelectron Spectroscopy, Low Energy Ion Scattering, and Time-of-Flight Secondary Ion Mass Spectrometry, including Chemometrics Analysis, of Display Glass Surfaces MATTHEW R LINFORD, Brigham Young University, Cody V Cushman, Barry M Lunt, Philipp Brüner, Julia Zakel, Thomas Grehl, Nicholas J Smith
(790-13 P)	The Particle Size Paradox JACK G SAAD, Micromeritics, Paul A Webb
(790-14 P)	Gas Chromatography-Vacuum Ultraviolet Absorbance Spectroscopy for Quantitation of Trace and Bulk Water in Organic Solvents: An Emerging Alternative to Karl Fischer Titration LINDSEY NICHOLE SHEAR, VUV Analytics, Leonard M Sidisky, Dale Harrison
(790-15 P)	Complete Size Characterization of Diatomaceous Earth JACK G SAAD, Micromeritics

POSTER SESSION Session 800

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Physical Measurements

Monday Afternoon, Exposition Floor, 400 Aisle

(800-1 P)	Structural Studies of Co-Spinel Ferrite Synthesized by an Auto Combustion Method DIPAL P CHAUDHARY, Mehsana Urban Institute of Sciences
(800-2 P)	Fabrication of A Novel Fiber-Optic based Single-Cell Temperature Sensor QINGBO YANG, Missouri University of Science and Technology, Ke Li, Hai Xiao, Honglan Shi, Yinfu Ma
(800-3 P)	Withdrawn

POSTER SESSION Session 810

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Polymer Characterization and Analysis

Monday Afternoon, Exposition Floor, 400 Aisle

(810-1 P)	Analyzing the Vibration-Rotation Spectrum of Hydrochloric Acid Generated with a Thermogravimetric Analyzer Coupled to a Fourier Transform Infrared Spectrophotometer ANTHONY J LANG, PerkinElmer, Jack Botting
(810-2 P)	Analysis of PLGA Molecular Weight and Structure by the Latest Advanced Multi-Detector GPC Systems MARK RICHARD POTHECARY, Malvern Instruments, Carrie Schindler, Ulf Nobbmann
(810-3 P)	Molecular Level Understanding of Etching Chemistry at Polymer Interfaces JOHN MYERS, University of Michigan
(810-4 P)	Dissolution Dynamic Nuclear Polarization Study of Living Anionic Polymerization Reaction YOUNGBOK LEE, Hanyang University
(810-5 P)	Extractables Analysis of SPE Frits KIRSTEN KINNEBERG, Porex Corporation, Gary Li
(810-6 P)	Automated Microwave Sample Preparation of Difficult Petroleum and Polymer Matrices ROBERT LOCKERMAN, CEM Corporation, Dan Iversen, Tina Restivo, Ian Goldstein, Austin Thornton
(810-7 P)	Spectroelectrochemical and Electrochemical Impedance Spectroscopy Analysis of Coronene and Perylene Dimide Copolymers SAMIR C PAUL, Auburn University, Vince Cammarata
(810-8 P)	Microwave, r_0 Structural Parameters, Conformational Stability and Vibrational Assignment of (Chloromethyl)fluorosilane DATTATRAY K SAWANT, University of Missouri Kansas City, James R Durig
(810-9 P)	Micro/Nano-Structured Flexible Foils for Anti-Counterfeiting Purposes NASTASIA OKULOVA, Danapak Flexibles A/S and Technical University of Denmark, Rafael Taboryski, Lars Christensen
(810-10 P)	Self-Cleaning Properties of Nanostructured Polypropylene Foils Fabricated by Roll-to-Roll Extrusion Coating AGNIESZKA TELECKA, Danish Technical University, Rafael Taboryski, Ling Sun
(810-11 P)	Synthesis and Characterization of Poly(p-methylstyrene) Spiropyran Conjugates MATTHEW J PRICE, California University of PA, Zachary Sullenberger
(810-12 P)	Advantages of Ion Mobility Mass Spectrometry for Extractables Testing BAIBA CABOVSKA, Waters Corporation, Eleanor Riches
(810-13 P)	A Novel Device for DART-MS System MICHAEL J CHURCHILL, BioChromato, Chikako Takei
(810-14 P)	Characterization of Inorganic Fillers in Complex Polymer Matrices Using Mid-IR and Far-IR Spectroscopy WILLIAM WIHLBORG, Thermo Fisher Scientific, Ronald Rubinovitz

POSTER SESSION

Session 820

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Portable Instruments

Monday Afternoon, Exposition Floor, 400 Aisle

- (820-1 P) **Portable Optical Detection System for Determining Physical and Chemical Changes on Bioimplant Surfaces** DONALD BENZA, Clemson University, Fenglin Wang, Jeffrey N Anker
- (820-2 P) **Field-Portable LED Array Based Multi-Wavelength Photothermal Lens Spectrometer** MICAH W ELLER, Tennessee Technological University, Andrew Callender
- (820-3 P) **Translating Molecular Recognition into Pressure Signal for Rapid, Sensitive, and Portable Biomedical Analysis** ZHI ZHU, Xiamen University, Yang Chaoyong
- (820-4 P) **Development of Optical "Clamp-meter" Using Silicone Optical Technology for In-Situ Absorption Spectroscopy** HIROAKI NOMADA, Kyushu University, Hirokazu Higuchi, Hiroaki Yoshioka, Morita Kinichi, Yuji Oki
- (820-5 P) **Development of a Portable Optical Cavity to Enhance 1-GHz Mode-Locked Laser Pulses for Broadband Absorption Spectroscopy** YUTARO ITO, Kyushu University, Zaitou Shin-ichi, Imasaka Totaro
- (820-6 P) **Characterization of a Miniaturized Benchtop Fast Gas Chromatograph Mass Spectrometer** COREY STEDWELL, 1st Detect Corporation, Daniel DeBord
- (820-7 P) **Enzymes and Photometers** ELLEN RUTH CAMPBELL, NECI Superior Enzymes, Bill Campbell, Justin Walbeck, David A Squires
- (820-8 P) **Personal Monitoring of Ozone Exposure: A Fully Portable Device for Under \$150 USD Cost** TINGTING CAO, Texas Tech University, Jonathan E Thompson
- (820-9 P) **Producing a Miniaturized High-Performance Liquid Chromatography System for Exploration-Based Research** KYLE B LYNCH, University of Oklahoma

POSTER SESSION

Session 830

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Quality/QA/QC

Monday Afternoon, Exposition Floor, 400 Aisle

- (830-1 P) **A Novel Approach to Specialty Gas Certifications by Means of GC/FTIR Analysis** PETER P BEHNKE, Prism Analytical Technologies, Inc., Martin L Spartz, Charles Mark Phillips, Anthony S Bonanno, Kelly R McPartland
- (830-2 P) **Evaluation of the Flavor of Strawberry Preparation Using Gas Chromatography Electronic Nose** ANDREW COWELL, Alpha MOS, Jean-Christophe Mifsud, Herve Lechat, Valérie Vabre, Fatma Ayouni, Marion Bonnefille
- (830-3 P) **Developments in the Automatism for CHNS and Oxygen Determination Using an Elemental Analyzer for Chemical Characterization** GUIDO GIAZZI, Thermo Fisher Scientific, Liliana Krotz, Francesco Leone, Walter Galotta
- (830-4 P) **Running Legacy HPLC and Optimized UPLC Methods on a Single UPLC Platform, Comparative Studies and Steps Towards Implementation in a QC Environment** CHRISTOPHER HENRY, Waters Corporation, Mark Wrona, Richard Ladd, Andy Boughey
- (830-5 P) **Quantitative Analysis of Calcite in Desulfurization Gypsum Using Raman Spectroscopy** YOUNG TAEK MA, Hanyang University
- (830-6 P) **The Use of a Triple Detection System, (UV, ELSD, MS) for Pharmaceutical Degradation Studies** AARON D PHOEBE, Waters Corporation, Paula Hong, Patricia R McConville
- (830-7 P) **Fast Analysis of Short Chain Fatty Acids in Feeds By SFC/MS** JINCHUAN YANG, Waters Corporation, Carrie Snyder, BJ Bench, Jessica Lance, Jayant Shringarpure
- (830-8 P) **Application of FTIR Spectroscopy to Study the Effect of Processing on the Secondary Structure of Lentil Proteins** ALBERTA ARYEE, Agriculture & Agri-Food Canada, Joyce I Boye
- (830-9 P) **Accelerated Oxidation Tests on Olive Oil Stored in Plastic Packaging and Submitted to Autoclaving** STEFANO CASIRAGHI, VELP Scientifica, Stefania Corti, Claudia Mancinelli
- (830-10 P) **Fast Analytical Method for Essential Oil Flavor Characterization Using a Polar Stationary Phase for Optimized Selectivity** RAMKUMAR DHANDAPANI, Phenomenex, Tim Anderson, Kristen Parnell
- (830-11 P) **Steep Time and Temperature Effects on Flavor and Flavonoid Extraction of Black Tea** ANNE JUREK, EST Analytical, Lindsey Pyron, Kelly Cravenor, Justin Murphy

- (830-12 P) **A Novel Approach to the Analysis of Multivitamin in Foodstuff by Online Supercritical Fluid Sample Extraction/Supercritical Fluid Chromatography** QIANG LI, Shimadzu (China) Co., LTD
- (830-13 P) **Simultaneous Measurement of L-Lactate and Ethanol in Tomato-Based Products** WILLIAM MILLER, YSI, Inc, June Klingensmith
- (830-14 P) **Iron Translocation in Adzuki Beans Sprouts: Enrichment Effects** ALINE P OLIVEIRA, Federal University of São Paulo, Juliana Naozuka, Alexandrina C Carvalho, Cassiana S Nomura
- (830-15 P) **The Qualitative and Quantitative Analysis of α -Acids in Hops and Beers by UHPLC with UV Detection** WILHAD M REUTER, PerkinElmer, Jason Weisenseel
- (830-16 P) **SFC Analytical Method Development for Vitamin D3 and Related Compounds** TAKASHI SATO, YMC Co., Ltd., Roland Spaegele, Junko Kawabata, Saoko Nozawa, Toshikazu Adachi, Noritaka Kuroda
- (830-17 P) **Fast and Cost-effective Sugar Analysis Using HPAE-PAD** HUA YANG, Thermo Fisher Scientific, Linda Lopez, David G Moore
- (830-18 P) **Improving Analytical Performance with Enhanced Matrix Removal - Lipid** DERICK LUCAS, Agilent Technologies, Limian Zhao, Bruce Richter, Megan Juck, Joan Stevens
- (830-19 P) **Food Inspection Using NIR Reflectance and Transmittance Imaging** SATORU TSUCHIKAWA, Nagoya University, Hikaru Kobori, Te Ma, Norihisa Katayama
- (830-20 P) **A Fast Method for Predicting the Phenolic Content of Whisky Malts** ANDREW COWELL, Alpha MOS, Jean-Christophe Mifsud, Herve Lechat, Valérie Vabre, Fatma Ayouni, Marion Bonnefille
- (830-21 P) **Combining FTIR and Mass Spectrometric Detection in the Gas Chromatographic Analysis of Fragrances** TRACY PHILLPOTT, DANI Instruments, Roberta Lariccia, Matthew S Klee, Daniele Recenti
- (830-22 P) **The Effect of Food Additives on Hippocampus NMDA Receptor Subunits and Oxidative Stress** ZAFER YONDEN, Mustafa Kemal University ZAFER YONDEN, Mustafa Kemal University, Oguzhan Ozcan, Yeşim Göçmen, Namik Delibaş
- (830-23 P) **Holographic Characterization of Multicomponent Colloidal Suspensions** JAROSLAW M BLUSEWICZ, Spheryx, Inc., David B Ruffner, Laura Philips
- (830-24 P) **Mitigating Electrostatic Effects Improves Measurement Accuracy** GREG GUMKOWSKI, NRD LLC, Arnold Steinman
- (830-25 P) **Safe Approach to Gas Purification** BRIAN WARRICK, ARM, Inc, Daniel Spohn
- (830-26 P) **Advanced UHPLC Instrument to Instrument Method Transfer** GREGORY HUNLEN, Agilent Technologies, Michael Woodman

POSTER SESSION

Session 840

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Sensors

Monday Afternoon, Exposition Floor, 400 Aisle

- (840-1 P) **An Ultrasensitive Impedance Biosensor based on Immunomagnetic Separation and Urease Catalysis for Rapid Detection of Foodborne Pathogens Using an Immobilization-Free Interdigitated Microelectrode** LIN JIANHAN, China Agricultural University
- (840-2 P) **Enabling Tools to Combat Antibiotic Resistant Bacteria** ANDREW HELLER, Michigan State University, Dana Spence
- (840-3 P) **Optimizing the Scintillation Cascade in Nano-Scintillation Proximity Assay (nanoSPA) for Multiplexed Detection of Small Biomolecules** ZEINAB MOKHTARI, University of Arizona, Iben Andrew C Calderon, Colleen Janczak, Craig A Aspinwall
- (840-4 P) **Dendritic Gold Structures for Glucose Biosensor Design** ALMIRA RAMANAVICIENE, Vilnius University, Laura Sakalauskiene, Anton Popov, Natalija German, Asta Kausaite-Minkstimiene, Arunas Ramanavicius
- (840-5 P) **High-Throughput Thiamine Quantification in Environmental Matrices Using Periplasmic-Binding Protein Biorecognition** KATIE A EDWARDS, Cornell University, Seth Feder, Antje J Baeumner, Cliff Kraft
- (840-6 P) **Multi-Purpose Individual Air Monitor – Conception to Proof of Concept Laboratory Prototype** NICHOLAS FITZGERALD, Defence Science and Technology Group, Karl Pavey
- (840-7 P) **Characterization of Self-Oscillating Reaction Catalyzed by Metal Porphyrin Complexes** TAKASHI ARIMURA, AIST Interdisciplinary Research Center, Masaru Mukai, Jung Hee Do, Kenichi Tominaga
- (840-8 P) **Simultaneous Detection of Dopamine Release and Neural Activity** KATE L PARENT, University of Arizona, Daniel F Hill, Jean-Paul Wiegand, Michael A Miller, Christopher W Atcherley, Stephen Cowen, Michael L Heien

TECHNICAL PROGRAM

- (840-9 P) **Development of a Novel Position-Sensitive MCP Detector** BLAKE WIGGINS, Indiana University, Davinder Siwal, Romualdo T deSouza
- (840-10 P) **Real Time Monitoring Magnesium Alloys Corrosion by Electrochemical H2 Sensor In Vivo** DAOLI ZHAO, University of Cincinnati, Tingting Wang, Zhongyun Dong, William R Heineman, Vesselin Shanov
- (840-11 P) **A Cellulose Acetate Membrane-Based Colorimetric Device to Discriminate Bacteria** LIGIA BUENO, Instituto de Química - Universidade de Sao Paulo, Subrayal M Reddy, Alison Cottel, Thiago Paixao
- (840-12 P) **A Smart Wearable and Autonomous Negative Pressure Device for Wound Monitoring** FABIO DI FRANCESCO, Università di Pisa, Bernardo Melai, Pietro Salvo, Andrea Pucci, Vincenzo Mollica, Anna Maria Raspolli, Valentina Dini, Marco Romanelli, Beatrice Lazzzerini, Aldo Paolicchi, Valter Castelvetro, Roger Fuoco
- (840-13 P) **A Smart Polymer Hydrogel as a Chemical Sensor on Biomedical Implant** MOHAMMED ARIFUZZAMAN, Clemson University, Caleb Behrend, Jeffrey N Anker
- (840-14 P) **Oxygen Sensitive Probes** PETER GENNARO, Clemson University
- (840-15 P) **Graphene Oxide as an Efficient Antibacterial Agent in Macrophages and in Mice** XU WU, University of North Dakota, Xiao Liu, Yuqian Xing, Julia Xiaojun Zhao, Min Wu
- (840-16 P) **pH Indicator to Enhance Surface Plasmon Resonance Imaging Detection of Small Organic Molecules** ZAINAB HUSSAIN AL MUBARAK, Oklahoma State University, Gayan Premaratne, Cassandra Rodenbaugh, Lucy Lehoczyk, Sadagopan Krishnan
- (840-17 P) **Membrane Based Electrodes for Electrochemical Applications in Biology** TANYA BAKMAND, DTU Nanotech, Dorota Kwasny, Fatima Al-Zahraa Al Atrakchi, Helle Waagepetersen, Winnie E Svendsen, Maria Dimaki
- (840-18 P) **Paper-Based Colorimetric Glucose Determination Using Smartphone** HAKAN CIFTCI, Kirikkale University, Nazlı Ayyıldız, Ugur Tamer

POSTER SESSION

Session 850

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Thermal Analysis

Monday Afternoon, Exposition Floor, 400 Aisle

- (850-1 P) **New TGA-FT-IR Library for Polymers** EKKEHARD POST, NETZSCH Geratebau GmbH, Carolin Fischer, Bob Fidler
- (850-2 P) **Beyond Classical Dynamic Mechanical Analysis - Using A New High-Force, High-Temperature DMA to Characterize Advanced Materials** BOB FIDLER, NETZSCH Instruments NA LLC, Horst Deckmann, Juergen Blumm, Ekkehard Post, Tobias Pflock
- (850-3 P) **Exploring the Properties of Textiles with Thermal Analysis, Infrared and UV/Vis Spectroscopy** ANTHONY J LANG, PerkinElmer, Aaron H Adams, Jack Botting

TUESDAY, MARCH 8, 2016 MORNING

AWARDS

Session 860

Pittsburgh Analytical Chemistry Award

arranged by Joanne Smith, The Pittsburgh Conference

Tuesday Morning, Room B312

Joanne Smith, The Pittsburgh Conference, Presiding

- 8:30 **Introductory Remarks - Joanne Smith**
- 8:35 **Presentation of the 2016 Pittsburgh Analytical Chemistry Award to Sanford A Asher, University of Pittsburgh, by Elias S Absey, Chair, Society for Analytical Chemists of Pittsburgh**
- 8:40 (860-1) **Photonic Crystal Hydrogel and Organogel Sensors for Chemical and Biological Analytes** SANFORD A ASHER, University of Pittsburgh, Natasha L Smith, Zhongyu Cai, Andrew E Coukouma
- 9:15 (860-2) **Structural Characterization of Methylenedianiline Regioisomers by Ion Mobility-Mass Spectrometry, Tandem Mass Spectrometry, and Computational Strategies - MALDI Spectra** DAVID M HERCULES, Vanderbilt University, Sarah M Stow, Tiffany M Onifer, John A McLean
- 9:50 (860-3) **Liposomal Spherical Nucleic Acids: A New Approach to Immunomodulatory Therapy** CHAD A MIRKIN, Northwestern University
- 10:25 **Recess**
- 10:40 (860-4) **Measuring DNA Hybridization Kinetics by Single-Molecule Fluorescence Imaging** JOEL M HARRIS, University of Utah, Eric M Peterson, Michael Manhart, Frances Morris
- 11:15 (860-5) **SERS-Based Metabolic Profiling for Diagnostics and Forensics** LAWRENCE ZIEGLER, Boston University

AWARDS

Session 870

The Coblentz Society/ABB - Bomem-Michelson Award

arranged by Brooks Pate, University of Virginia

Tuesday Morning, Room B314

Brooks Pate, University of Virginia, Presiding

- 8:30 **Introductory Remarks - Brooks Pate**
- 8:35 **Presentation of the 2016 Coblentz Society/ABB - Bomem-Michelson Award to Shaul Mukamel, University of California Irvine, by Henry L. Buijs, ABB**
- 8:40 (870-1) **Coherent Ultrafast Multidimensional Spectroscopy of Molecules with Optical, X-Ray, and Quantum Light** SHAUL MUKAMEL, University of California, Irvine
- 9:15 (870-2) **Photosynthetic Light Harvesting from Individual Complexes to the Grana Membrane** GRAHAM RICHARD FLEMING, University of California at Berkeley
- 9:50 (870-3) **A Few Lessons from Non-Adiabatic Excited State Dynamics Simulations of Large Molecules** SERGEI TRETIAK, Los Alamos National Laboratory
- 10:25 **Recess**
- 10:40 (870-4) **Photosynthetic Light Harvesting and Ultrafast Energy Transfer** GREG D SCHOLE, Princeton University
- 11:15 (870-5) **Elucidation of Chemical Reactions by Two-Dimensional Resonance Raman Spectroscopy** ANDREW MORAN, University of North Carolina

SYMPOSIUM Session 880

ACS-ANLY - Chemometrics: A New Dimension in Chromatography

arranged by Amber M Hupp, College of the Holy Cross

Tuesday Morning, Room B308

Amber M Hupp, College of the Holy Cross, Presiding

8:30		Introductory Remarks - Amber M Hupp
8:35	(880-1)	Applying the Hotelling Trace Criterion to Optimize Chromatogram Alignment of Biodiesel Diesel Blended Fuels AMBER M HUPP, College of the Holy Cross, Gopal Yalla, John O'Connor, Kevin Walsh, Edward Soares
9:10	(880-2)	Forensic Signatures for the Source Attribution of Chemical Threat Agents Using Chemical Profiling, Stable Isotope Ratios and Chemometrics CARLOS FRAGA, Pacific Northwest National Laboratory
9:45	(880-3)	Chemometrics: An Old Dimension in Chromatography – Application to New Dimensions SARAH C RUTAN, Virginia Commonwealth University, Daniel W Cook, Melanie M. Sinanian
10:20		Recess
10:35	(880-4)	Data Reduction and Processing Tools for GCxGC-TOFMS JAMES J HARYNUK, University of Alberta, Lawrence A Adutwum, A Paulina de la Mata
11:10	(880-5)	Chemometric Approaches to Maximize Interpretation of GCxGC - TOFMS Data for Discovery-Based Analyses ROB SYNOVEC, University of Washington

SYMPOSIUM Session 890

Advances in Analytical Methodologies for the Detection of Food Allergens and Gluten

arranged by Lowri DeJager and Christine Parker, U.S. Food and Drug Administration

Tuesday Morning, Room B302

Christine Parker, U.S. Food and Drug Administration, Presiding

8:30		Introductory Remarks - Lowri DeJager and Christine Parker
8:35	(890-1)	Approaches to Multianalyte Allergen Analysis in Food CLARE MILLS, The University of Manchester, Karine Adel-Patient, Sabine Baumgartner
9:10	(890-2)	Effects of Cross-Reactivity in Food Allergy Detection and Diagnosis SOHEILA J MALEKI, USDA-Agricultural Research Service
9:45	(890-3)	Novel Approaches to Identifying Amadori Products in Peanut Extract GEOFFREY MUELLER, National Institute of Environmental Health Sciences, Jason Williams, Katina Johnson
10:20		Recess
10:35	(890-4)	Overview of Analytical Methods for Food Allergen and Gluten Analysis: Challenges and Trends from a Regulatory Perspective TERRY KOERNER, Health Canada
11:10	(890-5)	Effects of a Proline Endopeptidase on the Detection and Quantification of Gluten During the Fermentation of Beer RAKHI PANDA, Food and Drug Administration, Katherine L Fiedler, Chung Y Cho, Eric A Garber

SYMPOSIUM Session 900

Advances in Two-Dimensional Liquid Chromatography Separations of Biopharmaceuticals

arranged by Dwight R Stoll, Gustavus Adolphus College

Tuesday Morning, Room B303

Dwight R Stoll, Gustavus Adolphus College, Presiding

8:30		Introductory Remarks - Dwight R Stoll
8:35	(900-1)	Column Technology for the Chromatographic Characterization of Biopharmaceuticals DAVY GUILLARME, University of Geneva, Jean-Luc Veuthey, Szabolcs Fekete
9:10	(900-2)	Optimization of Two-Dimensional Liquid Chromatography Separations of Therapeutic Monoclonal Antibodies Involving Ion-Exchange and Reversed-Phase Separation Modes DWIGHT R STOLL, Gustavus Adolphus College, David C Harnes, Jacob Bush, Matthew Sorensen, Gregory Staples, Szabolcs Fekete, Davy Guillaume, Alain Beck

9:45	(900-3)	Application of a Multi-Dimensional Approach for Quantification of Free Drug in Antibody Drug Conjugates BROOKE M KOSHEL, Waters Corporation, Robert Birdsall, Alain Beck, Sean M McCarthy
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10:20		Recess
10:35	(900-4)	2-Dimensional Liquid Chromatography for Rapid Parallel Separation of Biopharmaceuticals YAN HE, Pfizer, Ian Hartzel, Michael T Jones
11:10	(900-5)	Antibody-Drug-Conjugates (ADC) Drug Product Profiling by Multi-dimensional HPLC KELLY ZHANG, Genentech

SYMPOSIUM Session 910

Graphene Nanomaterials for Bio/Sensing Applications

arranged by Ashok Mulchandani, University of California, Riverside and Chenzhong Li, Florida International University

Tuesday Morning, Room B304

Ashok Mulchandani, University of California, Riverside, Presiding

8:30		Introductory Remarks - Ashok Mulchandani and Chenzhong Li
8:35	(910-1)	New Concepts in Biosensing Using Single Walled Carbon Nanotubes and Graphene MICHAEL S STRANO, Massachusetts Institute of Technology
9:10	(910-2)	Graphene Electrodes for Bio/chemical Sensors ASHOK MULCHANDANI, University of California, Riverside
9:45	(910-3)	A Novel Wireless Biosensing Platform Enabled by Graphene Varactors STEVEN J KOESTER, University of Minnesota
10:20		Recess
10:35	(910-4)	Graphene-Enabled Nano/Bio Hybrids for Chemical Detection and Medical Diagnostics A T CHARLIE JOHNSON, University of Pennsylvania
11:10	(910-5)	Impedance Sensing of Nanotoxicity of Graphene at the Cellular and Tissue Level CHENZHONG LI, Florida International University

SYMPOSIUM Session 920

JAIMA - The State-of-the-Art Technologies from Japan: Analytical Instruments with/for Nano-Chemistry Technology and Advanced Diagnosis (I)

arranged by Koichiro Matsuda, JAIMA

Tuesday Morning, Room B305

Koichiro Matsuda, JAIMA, Presiding

Takeshi Kawamoto, JAIMA, Presiding

8:30		Introductory Remarks - Gon-emon Kurihara, President of JAIMA
8:35	(920-1)	Creation of Bio/Chemical Sensing Probes KOJI SUZUKI, Keio University, Daniel Citterio
9:10	(920-2)	Ab Initio Powder Structure Determination Opening Up New Research Fields MASAKI KAWANO, Pohang University of Science and Technology
9:45	(920-3)	Nanodroplet Formation and Chemical Analysis in Microfluidic Devices AKIHIDE HIBARA, Tokyo Institute of Technology
10:20		Recess
10:35	(920-4)	Development of Mass Microscope and Applications in Drug and Oncometabolite Visualization SHUICHI SHIMMA, Osaka University
11:10	(920-5)	Plasma Phospholipids and Prevalence of Mild Cognitive Impairment/ Dementia DANNI LI, University of Minnesota

TECHNICAL PROGRAM

SYMPOSIUM

Session 930

Ultra-high-Resolution Mass Spectrometry: A New Frontier

arranged by Alan G Marshall, Florida State University

Tuesday Morning, Room B301

Alan G Marshall, Florida State University, Presiding

8:30		Introductory Remarks - Alan G Marshall
8:35	(930-1)	High-Resolution TOFMS via a Folded Flight Path: You Can Have Your Cake and Eat It Too VIATCHESLAV ARTAEV, Leco Corporation, Michael Mason, Peter Willis, Anatoly Verenchikov
9:10	(930-2)	21 Tesla FT-ICR Mass Spectrometer for Top-Down Protein Identification and Characterization CHRISTOPHER L HENDRICKSON, National High Magnetic Field Laboratory, Lissa C Anderson, John P Quinn, Nathan K Kaiser, Donald F Smith, Greg T Blakney, Alan G Marshall
9:45	(930-3)	Exploring the Microbiome via Advanced Mass Spectrometry LJILJANA PASA-TOLIC, EMSL, PNNL, Jared B Shaw, Malak Tfaily, Nikola Tolic, Errol Robinson, David W Koppenaal, Nancy J Hess
10:20		Recess
10:35	(930-4)	Complex Mixture Analysis by Ultra-High Resolution Mass Spectrometry RYAN P RODGERS, Florida State University, Amy C Clingenpeel, Steven M Rowland, Vladislav V Lobodin, David C Podgorski, Yuri E Corilo, Priscila M Lalli, Jonathan C Putman, Winston K Robbins
11:10	(930-5)	Orbitrap Mass Analyzers: The Teenage Years MICHAEL W SENKO, Thermo Fisher Scientific, Jesse D Canterbury, Eduard Denisov, Alexander Makarov

ORGANIZED CONTRIBUTED SESSIONS

Session 940

High Performance SFC for the Analysis of Pharmaceuticals, Nutraceuticals, Natural Products and Metabolomics

arranged by David Kohler, ES Industries and Patrick G Fromal, Shimadzu Scientific Instruments Inc

Tuesday Morning, Room B309

David Kohler, ES Industries, Presiding

8:30	(940-1)	Analysis of Mycotoxins in Various Food Matrices via SFE/SFC/MS TODD ANDERSON, Shimadzu Scientific
8:50	(940-2)	Evaluation of a Liquid Carbon Dioxide Based Flash Chromatography System RAY MCCLAIN, Merck
9:10	(940-3)	Fluoro-Methylphenylcarbamates of Cellulose as Chiral Stationary Phases for Supercritical Fluid Chromatography WILLIAM FARRELL, Pfizer, Inc., Matthew Przybyciel
9:30	(940-4)	Potential of Supercritical Fluid Extraction and Separation Technologies in Metabolomics BAMBA TAKESHI, Kyushu University
9:50		Recess
10:05	(940-5)	SFC – An Essential “Green” Separation Technique for the Chromatographic Analysis of a Nutraceuticals MATTHEW PRZYBYCIEL, ES Industries
10:25	(940-6)	SFC, A Walk on the Wild Side BRENT MURPHY, Genentech, Mengling Wong, Joseph H Pease, Michael Hayes, Amber Guillen, Christopher Hamman
10:45	(940-7)	Understanding the Value of Preparative Chiral Separations in Advancing Pharmaceutical R&D Projects MICKEY REGO, Averca Discovery Services, Jeffrey Kiplinger, Paul Lefebvre, Keith Galyan, Emily Showell-Rouse
11:05	(940-8)	Open Discussion

ORGANIZED CONTRIBUTED SESSIONS

Session 950

Molecular Modelling and Quantum Mechanical Calculations: From Small Molecules to Large Multimeric Protein Complexes

arranged by Iain Campuzano and Michael D Bartberger, Amgen

Tuesday Morning, Room B310

Iain Campuzano, Amgen, Presiding

8:30	(950-1)	Vibrational Optical Activity of Helical Peptides JAMES R CHEESEMAN, Gaussian, Inc.
8:50	(950-2)	Interplay of Theory and Experiment: Small Molecule Ion Mobility and Spectroscopic Characterization of Metabolites MICHAEL D BARTBERGER, Amgen
9:10	(950-3)	Efficient Photostitching of Peptide Ion Complexes in the Gas Phase with the Photo-Leucine Zipper FRANTISEK TURECEK, University of Washington, Christopher J Shaffer, Akis P Andrikopoulos, Lubomir Rulisek
9:30	(950-4)	Chiroptical Spectroscopy for Molecular Structure Determination PRASAD L POLAVARAPU, Vanderbilt University
9:50		Recess
10:05	(950-5)	The Use of Molecular Modelling for Ion Mobility Drift Time and Fragment Ion Prediction in Ion Mobility and Mass Spectrometry CRIS LAPHORN, University of Greenwich, Frank S Pullen, Babur Chowdhry, Patricia Wright, George Perkins, Yanira Heredia, Trevor Dines
10:25	(950-6)	Dynamical Networks of Protein Residue-Residue Contacts Provide Insights into Enzyme Function DONALD HAMELBERG, Georgia State University
10:45	(950-7)	A Molecular Dynamics and Ion Mobility Study of Protein Structure Collapse in the Gas-phase IAIN CAMPUZANO, Amgen, Morgan Lawrenz, Carlos Larriba-Andaluz
11:05	(950-8)	Hell Bent on Opening: Structural Basis for Estrogen Modulation of Potassium Recycling During Epithelial Secretion BRETT KRONCKE, Vanderbilt University

ORGANIZED CONTRIBUTED SESSIONS

Session 960

SEAC Young Investigator Session

arranged by Hitomi Mukaibo, University of Rochester

Tuesday Morning, Room B311

Hitomi Mukaibo, University of Rochester, Presiding

8:30	(960-1)	Fluorescence-Enabled Electrochemistry BO ZHANG, University of Washington
8:50	(960-2)	Designing Functional Nanostructured Gels for Electrochemical Energy Storage and Biosensors GUIHUA YU, University of Texas at Austin
9:10	(960-3)	Inhibiting Electrochemical Processes in Li-ion Batteries at High Temperatures Using Responsive Polymers MARK E ROBERTS, Clemson University, Jesse C Kelly, Nick L DeGroot
9:30	(960-4)	Revealing the Mechanism of Electron Uptake in Methanogenic Biofilm Community Using a Solid-Phase Electron Donor SOFIA BABANOVA, JCVI, Kayla Carpenter, Sujal Phadke, Tony Phan, Shunichi Ishii, Shino Suzuki, Michael Salvacion, Michael Flynn, John Hogan, Orianna Bretschger
9:50		Recess
10:05	(960-5)	Reagentless and Reusable Electrochemical Metal Ion Sensors REBECCA Y LAI, University of Nebraska-Lincoln
10:25	(960-6)	Electrochemical Imaging of Ionic Reactivity at Operating Ion Batteries JOAQUIN RODRIGUEZ LOPEZ, University of Illinois
10:45	(960-7)	In Vivo Serotonin Chemistry and Local Cytoarchitecture: A Combined Voltammetric, Mathematical and Microscopy Study PARASTOO HASHEMI, University of South Carolina, Aya Abdalla
11:05	(960-8)	Ec-LLS at the Micro- and Macroscale: Electrodeposition of Semiconductor Films and Nanocrystals STEPHEN MALDONADO, University of Michigan

ORGANIZED CONTRIBUTED SESSIONS

Session 970

Supercritical CO₂ – SFE/SFC: Advances in Extraction and Purification for Pharmaceutical and Natural Products

arranged by Andy Miles, Regis Technologies and Gregory K. Webster, AbbVie

Tuesday Morning, Room B313

Andy Miles, Regis Technologies, Presiding

8:30	(970-1)	Supercritical Fluid Chromatography in Support of Pharmaceutical – A Study of Scale-Up from Analytical to Preparative Scale with Isocratic Conditions MIRLINDA BIBA, Merck, Jinchu Liu, Lindsey Jacobs, Judy Morris, Ingrid Mergelsberg
8:50	(970-2)	Strategies for Increasing Throughput of Chiral Separations by Supercritical Fluid Chromatography ERIN JORDAN, AbbVie, Philip A Searle
9:10	(970-3)	Withdrawn
9:30	(970-4)	SFC-MS as the Technique of Choice for Small Molecules Purification GERARD ROSSE, Dart Neuroscience
9:50		Recess
10:05	(970-5)	Practical Approaches to SFE and SFC in Drug Discovery JOSEPH H PEASE, Genentech, Brent Murphy, Mengling Wong, Michael Hayes, Amber Guillen
10:25	(970-6)	One Phase, Three Techniques: Utilizing One SFC Stationary Phase Across Three Chromatographic Techniques CHRISTINE AURIGEMMA, Pfizer, Inc., Perrine Hoerter, William Farrell
10:45	(970-7)	Online SFE-SFC Purification Method Development Using SFC Solubility Determination WES BARNHART, Amgen, Kyung Gahm
11:05	(970-8)	Utilizing SFE and SFC for Extraction and Isolation of Cannabinoids CHRISTOPHER HUDALLA, ProVerde Laboratories

ORAL SESSIONS

Session 980

Biomedical: Advances in Glucose Monitoring and Therapeutics of Diabetes - Half Session

Tuesday Morning, Room B408

Barbara Manner, The Pittsburgh Conference, Presiding

8:30	(980-1)	Skin Interface and Spectrometer Development for Noninvasive Glucose Measurements in People over Combination Near-Infrared Wavelengths ARIEL BOHMAN, University of Iowa, Mark A Arnold, Gary W Small, Michael J Miller
8:50	(980-2)	Advances in Development of Glucose Biosensors ARUNAS RAMANAVICIUS, Vilnius University, Natalija German, Asta Kausaite-Minkstimiene, Inga Vilkonciene, Povilas Genys, Jaroslav Voronovic, Jurate Petroniene, Almira Ramanaviciene
9:10	(980-3)	A Microfluidic Cell Culture Device for Automated Sample Preparation and Improved Biomimetic Modeling in Diabetes Metabolomics LAURA FILLA, Saint Louis University, James L Edwards
9:30	(980-4)	Analysis of Drug-Protein Interactions During Diabetes by High-Performance Affinity Chromatography ZHAO LI, University of Nebraska-Lincoln, Ryan Matsuda, David Hage

ORAL SESSIONS

Session 990

Capillary Electrophoresis

Tuesday Morning, Room B315

Elizabeth Harris, Mannkind Corporation, Presiding

8:30	(990-1)	Monitoring Neurotransmitter Secretion from Islets of Langerhans KIMBERLY EVANS, Florida State University, Xue Wang, Michael G Roper
8:50	(990-2)	Observing Peptide Folding Intermediates Using Capillary Electrophoresis ALISON E HOLLIDAY, Moravian College, John D Barr, Liqing Shi, David E Clemmer
9:10	(990-3)	PDMS Micro-cross Junction for Online Nanoliter Heart-cut for Two Dimensional CE Separation VITALY AVILOV, University of Illinois at Chicago, Scott A Shippy
9:30	(990-4)	Real Time Monitoring of Amino Acid Secretions from Islets of Langerhans Using a Microfluidic Device XUE WANG, Florida State University, Michael G Roper, Lian Yi
9:50		Recess

10:05	(990-5)	Single-Cell Chemical Cytometry of Akt Activity within Primary Rheumatoid Arthritis Synovial Fibroblasts Illustrates Heterogeneity in Patient Responses to TNFα EMILIE R MAINZ, University of North Carolina at Chapel Hill, Stephen Serafin, David Lawrence, Teresa Tarrant, Christopher Sims, Nancy Allbritton
10:25	(990-6)	The Determination of Oxidative Stress Biomarkers of Lipid Peroxidation Using a Novel Capillary Electrophoresis-Mass Spectrometry Sheathless Interface Design RYAN T JOHNSON, University of Kansas, Craig E Lunte, Nhan To, John Stobaugh
10:45	(990-7)	Analysis of Metabolite Biomarkers in Prostate Cancer Tissues by Capillary Electrophoresis Mass Spectrometry YANG LU, Georgia State University, Shahab S Shamsi, Dean Troyer
11:05	(990-8)	Rapid Determination of Cyanide in Human Urine by Capillary Electrophoresis Coupled with Laser-Induced Fluorescence Detection QIYANG ZHANG, Wichita State University, Naveen Maddukuri, Maojun Gong

ORAL SESSIONS

Session 1000

Electrochemistry - New Approaches and Techniques

Tuesday Morning, Room B316

Lawrence A Bottomley, Georgia Institute of Technology, Presiding

8:30	(1000-1)	Stochastic Electrochemistry of TiO₂ Nanoparticles and Their Agglomerates MARIO ALPUCHE-AVILES, University of Nevada, Reno, Pushpa Chhetri, Krishna K Barakoti, Ganesh Rana, Andrew Recinos
8:50	(1000-2)	The Development of an Automated NanoElectrode Array Sensor to Detect Evaporation and Changes in Cellular Bioenergetics in a Submicroliter Chamber from an Organ-on-a-Chip System ANNA N DAVIS, Vanderbilt University, John Wikswa, David Cliffl
9:10	(1000-3)	Scanning Electrochemical Microscopy (SECM): A New Tool to Study Microbial Metabolism DIPANKAR KOLEY, Oregon State University, Vrushali Joshi
9:30	(1000-4)	Drug Metabolism Assays and Metabolite Synthesis Using Microsomes Based Bioreactor RAJASEKHARA NERIMETLA, Oklahoma State University, Sadagopan Krishnan
9:50		Recess
10:05	(1000-5)	High-Density Microelectrode Arrays as Electrochemical Imaging Platforms RACHEL M FEENY, Colorado State University, John Wydallis, Lang Yang, Stacy Willett, Tom Chen, Stuart A Tobet, Charles Henry
10:25	(1000-6)	Imaging of Immobilized Enzymes and Yeast Cells by Scanning Electrochemical Microscopy ARUNAS RAMANAVICIUS, Vilnius University, Inga Vilkonciene, Rita Sareikaite, Aura Kisieliute, Povilas Genys, Jurate Petroniene, Almira Ramanaviciene
10:45	(1000-7)	Rapid Temperature Control of Electrochemical and Biochemical Systems Using Microfabricated Heaters NICHOLAS M CONTENTO, Biomolecular Measurement Division, Sarah M Robinson, Kurt D Benkstein, Herman O Sintim, Steve Semancik
11:05	(1000-8)	A Simple, High Yield Method to Microfabricate Planar Microelectrode Arrays MOHAMED M MAREI, University of Louisville, Mark Crain, Richard P Baldwin, Robert S Keynton

ORAL SESSIONS

Session 1010

Enhancements in Pharmaceutical and Environmental Separations

Tuesday Morning, Room B402

Richard Henry, Consultant, Presiding

8:30	(1010-1)	Sub-ppm Level Formaldehyde Measurement in Complex Sample Matrices Using a Variety of Analytical Methods – Method Comparison and Practical Considerations PEILIN YANG, The Dow Chemical Company, Francois Huby, James N Alexander IV
8:50	(1010-2)	Optimization of a Single-Stage, Consumable Free Thermal Modulator for GC x GC HALEIGH BOSWELL, University of Waterloo, Tadeusz Gorecki
9:10	(1010-3)	Thermo Tuning of Redox Potential on Nanostructured Adsorbent for a Reagent-less Recovery of Pollutant Oxoanions MANUEL VALIENTE, Universitat Autònoma de Barcelona, He Liu, Liu Tong, Gustavo Perez
9:30	(1010-4)	Super/subcritical Fluid Chromatographic Chiral Separations with High Efficiency Chiral Stationary Phases ZACHARY BREITBACH, The University of Texas at Arlington, Chandan L Barhate, M Farooq Wahab, Daniel W Armstrong

TECHNICAL PROGRAM

9:50		Recess
10:05	(1010-5)	Novel Solid-Phase Microextraction and Capillary Electrochromatographic Column Techniques for Pharmaceutical Analysis ZILIN CHEN, Wuhan University
10:25	(1010-6)	Retention in Porous Layer Pillar Array Planar Separation Platforms DANIELLE R LINCOLN, University of Tennessee, Knoxville, Nickolay V Lavrik, Michael J Sepaniak
10:45	(1010-7)	Carbon Nanofibers Decorated with Magnetic Nanoparticles as a New Sorbent for the Magnetic Solid Phase Extraction of Selected Polycyclic Aromatic Hydrocarbons from Water Samples ALI SARAFRAZ YAZDI, Ferdowsi University of Mashhad
11:05	(1010-8)	Analytical Method Development: Are We Solving the Right Problem? A Systematic Approach to Select an Appropriate RPLC Column and to Optimize Separation IMAD A HAIDAR AHMAD, Novartis, James Tam, Xue Li, Thomas Tarara, Andrei Blasko

ORAL SESSIONS Session 1020

Environmental Air Quality and Analysis

Tuesday Morning, Room B403

John Kokosa, Research Consultant, Presiding

8:30	(1020-1)	On-site Determination of Formaldehyde Using SPME and a Portable GC-TMS JUSTEN J POOLE, University of Waterloo, Jonathan J Grandy, German A Gomez-Rios, Janusz Pawliszyn
8:50	(1020-2)	Fast, Accurate, and Precise: How to Comply with EPA Method 325b (Fence Line Monitoring for Benzene) LEE MAROTTA, PerkinElmer, Roberta Provost, Amy Jacobson, Mariah Peronto
9:10	(1020-3)	Investigation and Modelling of the Sampling Process in a PDMS-Based Permeation Passive Sampler FATEN SALIM, University of Waterloo, Marios Ioannidis, Tadeusz Gorecki
9:30	(1020-4)	QCL-Based Perfluorocarbon Emission Monitoring LUIS H ESPINOZA-NAVA, Alcoa Inc
9:50		Recess
10:05	(1020-5)	Laser Derivatization for Soot Source Identification RANDY VANDER WAL, Penn State University, Chethan K Gaddam
10:25	(1020-6)	Analysis of Damaged Floor Coverings Emissions in Indoor Air Quality with Cantilever-Enhanced Photoacoustic Spectroscopy JUSSI RAITTILA, Gaser Ltd., Ismo Kauppinen, Sauli Sinisalo, Jaakko Lehtinen
10:45	(1020-7)	Ship Emissions Monitoring with Laser-Based Cantilever-Enhanced Photoacoustic Detection JAAKKO LEHTINEN, Gaser Ltd., Ismo Kauppinen, Jussi Raittila
11:05	(1020-8)	Hand Held Detector Based on an Ion Mobility Spectrometer and an Additional Detector (Electrochemical Cell or Alternatively a Photo Ionization Detector) for the Detection of Toxic Gases in Chemical Industries ANDREAS WALTE, Airsense Analytics, Bert Ungethuen, Wolf Muenchmeyer

ORAL SESSIONS Session 1030

Magnetic Resonance - Half Session

Tuesday Morning, Room B408

Barbara Manner, The Pittsburgh Conference, Presiding

10:05	(1030-1)	Quantitative Determination of Short-Chain Branching and Co-Monomer Content in High Density Polyethylene by NMR Spectroscopy RAVINDRA KUMAR, Indian Oil Corporation Ltd, Veena Bansal, Sujit Mondal, GS Kapur, V Kagdiyil, Deepak Saxena
10:25	(1030-2)	GPC-NMR Analysis of Polymeric Mixtures NIKKI H LAFEMINA, Arkema
10:45	(1030-3)	Quantitative Analysis of Phosphorous Containing Drug Molecules Encapsulated in pH-Sensitive Nanoparticle Formulations to Establish Drug Loading and Drug Releasing Profile by Utilizing 31P Solid State and Solution State NMR Spectroscopy SUDHAUNSHU S PUROHIT, University of Missouri Kansas City, Jianing Meng, Vivek Agrahari, Bi Botti Celestin Youan, Nathan Oyler
11:05	(1030-4)	Nanoparticle-Assisted Removal of Proteins in Human Serum for Metabolomics Studies BO ZHANG, The Ohio State University, Mouzhe Xie, Lei Brusckweiler-Li, Rafael Bruschweiler

ORAL SESSIONS Session 1040

Mass Spectrometry - Bioanalytical

Tuesday Morning, Room B404

Daniel E Austin, Brigham Young University, Presiding

8:30	(1040-1)	Electrospray Ionization-High Pressure Mass Spectrometry for Peptide and Protein Analysis RUSSELL E BORNSCHEIN, University of North Carolina at Chapel Hill, William M Gilliland, J Michael Ramsey
8:50	(1040-2)	Current Analytical Techniques for Glycoprotein Characterization by Mass Spectrometry PARASTOO AZADI, Complex Carbohydrate Research Center
9:10	(1040-3)	Nanopatterning Ligands to Enable Cell-Based Assays Using SAMDI-Mass Spectrometry MARIA D CABEZAS, Northwestern University, Milan Mrksich, Chad A Mirkin
9:30	(1040-4)	Shotgun Lipidomic Analysis of Human Meibum by MS/MS^{III} with Successive Switching between Positive and Negative Detection Modes JIANZHONG CHEN, University of Alabama at Birmingham, Kelly Nichols

9:50 **Recess**

10:05	(1040-5)	Development, Characterization, and Application of Coated Blade Spray Ionization GERMAN A GOMEZ-RIOS, University of Waterloo, Nathaly Reyes-Garces, Ezel Boyaci, Janusz Pawliszyn
10:25	(1040-6)	Discrimination of Carbohydrate Isomers as Transition Metal Adducts Using Ion Mobility Spectrometry and Tandem Mass Spectrometry YUTING HUANG, University of Nebraska-Lincoln, Eric D Dodds, Lauren M Petrosch
10:45	(1040-7)	Scan-by-Scan Analysis of Orbitrap Fine Isotope Structures for Unique Elemental Composition Determination YONGDONG WANG, Cerno Bioscience, Ming Gu
11:05	(1040-8)	Mass Spectra of Analytical Derivatives of Amino Acids and Small Peptides NINO G TODUA, NIST, Stephen E Stein, Anzor I Mikhaia

ORAL SESSIONS Session 1050

Materials Characterization and Engineering

Tuesday Morning, Room B405

Cecil Dybowski, University of Delaware, Presiding

8:30	(1050-1)	Chemical Analysis Applications and Optical Properties of 3D Printed <100 μm Dimension Microfluidic Channels MICHAEL BEAUCHAMP, Brigham Young University, Hua Gong, Steven Perry, Greg Nordin, Adam T Woolley
8:50	(1050-2)	Crack-Free Three-Dimensionally Ordered Macroporous (3DOM) Structure in Microfluidic Reactor XIAORAN ZHANG, Michigan State University, Gary Blanchard
9:10	(1050-3)	Interfacial Structure-Function Correlation of Perovskite Solar Cell MINYU XIAO, University of Michigan
9:30	(1050-4)	Optical Spectroscopy Analyses of Perovskite Nanomaterials DANIEL J FREPPON, Iowa State University, Long Men, Ujjal Bhattacharjee, Feng Zhu, Jacob W Petrich, Emily A Smith, Javier Vela
9:50		Recess
10:05	(1050-5)	Utilizing Thermal Analysis Methods to Develop and Optimize Porous Structural Ceramics JOHN P SANDERS, Clemson University, Nathaniel Huygen
10:25	(1050-6)	Carbazole-Dye Conjugate - Derived Group of Uniform Materials Based on Organic Salts (GUMBOS) for Optoelectronic Applications DEEPHIKA DE SILVA, Louisiana State University, Noureen Siraj, Isiah M Warner
10:45	(1050-7)	Molecular-Scale IR Thermometer Reveals Sub-Molecular Photo-Plasticization in Azomaterials CHRISTIAN PELLERIN, University of Montreal, Audrey Laventure, Jaana Vapaavuori, Geraldine Bazuin, Olivier Lebel
11:05	(1050-8)	Complete Characterization of the UV-Visible Properties of Optical Materials Using a Total Absolute Measurement System (TAMS) IAN ROBERTSON, PerkinElmer Limited, Steve Upstone, Christopher Lynch

ORAL SESSIONS

Session 1060

Pharmaceutical-MS, UV-VIS and Others

Tuesday Morning, Room B406

Jason N Payne, Western Kentucky University, Presiding

8:30	(1060-1)	Speciation of Elemental Impurities for Compliance with USP <232> JON L SIMS, Perkin Elmer, Helmut Ernstberger, Kenneth Neubauer
8:50	(1060-2)	Oxidative Degradation in Pharmaceuticals: Mechanism and Stabilization of Spray Dried Amorphous Drug - A Case Study ARCHANA KUMAR, Genentech, Raghendhar Kotha
9:10	(1060-3)	Evaluation of Antimicrobial and Nutraceutical Properties of Plukenetia Conophora (Walnut) Leaves CHUKWUEMEKA PAUL AZUBUIKE, University of Lagos, Cecilia I Igwilo, Karamot O Suara
9:30	(1060-4)	Novel Self-Patented Gold Nanoparticles for Antineoplastic Activity JASON N PAYNE, Western Kentucky University, Rajalingam Dakshinamurthy
9:50		Recess
10:05	(1060-5)	Expanding the Analytical Toolbox for Material Verification: Spectroscopic Screening of Raw Ingredients Using Portable Spectrometers JASON D RODRIGUEZ, FDA Division of Pharmaceutical Analysis, Hirsch Srivastava, Fabiola Semidei Ortiz
10:25	(1060-6)	Image Directed Identification of Sub-visible Particles in Protein Based Therapeutics, Classification According USP<787> of Intrinsic, Inherent and Extrinsic Particulate Matter on the Sub-visible Level OLGA LASKINA, rap.ID, Kathryn A Lee, Markus Lankers, Oliver Valet
10:45	(1060-7)	Coupling Chemical Analysis to High Resolution Dark Field Microscopy for Enhanced Physicochemical Characterization of Complex Drug Formulations KATHERINE TYNER, Food and Drug Administration, Sheetal D'Mello, Sau (Larry) Lee
11:05	(1060-8)	Therapeutic Potential of Polyamine-Tethered Low Generation PAMAM Dendrimer Derivatives for Nucleic Acid Delivery RUBY BANSAL, CSIR-Institute of Genomics and Integrative Biology

ORAL SESSIONS

Session 1070

Sensors - Biomedical

Tuesday Morning, Room B407

Emil Ciurczak, Doramaxx Consulting, Presiding

8:30	(1070-1)	Disposable Sensors for the Remote Monitoring of Chronic Wounds FABIO DI FRANCESCO, Università di Pisa, Nicola Calisi, Bernardo Melai, Pietro Salvo, Clara Paoletti, Letizia Moni, Consuelo Politino, Alessio Ceccarini
8:50	(1070-2)	Real-Time Monitoring Urinary Encrustation Using Quartz Crystal Microbalance Sensor PEGAH N ABADIAN, Northeastern University, Jun Li, Edgar D Goluch, John Victor, Jonathan Zhang
9:10	(1070-3)	A Fiber Optic Biosensor for Noninvasive Transdermal Glucose Sensing Based on the Glucose Binding Protein CRISTINA E TIANGCO, University of Maryland Baltimore County, Dieudonne Fon, Yordan Kostov, Govind Rao, Leah Tolosa, Fortunato Sevilla, Dayanand Bagdure
9:30	(1070-4)	Direct Measurement of Total Concentration of Major Physiological Anions, Chloride and Bicarbonate, Using Pulsed Chronopotentiometry with Ion-Selective Electrodes (Pulstrode) KEBEDE L GEMENE, Northern Kentucky University, Aadaeze Stella Iloegbunam, Sara Keshtvarz, Simon Segal
9:50		Recess
10:05	(1070-5)	Non-Invasively Interrogating Chemical and Mechanical Sensors on Implanted Medical Devices JEFFREY N ANKER, Clemson University, Jeremy Tzeng, Fenglin Wang, Donald Benza, Peter Gennaro, Yash Raval, Mohammed Arifuzzaman
10:25	(1070-6)	Detection of MicroRNA Presence or Absence with Dual Functioning Signal-On/Off Fluorescent Biosensors NICHOLAS E LARKEY, Oregon State University, Lulu Zhang, Sean M Burrows
10:45	(1070-7)	Single Nanoparticle Plasmonic Spectroscopy and Biosensors for Imaging of Efflux Functions of Single Live Cells X NANCY XU, Old Dominion University, Kerry J Lee, Tao Huang, Prakash d Nallathambay, Feng Ding
11:05	(1070-8)	Detection of Chemotherapeutic-Induced Damage in Genomic DNA Using Integrated Thermoplastic Nanofluidic Sensor Devices KUMUDITHA MADUSHANKA WEERAKOON-RATNAYAKE, University of North Carolina at Chapel Hill, Franklin I Uba, Robert Schotzinger, Steven A Soper

POSTER SESSION

Session 1080

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Environmental Air Quality and Analysis

Tuesday Morning, Exposition Floor, 400 Aisle

(1080-1 P)	Tea Polyphenols Reduces Toxicity of PM2.5 in Human Alveolar Epithelial A549 Cells YING ZHANG, Shijiazhuang CDC, Jie Jiang, Yan He, Yanzhong Chang
(1080-2 P)	Testing of Gas Purifiers for VOC Removal Down to the PMOL/MOL Level ANNARITA BALDAN, VSL, Janneke van Wijk, Jianrong Li, Rina Wortman, Jennifer Englert, Christian Plass-Duelmer, Stefan Persijn, Guido Sassi, Alessia Demichelis, Mariapaola Sassi
(1080-3 P)	An Analytical Method for the Measurement of Reduced Sulfur Gases JÜRGEN MICHAEL LOBERT, Entegris, Inc., Charles M Miller, Emily C Zaloga
(1080-4 P)	Developing and Field Tests of an Automatic Impinger System for Continuous Sampling of Volatile Amines in the Environment CHIA-JUNG LU, National Taiwan Normal University, Wang Chih-Chia, Rih-Sheng Jian, Sung Lung-Yu
(1080-5 P)	SIFT-MS: A One-Stop Analytical Tool for Detection of Fumigation Chemicals DANIEL MILLIGAN, Syft Technologies Ltd, Vaughan Langford, Barry Prince, Thomas McKellar, David Hera, Murray McEwan
(1080-6 P)	SIFT-MS: A Complete Solution for Analysis of Ambient Air DANIEL MILLIGAN, Syft Technologies Ltd, Vaughan Langford, Thomas McKellar, David Hera, Barry Prince, Murray McEwan
(1080-7 P)	Real Time Detection and Identification of Chemical Releases via GCMS PARMINDER KAUR, 1st Detect Corporation, Corey Stedwell, Daniel DeBord
(1080-8 P)	Continuous Fenceline Monitoring Using a Miniature Mass Spectrometer PRESHIOUS REARDEN, 1st Detect Corporation, Madonna Marie Mamerow, Parminder Kaur
(1080-9 P)	Changes in Tobacco-Specific Nitrosamine Cigarette Smoke Deliveries in Unburned, Recycled Portions of Roll-Your-Own Cigarettes BENJAMIN WADE ALVERSON, Centers for Disease Control and Prevention, Jose J Perez, Morgan E Larango, Roberto Bravo, Liqin Zhang, Patrick Chen, Shirley Ding, Mary Halstead, R Steven Pappas, Clifford Watson, Liza Valentin-Blasini
(1080-10 P)	A Method of Performing In-Trap Photoionization in a Miniature Ion Trap Mass Spectrometer COREY STEDWELL, 1st Detect Corporation, Daniel DeBord, Michael Spencer, David Rafferty

POSTER SESSION

Session 1090

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Environmental and Geochemical Analysis: Soils, Minerals, and Agriculture

Tuesday Morning, Exposition Floor, 400 Aisle

(1090-1 P)	Automated Analysis of Explosives in Soil Samples WILLIAM HEDGEPEETH, Shimadzu Scientific Instruments, Kenichiro Tanaka
(1090-2 P)	Mechanisms for Controlling Soil Organic Matter Decompositions: An Application of Pyrolysis -Cryogenic -GC/MS to Molecular Characterizations of Organic Matter in Grass and Forestry Soils XIANZHI (AMANDA) SONG, Young Harris College
(1090-3 P)	A New Analytical Technique for the Determination of Carbonate in Soil Samples TACETTIN OZTURK, Lita Analytical, Onur Iscan
(1090-4 P)	Ion Selective Electrodes - A Cheaper, Simpler and more Robust Analytical Method for Monitoring of Nitrate and Ammonium in Water and Soil TOLU LOPE A FAYOSE, Keele University
(1090-5 P)	Multiple Surface-Science Techniques to Elucidate the Reactive Nature of a Metal Phosphide Mineral DANNA QASIM, Kennesaw State University, Aaron Pital, Thomas Beckman, Heather Abbott-Lyon
(1090-6 P)	A Systems Chemistry Investigation into Nucleoside Phosphorylation Mechanisms by Prebiotic Meteoritic Materials MIKE A MOJICA, Georgia Institute of Technology, Maheen Gull, Matthew Pasek, Charles Liotta, Thomas Orlando, Aaron McKee, Facundo M Fernandez
(1090-7 P)	Current Advances in Instrumentation of Soil Elemental Analyzers DOMINIK MARGRAF, Elementar Analysensysteme GmbH, Christian Schmidt, Tony Szuppa, Sabine Kraus, Lutz Lange, Hans-Peter Sieper
(1090-8 P)	Analysis of PAHs in Soil by Online SFE-SFC KENICHIRO TANAKA, Shimadzu Scientific Instruments, Inc., William Hedgepeth
(1090-9 P)	Determination of PAHs in Durban City Road Dusts ABDULMUMEEN ABDULKADIR, University of Kwazulu-Natal

TECHNICAL PROGRAM

(1090-10 P) **Speciation of Metal-Binding Proteins in Marine Environment** PILAR BERMEJO-BARRERA, University of Santiago de Compostela, Spain, Maria del Carmen Barciela-Alonso, Natalia Garcia-Otero, Olga Cristina Vázquez-Padín, Antonio Moreda-Piñeiro, Raquel Dominguez-Gonzalez, Elena Pena-Vazquez

(1090-11 P) **A New Advancement in the Automated Preparation of Pressed Pellets for XRF Analysis** DAVID COLER, FLSmith, Lukas Bruzenak, Ian Campbell

(1090-12 P) **Multifunctional Ligand Platform for Detection, Capturing and Removal of Cerium Oxide Nanoparticles** ALI OTHMAN, Clarkson University, Silvana Andreescu

POSTER SESSION

Session 1100

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Environmental Applications of Elemental Analysis and Speciation

Tuesday Morning, Exposition Floor, 400 Aisle

- (1100-1 P) **Rare Earth Elements – How to Accurately Determine Contamination Levels and Remove Spectral Interferences Created by Them** EWA M PRUSZKOWSKI, PerkinElmer, Inc., Cynthia Bosnak
- (1100-2 P) **Determination of Heavy Metals In and Around Lake Ontario** SIMRAN SANDHU, St. John Fisher College, Kimberly Chichester
- (1100-3 P) **The Analysis of Flue Gas Desulfurization Fluids by ICP-MS Using Universal Cell and FastFIAS Technology** MICHELLE M COCKER, SCE&G, Daniel H Jones, George W Eargle
- (1100-4 P) **Determination of Cadmium in Environmental Water Samples Collected in Superfund Sites in New York City** YI HE, John Jay College/CUNY, Kathleen Lopez, Sandra Swenson, Kate Good
- (1100-5 P) **Withdrawn**
- (1100-6 P) **Evaluation of Chromium Stability on Filters** TAMUTSIWA M MUTUTUVARI, High Purity Standards, Svetlana Uzunova, Kim-Phuong Tran
- (1100-7 P) **Withdrawn**
- (1100-8 P) **Online Analysis and Speciation of Antimony in Various Wastewater Streams Using Hydride Generation-AFS** BIN CHEN, P S Analytical, Warren T Corns, Peter B Stockwell
- (1100-9 P) **An Efficient Recovery of Rare Metal Ions with Calix[4]arene Derivatives from Acidic Media Using Droplet-Based Microreactor System** MASAYA MIYAZAKI, National Institute of Advanced Industrial Science and Technology, Keisuke Ohto, Masatoshi Maeki, Ramachandra Rao Sathuluri
- (1100-10 P) **Breakthrough Development for Quantitative Analysis of Total Metals in Soil by Portable High Definition X-ray Fluorescence** ZEWU CHEN, XOS, Shenghua Song, Danhong Li, Kyle Kuwitzky
- (1100-11 P) **Chromogenic and Fluorogenic Chemosensors for the Selective Detection of Nd(III) Ion and Their Electrochemical Properties** ASHOK K SINGH, IIT Roorkee, Neha Gupta
- (1100-12 P) **Collaborative Certification of a New Low-Level Hexavalent Chromium Standard Reference Material in a Soil Matrix** JAMES E HENDERSON, Duquesne University, Patrick Benecewicz, Anil Srinivas Chaitanya Vishnuvajhala, Weier Hao, Logan T Miller, Matt Pamuku, Jennifer Crawford, Teresa Switzer, Vasile Furdui, Pam Wee, Francine Walker, Bob O'Brien, Skip Kingston
- (1100-13 P) **Impact of Coexistent Elements and Its Concentration in the Quantification of Strontium-90 Using ICP-MS with Cascade Separation System** YOSHITAKA TAKAGAI, Fukushima University, Takahiro Suzuki, Aya Yokoyama, Makoto Furukawa, Yutaka Kameo, Katz Suzuki

POSTER SESSION

Session 1110

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Environmental Organic Analysis: VOCs, Pesticides, and Others

Tuesday Morning, Exposition Floor, 400 Aisle

- (1110-1 P) **Determination of VOCs by US EPA Method 8260 with Extended Dynamic Range Using Fast, Sensitive Capillary GC/MS** BRAHM PRAKASH, Shimadzu Scientific Instruments, Inc, William Lipps, Di Wang, Nicole M Lock, Shilpi Chopra, Laura Chambers
- (1110-2 P) **Determination of Organochlorine Pesticides and Polychlorinated Biphenyls Using GC-MS/MS Operated in the MRM Mode** BRAHM PRAKASH, Shimadzu Scientific Instruments, Inc., William Lipps, Di Wang, Nicole M Lock, Shilpi Chopra, Laura Chambers
- (1110-3 P) **Analysis of Terpenes Using Gas Chromatography with Vacuum Ultraviolet Detection** CHANGLING QIU, University of Texas at Arlington, Jonathan Smuts, Phillip Walsh, Kevin A Schug
- (1110-4 P) **Use of a Boron Doped Diamond Electrode Sensor for Carbamate Pesticide Classification Using a Chemometric Approach** THIAGO SELVA, University of Sao Paulo, Thiago Paixao
- (1110-5 P) **PCBs and DDTs in Bluefin Tuna From the Adriatic Sea** DARIJA KLIN I, Institute for Med Research and Occupational Health, Snježana Herceg Romanić, Zorana Kljaković -Gašpi, Vjekoslav Tičina
- (1110-6 P) **From Freon to PAHs - A New Generation of Multipurpose Thermal Desorption Tubes** PAOLO BENEDETTI, IIA - CNR, Carlo Crescenzi, Ettore Guerriero
- (1110-7 P) **Search for Organic Substance Sources in the 1B Mine Pool of Sydney Coalfield Abandoned Mines** ALLEN BRITTEN, Cape Breton University, Ceilidh MacDonald, Judy MacInnis, Martin Mkwandawire
- (1110-8 P) **Analysis of Volatile Organic Compounds in Wastewater by Purge and Trap GC/TOF-MS According to EPA Method 624** MOIRA ZANABONI, DANI Instruments, Roberta Lariccia, Matthew S Klee
- (1110-9 P) **Degradation of Environmental Contaminants Using Chlorine Dioxide** SUSHMA APPALA, Middle Tennessee State University, Samanvi Munagala, Megan Z Chong, Ooi G Beng, Ngee Sing Chong
- (1110-10 P) **Automating Solid Phase Extraction and Florisil Clean-Up for Organochlorine Pesticides and PCB Aroclors** PHILIP BASSIGNANI, Fluid Management Systems, Rudolf Addink
- (1110-11 P) **Evaluation of a Novel Hand-Held and Easy-to-Use GC-PID Prototype for Fast and Selective On-site Analysis of Benzene and VOC** MATTHIAS SCHMITTMANN, Bentekk GmbH
- (1110-12 P) **Direct Determination of Glyphosate, Glufosinate, and AMPA in Egg by Liquid Chromatography/Tandem Mass Spectrometry** NARONG CHAMKASEM, FDA, Cynthia Morris, Krystle L Hargrove
- (1110-13 P) **Direct Coupling of Active and Passive Samplings of Organics with Microwave Assisted Thermal Desorption as an Innovative Solvent-Free Method** WILLIAMS ESTEVE, INRS
- (1110-14 P) **Deuterated Monitoring Compounds for Better Accuracy and Precision Measurement of GC/MS Environmental Data** CHARLES G APPLEBY, U.S. Environmental Protection Agency
- (1110-15 P) **Withdrawn**
- (1110-16 P) **Wastewater Monitoring by Fluorescence Excitation and Emission Matrix with Parallel Factor Analysis** SAM LI, NUS, Baisheng Chen
- (1110-17 P) **New Plastic In-Syringe Based Ultrasound Assisted Salt-induced Liquid-Liquid Microextraction Technique for the Rapid Analysis of Triclosan in Aqueous Samples** VINOTH KUMAR PONNUSAMY, National Chung Hsing University, Jen Fon Jen

POSTER SESSION

Session 1120

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Environmental Water Quality and Analysis

Tuesday Morning, Exposition Floor, 400 Aisle

- (1120-1 P) **Electrochemical Determination of the Levels of Some Potentially Toxic Metals in Groundwater and Leachate Samples from Solous II and III Landfill, Lagos Nigeria** WESLEY OHIFEME OKIEI, University of Lagos, Modupe M Ogunlesi, Jeffery Udiandeye
- (1120-2 P) **Determination of N-Nitrosamines by USEPA Method 521 Using Triple Quadrupole Mass Spectrometry** BRAHM PRAKASH, Shimadzu Scientific Instruments, Inc, William Lipps, Di Wang, Nicole M Lock, Shilpi Chopra, Laura Chambers
- (1120-3 P) **Optimizing Treatment of Reclaimed Water at a Drinking Water Plant by Online Monitoring of Organic Carbon Levels** MARK MULLET, GE Analytical Instruments, Dondra Biller
- (1120-4 P) **Development of an Arduino Shield for Water Quality Analysis Probes** MICHAEL CHIA, Northern Kentucky University, Kelley Weigman, Grant Foreman, Richard Durtsche, Celeste A Morris
- (1120-5 P) **Analysis of Peanut Hulls as an Alternative to Ion Exchange Resins** CARMEN L HUFFMAN, Western Carolina University, Kanika O Davis, Melisa J Glatte, Holly Truluck, Tyler S Cook
- (1120-6 P) **Analytical Strategies for Monitoring Ionic Liquids Breakdown by Electro-Fenton Process** ELISA GONZÁLEZ-ROMERO, University of Vigo, Elvira Bocos, Jessica Mejjide, Aida Diez, Marta Pazos, María Ángeles Sanromán
- (1120-7 P) **A Study of Quality of Water and Effect of Various Coagulants on Water of Lodra Lake of Gandhinagar District** JAIMIN K DESAI, Gujarat University, Parekh P Paresah
- (1120-8 P) **Determination of the Toxins Found in Lake Ontario** MARTA LABECKI, St. John Fisher College, Kimberly Chichester
- (1120-9 P) **EPA Method 557 Quantitation of Haloacetic Acids, Bromate and Dalapon in Drinking Water Using Ion Chromatography and Tandem Mass Spectrometry** JONATHAN BECK, Thermo Fisher Scientific, Terri T Christison, Charles Yang, Hans Schweingruber
- (1120-10 P) **Assessment of Water Quality Parameters from the Lower Abandoned Mine Drainage Treatment Facility, Part 2: Further Studies and Results** MARK T STAUFFER, University of Pittsburgh - Greensburg, Tell M Lovelace, Aaron K Hirshka, Luke J Metzler
- (1120-11 P) **Breaking the Biofouling Code: Towards Reliable In-Pipe Water Quality Sensors** ROBERT E WILSON, Imperial College London, Ivan Stoianov, Danny O'Hare
- (1120-12 P) **Analysis of the Residual Oil in Water with Excitation Emission Matrix and Parallel Factor Analysis** KAWAGUCHI YOSHIHIKO, HORIBA Advanced Techno, Co., Ltd., Kojima Reiji
- (1120-13 P) **Sensitive Determination of Arsenate and Phosphate by Molybdenum Blue Method with Membrane Filter Extraction Using a Portable 8-Channel LED-Based Reflective Photometer** YASUTADA SUZUKI, University of Yamanashi, Susumu Kawakubo
- (1120-14 P) **Assessment of Physico-Chemical Analysis of Drinking Water of Kheda District Gujarat (INDIA) and its Impact on Human Health** MAHESHKUMAR B CHAUHAN, J & J College of Science, Dipakkumar K Bhoi, Rameshbhai P Dabhi
- (1120-15 P) **Nano-Sensing Approach for the Determination of Phosphate Ions** MADELEINE JOHNSON, University of Central Florida
- (1120-16 P) **Study of Enhancement Effects of Functionalized Gold Nanorods in Quantitative Analysis of 1-H Benzotriazole by Surface Enhanced Raman Spectroscopy (SERS)** UTTAM SHARMA PHUYAL, Tennessee Technological University, Andrew Callender
- (1120-17 P) **Seasonal Variations in Water Quality Parameters at Thol Bird Sanctuary, Gujarat India** AMRUTLAL B PARMAR, J & J College of Science, Rameshkumar V Parmar, Arunkumar H Dholakia
- (1120-18 P) **A Study of Water Quality Index (W.Q.I) of Parijej Lake District: Kheda - Gujarat** BUNTY R PATEL, J & J College of Science, Alpesh M Patel, Fulaji J Thakor
- (1120-19 P) **Colorimetric and Electrochemical Sensor for Monohydrogen Phosphate Ion Based on 1,3-bis(2-formylphenoxy) Propane Bis(2,4-dinitrophenyl hydrazine)** DIVYA SINGHAL, IIT Roorkee, Ashok K Singh
- (1120-20 P) **The Effect of Slaughter House Waste on the Water Quality of Okpu River** Aba CHIDIEBERE A ODIKE-ADUAKA, Abia State Teaching Hospital Aba, Lilian I Oguguo
- (1120-21 P) **Biosensor for Toxic Compounds in Wastewater Based on Microbial Electrochemistry** SAM LI, NUS
- (1120-22 P) **Rapid Determination of Endocrine Disrupting Bisphenol A (BPA) in Drinking Water by Solid Phase Nano-Extraction and Room-Temperature Fluorescence Spectroscopy** MAHA AL-TAMEEMI, University of Central Florida, Bassam Alfarhani, Andres Campiglia, Jung Jong Seok
- (1120-23 P) **GC/MS Screening of Water Samples for Organic Pollutants by Stir Bar Sorptive Extraction (SBSE)** OLIVER LERCH, Gerstel GmbH & Co. KG, Jasmin Zboron, Andreas Hoffmann, Chris Sandy

POSTER SESSION

Session 1130

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Environmental, Food and Elemental Analyses - Atomic Spectroscopy

Tuesday Morning, Exposition Floor, 400 Aisle

- (1130-1 P) **Analysis of Radium-226 in Shale-Gas Wastewater Using Inductively Coupled Plasma Mass Spectrometry** YUQIANG BI, University of Michigan, Wenjia Fan, Thomas P Yavaraski, Brian R Ellis, Kim F Hayes
- (1130-2 P) **Speciation of Organic Mercury in Water Samples by Alkylation, Organic Solvent Extraction and GC-AFS Detection – A Comparison of Ethylation, Propylation and Phenylation** CORNELIUS BROMBACH, P S Analytical, Bin Chen, Warren T Corns, Jun Yoshinaga
- (1130-3 P) **Models for Predicting Atmospheric Mercury Concentrations Using Meteorological Data and Mercury Concentrations in *Salix* (Willow) Leaves** DAVID LEHMPUHL, Colorado State University Pueblo, Lauren Bartolo
- (1130-4 P) **Assessment of Titanium Dioxide Nanoparticles in Aquatic Tanks** SARA MELOW, Elmira College, Marriah Ellington, Lisa A Holland
- (1130-5 P) **Feasibility Use of Ceramics as Solid Support for Cr(III) Measurement in Water by LIBS** CASSIANA S NOMURA, Institute of Chemistry - University of Sao Paulo, Alexandrina C Carvalho, Daniel M Silvestre, Flávio O Leme, Danielle P Intima, Juliana Naozuka
- (1130-6 P) **Lead Determination in Soil from a Recreational Shooting Range Built on a Reclaimed Strip Mine: Effects of Oxidant Flow Rate on PB Measurements Obtained by FAAS, and Other Considerations** MARK T STAUFFER, University of Pittsburgh - Greensburg, Luke J Metzler
- (1130-7 P) **Determination of Metals in Three Types of Loose-Leaf Tea: Can Metal Content Indicate the Type of Tea?** MARK T STAUFFER, University of Pittsburgh - Greensburg, Aaron K Hirshka
- (1130-8 P) **Determination of Selected Metals and Nonmetals in Pre-Workout Supplements: Results from Initial and Ongoing Investigations** MARK T STAUFFER, University of Pittsburgh - Greensburg, Kelly M Boyles, Nicholas E Glotfelty
- (1130-9 P) **Speciation of Mercury in Rice with a New Online Pre-Concentration HPLC-CV-AFS Method** CORNELIUS BROMBACH, P S Analytical, Piumi K Dona, Bin Chen, Warren T Corns, Eva Krupp, Joerg Feldman
- (1130-10 P) **Optimizing a Total Protein Combustion Instrument for Maximum Sample Throughput and Lowest Cost-Per-Analysis** JEFFERY GAST, LECO Corporation, Mason Marsh
- (1130-11 P) **Laser Induced Breakdown Spectroscopy (LIBS) of Food Samples: Case Study of Tortillas** CHARLES GHANY, Mississippi State University, Herve Sanghapi, Chet R Bhatt, Bader Alfarraj, Fang Y Yueh, Jagdish P Singh
- (1130-12 P) **Development of a Method For the Determination of Titanium Dioxide Nanoparticles in Food Products Using SP-ICPMS** ANTONIO MOREDA-PINEIRO, University of Santiago de Compostela, Maria del Carmen Barciela-Alonso, Olga Cristina Vázquez-Padín, Francisco Javier Vilariño-Páxaro, Manuel Aboal-Somoza, Pilar Bermejo-Barrera, Elena Pena-Vazquez
- (1130-13 P) **Evaluation of Optical Depths of Ca Emission Lines in Laser Induced Breakdown Spectroscopy (LIBS)** BADER ALFARRAJ, Mississippi State University, Herve Sanghapi, Chet R Bhatt, Charles Ghany, Fang Y Yueh, Jagdish P Singh
- (1130-14 P) **Standard Dilution Analysis for the Determination of Calcium by Flame Atomic Emission Spectrophotometry** CLIFTON P CALLOWAY, Winthrop University, Katja A Hall, Emily A Watson
- (1130-15 P) **Cyanide Detection in Blood Using Indirect Atomic Absorption Spectroscopy** JEFFREY ROSENRETER, Idaho State University, Matt Kirkham, Jeff Kuhlmeier
- (1130-16 P) **Advanced Application of Speciation Analysis Using ICP-MS detection** DANIEL KUTSCHER, Thermo Fisher Scientific, Monika Verma, Shona McSheehy Ducos
- (1130-17 P) **Multi-trophic Analysis of Lead Using a Flame Atomic Absorption Spectrometer** MICHAEL DECAROLIS, St. John Fisher College, Christopher Collins, Kimberly Chichester
- (1130-18 P) **Atomic and Molecular Laser Induced Breakdown Spectroscopy for Detection of Chlorine in Concrete** WILL B JONES, University of Florida, Ebo Ewusi-Annan, Tobias Guenther, Ben Smith, Nico Omenetto
- (1130-19 P) **A Modern Multi-Excitation Concept for Total Reflection X-Ray Spectrometry** ARMIN GROSS, Bruker Nano GmbH, Ulrich Waldschlaeger
- (1130-20 P) **Determination of Lead in Keratin Tissues: Method Development and Candidate Reference Material Production Using Caprine Horns** MINA TEHRANI, Wadsworth Center/ SUNY Albany, Patrick J Parsons
- (1130-21 P) **Lead Concentrations in Lagos Groundwater** AMALACHUKWU OLIVE ANADI, Hydrochrom Resources Ltd, Chimezie A Anyakora
- (1130-22 P) **Fast Monitoring Processed Manure Using WD-XRF Spectroscopy for Nutrients and Metals** ALEXANDER SEYFARTH, Rock River Axs LLC, Aicado Roa-Espinosa
- (1130-23 P) **Onsite Monitoring of Manure Using XRF for Nutrients and Metals** ALEXANDER SEYFARTH, Bruker Nano Analytics, Aicado Roa-Espinosa

TECHNICAL PROGRAM

POSTER SESSION

Session 1140

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Sampling and Sample Preparation - Environmental

Tuesday Morning, Exposition Floor, 400 Aisle

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|-------------|--|
| (1140-1 P) | The Measurement of Formaldehyde in Drinking Water Using Automated SPE and HPLC
ALICIA CANNON, Horizon Technology, Chris Shevlin, Michael Ebitson |
| (1140-2 P) | Analysis of Extract Drying Criteria for Oil and Grease Method 1664A/B MICHAEL EBITSON, Horizon Technology, David Gallagher, William Jones |
| (1140-3 P) | Fundamentals and Comparisons for Organic Sample Extract Evaporation ZOE GROSSER, Horizon Technology, Robert Johnson |
| (1140-4 P) | Determination of 2-Methylisoborneol and Geosmin in Water Using Solid Phase Micro Extraction ANNE JUREK, EST Analytical |
| (1140-5 P) | The Advantages of Automated Sample Preparation ANNE JUREK, EST Analytical, Lindsey Pyron, Kelly Cravenor, Justin Murphy |
| (1140-6 P) | Highly Robust Polymeric Ionic Liquid Coatings for Solid Phase Microextraction: Multiclass Determinations with Application of Direct-Immersion-Headspace Mode Using Gas Chromatography-Mass Spectrometry JOSIAS MERIB, Iowa State University, Honglian Yu, Carasek Eduardo, Jared L Anderson |
| (1140-7 P) | Development of Dispersive Liquid-Liquid Microextraction for the Determination of Six Steroidal Hormones in Wastewater Using High Pressure Liquid Chromatography-Charged Aerosol Detector MATHEW MUZI NINDI, Unisa, Cecilia O Osumakinde, Simiso Dube |
| (1140-8 P) | Extraction of Analytes of Forensic Toxicological Interest from Plasma with Enhanced Matrix Removal-Lipid Material JOAN STEVENS, Agilent Technologies, Derick Lucas, Limian Zhao, Megan Juck, William Long |
| (1140-9 P) | Modified Sample Clean-up for Combined POPs Using Automated Multi-Column Fractionation and Analytical Optimization PHILIP BASSIGNANI, Fluid Management Systems, Rudolf Addink |
| (1140-10 P) | Ice Concentration Linked with Extractive Stir Bar NUJUD O MASLAMANI, South Dakota State University |
| (1140-11 P) | The Best Sample Preparation for High Throughput Quantitative X-Ray Diffraction of Mineral Mixtures ROGER MEIER, FLSmidth A/S, Ian Campbell, Lukas Bruzenak, Detlev Götz |
| (1140-12 P) | Nanoporous Solid Phase Microextraction (SPME) Fibers by Sputtering Silicon MASSOUD KAYKHAI, Brigham Young University, Anubhav Diwan, Bhupinder Singh, Matthew R Linfood |

TUESDAY, MARCH 8, 2016 AFTERNOON

AWARDS

Session 1150

Pittsburgh Spectroscopy Award

arranged by Joseph Grabowski, University of Pittsburgh

Tuesday Afternoon, Room B312

Fu-Tyan Lin, The Pittsburgh Conference, Presiding

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| 1:30 | | Introductory Remarks - Fu-Tyan Lin |
| 1:35 | | Presentation of the 2016 Pittsburgh Spectroscopy Award to Jürgen Popp, Friedrich-Schiller University Jena, by Joseph Grabowski, Chair, Spectroscopy Society of Pittsburgh |
| 1:40 | (1150-1) | Overcoming Unmet Medical Needs: Advances in Raman Spectroscopy JÜRGEN POPP, Friedrich-Schiller University Jena |
| 2:15 | (1150-2) | Developing Deep UV Raman Standoff Spectrometers for Trace Explosives SANFORD A ASHER, University of Pittsburgh, Sergei V Bykov, Katie L Gares, Kyle T Hufziger |
| 2:50 | (1150-3) | Enhanced Vibrational Circular Dichroism: Moving Beyond Established Applications of Vibrational Circular Dichroism (VCD) LAURENCE A NAFIE, Syracuse University |
| 3:25 | | Recess |
| 3:40 | (1150-4) | Raman Big Data Analysis for Automatic and Objective Living Cell Discrimination/Diagnosis HIROO HAMAGUCHI, National Chiao Tung University, Masahiro Ando |
| 4:15 | (1150-5) | Raman Scattering from Single, Laser-Trapped Microparticles: A Review WOLFGANG KIEFFER, University of Würzburg |

AWARDS

Session 1160

RSC - JAAS Emerging Investigator Lectureship Award

arranged by Philippa Ross, Royal Society of Chemistry

Tuesday Afternoon, Room B314

Philippa Ross, Royal Society of Chemistry, Presiding

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|------|----------|--|
| 1:30 | | Introductory Remarks - Philippa Ross |
| 1:35 | | Presentation of the 2016 RSC - JAAS Emerging Investigator Lectureship Award to Gerardo Gamez, Texas Tech University, by Philippa Ross, Royal Society of Chemistry |
| 1:40 | (1160-1) | Revealing Surface Elemental Landscapes with Ultra-High Throughput via GDOES GERARDO GAMEZ, Texas Tech University |
| 2:15 | (1160-2) | Laser Ablation-Based Chemical Analysis Techniques: A Short Review JHANIS JOSE GONZALEZ, Lawrence Berkeley National Laboratory |
| 2:50 | (1160-3) | Direct Determination of Trace Antimony and Arsenic in Natural Waters by Photochemical Vapor Generation ICPMS LU YANG, National Research Council Canada |
| 3:25 | | Recess |
| 3:40 | | Presentation of the 2016 RSC - JAAS Emerging Investigator Lectureship Award to Lara Lobo Revilla, University of Oviedo, by Philippa Ross, Royal Society of Chemistry |
| 3:45 | (1160-4) | Pulsed Glow Discharge Time-of-Flight Mass Spectrometry (Positive and Negative Ionization Modes) for Elemental Depth Profiling of Innovative Materials and Polymer Fingerprinting LARA LOBO REVILLA, University of Oviedo, R Muniz, B Fernandez, R Pereira, A Sanz-Medel |
| 4:20 | (1160-5) | What is XRF Doing in a Mass Spectrometry Award Symposium? GEORGE HAVRILLA, Los Alamos National Laboratory |

Tuesday Morning

Tuesday Afternoon

SYMPOSIUM Session 1170

ACS-ANYL - New Approaches to Nuclear Safeguards and Forensics Analysis

arranged by Douglas Duckworth, Pacific Northwest National Laboratory

Tuesday Afternoon, Room B308

Douglas Duckworth, Pacific Northwest National Laboratory, Presiding

1:30		Introductory Remarks - Douglas Duckworth
1:35	(1170-1)	Advances in Online Spectroscopic Monitoring for Process Control and Safeguarding of Radiochemical Streams SAM A BRYAN, Pacific Northwest National Laboratory, Amanda J Casella, Amanda M Lines, Gilbert L Nelson, Job M Bello
2:10	(1170-2)	New XRF Applications to Nuclear Safeguards and Nuclear Forensics GEORGE HAVRILLA, Los Alamos National Laboratory
2:45	(1170-3)	Fieldable Mass Spectrometry: Sample Preparation and Rapid Field Analysis for Nuclear Safeguards PETER STARK, Los Alamos National Laboratory, Elizabeth Judge, Keri Campbell, Lisa Meyers, Chris Leibman, Ning Xu, Thomas Yoshida, Matthew R Dirmyer
3:20		Recess
3:35	(1170-4)	New Analytical Methods for Trace Elemental and Isotopic Analysis of Nuclear Fuel Cycle Materials GREGORY C EIDEN, Pacific Northwest National Laboratory, Andrew M Duffin, Michael P Dion, April J Carman, Orville T Farmer, Jesse D Ward, Carmen S Menoni, Martin Liezers
4:10	(1170-5)	Contribution and Impact of Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) and Laser Induced Breakdown Spectroscopy (LIBS) to Forensic Analysis JHANIS JOSE GONZALEZ, Lawrence Berkeley National Laboratory

SYMPOSIUM Session 1180

Emerging Mass Spectrometry-Based Techniques for Biomolecular Analysis

arranged by Ronghu Wu, Georgia Institute of Technology

Tuesday Afternoon, Room B302

Ronghu Wu, Georgia Institute of Technology, Presiding

1:30		Introductory Remarks - Ronghu Wu
1:35	(1180-1)	Searching for Biomarkers Using Ambient Ionization Mass Spectrometry GRAHAM COOKS, Purdue University
2:10	(1180-2)	An Inside-Outside Strategy to Study Cell Communication CATHERINE FENSELAW, University of Maryland, Sitara Chauhan, Lucia Geis-Asteggiane, Avantika Dhabaria, Nathan Edwards, Suzanne Ostrand-Rosenberg
2:45	(1180-3)	Developing Cross-linking Mass Spectrometry to Define Protein-Protein Interactions LAN HUANG, University of California, Irvine
3:20		Recess
3:35	(1180-4)	Innovative Instrumentation and Methods for the Identification of Intact Proteins in Mixtures and for Sequence Analysis of Antibodies and Posttranslationally-Modified, Intact Proteins on a Chromatographic Time-Scale DONALD F HUNT, University of Virginia
4:10	(1180-5)	Charge Detection Mass Spectrometry for Single Ions EVAN WILLIAMS, University of California, Berkeley, Andrew Elliot, Zijie Xia

SYMPOSIUM Session 1190

Emerging Pollutants in the Environment – from Sources to Effects

arranged by Rudolf J Schneider, BAM Federal Institute for Materials Research and Testing

Tuesday Afternoon, Room B303

Rudolf J Schneider, BAM Federal Institute for Materials Research and Testing, Presiding

1:30		Introductory Remarks - Rudolf J Schneider
1:35	(1190-1)	Using High Resolution Mass Spectrometry to Uncover New, Emerging Iodinated and Nitrogen-Containing Disinfection Byproducts SUSAN D RICHARDSON, University of South Carolina, Cristina Postigo, Christina M Joseph, Hannah K Liberatore, Jessie Kadlec, Amy Cuthbertson, Friedrich Wendel, Christian Luetke-Eversloh, Thomas A Ternes, Edward Machek, Stephen Duirk, Elizabeth Wagner, Michael J Plewa

2:10	(1190-2)	Measuring Plant Uptake and Effects of Pharmaceuticals Using Liquid Chromatography/Mass Spectrometry DIANA S AGA, University at Buffalo, Rachel Mullen
2:45	(1190-3)	Analysis of Hydraulic Fracturing Additives by LC/Q-TOF-MS IMMA FERRER, University of Colorado, Michael Thurman
3:20		Recess
3:35	(1190-4)	Uptake and Disposition of Pharmaceuticals by Bluegill Exposed at Constant Concentrations in a Flow-Through Aquatic Exposure System EDWARD FURLONG, U.S. Geological Survey, Jian-Liang Zhao, Heiko L Schoenfuss, Dana W Kolpin, Kyle L Bird, David J Feifarek, Eric A Schwab, Guang-Guo Ying
4:10	(1190-5)	Pharmaceuticals in Surface Waters - Analysis and Effects RUDOLF J SCHNEIDER, BAM

SYMPOSIUM Session 1200

Emerging Technologies for Disease Biomarker Detection

arranged by Xiujun James Li, University of Texas at El Paso

Tuesday Afternoon, Room B304

Xiujun James Li, University of Texas at El Paso, Presiding

1:30		Introductory Remarks - Xiujun James Li
1:35	(1200-1)	Phase Separated Droplets Enable Multiplexing of Difficult ELISA Panels SHUICHI TAKAYAMA, University of Michigan
2:10	(1200-2)	Looking for Rare Cells via High-throughput Single Cell Mass Spectrometry Profiling JONATHAN V SWEEDLER, University of Illinois
2:45	(1200-3)	Biomarker Detection Using Paper/PDMS Hybrid Microfluidic Platforms for Low-cost Disease Diagnosis XIUJUN JAMES LI, University of Texas at El Paso, Maowei Dou, Sharma T Sanjay
3:20		Recess
3:35	(1200-4)	'Cytology-on-a-Chip' Based Sensors for Monitoring of Potentially Malignant Oral Lesions JOHN T MCDEVITT, New York University
4:10	(1200-5)	Biomarker Discovery Using DNA Aptamers WEIHONG TAN, University of Florida

SYMPOSIUM Session 1210

JAIMA - The State-of-the-Art Technologies from Japan: Analytical Instruments with/for Nano-Chemistry Technology and Advanced Diagnosis (II)

arranged by Koichiro Matsuda, JAIMA

Tuesday Afternoon, Room B305

Koichiro Matsuda, JAIMA, Presiding

Koji Suzuki, Keio University, Presiding

1:30		Introductory Remarks - Koji Suzuki, President of JSAC
1:35	(1210-1)	Electrochemical Application of Boron-Doped Diamond Electrodes YASUAKI EINAGA, Keio University
2:10	(1210-2)	Plasmonic Nanomaterials TETSU TATSUMA, University of Tokyo
2:45	(1210-3)	The Unique Combination of Nanotechnology with Raman and SPRI Platforms Offers Innovative and Ultrasensitive Solutions for Diagnostics MARINELLA SANDROS, HORIBA Scientific
3:20		Recess
3:35	(1210-4)	Medicinal Cannabinomics and Mass Spectrometry Applications to Cannabis Testing Laboratories SCOTT KUZDZAL, Shimadzu Scientific Instruments, Di Wang, Jonathan Edwardson, William Lipps, Jeff H Dahl
4:10	(1210-5)	Application of Laser/desorption Ionization Mass Spectrometry as a Novel Surface Analytical Tool TAKAYA SATOH, JEOL Ltd.

TECHNICAL PROGRAM

SYMPOSIUM

Session 1220

New Advances in Analytical Mass Spectrometry

arranged by Gary Martin Hieftje, Indiana University

Tuesday Afternoon, Room B309

Gary Martin Hieftje, Indiana University, Presiding

1:30		Introductory Remarks - Gary Martin Hieftje
1:35	(1220-1)	21 Tesla Fourier Transform Ion Cyclotron Resonance Mass Spectrometry: New Capabilities for Ultrahigh-Resolution Mass Analysis ALAN G MARSHALL, Florida State University, John P Quinn, Nathan K Kaiser, Donald F Smith, Greg T Blakney, Tong Chen, Steven C Beu, Christopher L Hendrickson
2:10	(1220-2)	The Unique Analytical Capabilities of Distance-of-Flight Mass Spectrometry STEVEN J RAY, SUNY-Buffalo, Elise Dennis, David W Koppenaal, Christie G Enke, Gary Martin Hieftje
2:45	(1220-3)	Plasma Mass Spectrometry: A Tool for and a Source of Chemical Reactions JACOB T SHELLEY, Kent State University, Sunil P Badal, Yi You, Kelsey Williams, Garrett MacLean
3:20		Recess
3:35	(1220-4)	New Paths for Mass Spectrometry based upon Structures for Lossless Ion Manipulations (SLIM) RICHARD D SMITH, Pacific Northwest National Laboratory
4:10	(1220-5)	Improvements in Velocity-Based Mass Analysis by Use of Constant-Momentum Acceleration GARY MARTIN HIEFTJE, Indiana University, Elise Dennis, Steven J Ray, Christie G Enke, Alexander W Gundlach-Graham

SYMPOSIUM

Session 1230

SEAC - New Trends in Electrochemical Neurochemistry

arranged by Adrian C Michael, University of Pittsburgh

Tuesday Afternoon, Room B310

Ann-Sofie Cans, Chalmers University, Presiding

1:30		Introductory Remarks - Ann-Sofie Cans
1:35	(1230-1)	Fast-scan Cyclic Voltammetry Reveals Dopamine Spikes to Food Reward that are Tuned by Physiological State and Its Proxies MITCHELL ROITMAN, University of Illinois at Chicago
2:10	(1230-2)	Electroenzymatic Detection of Basolateral Amygdala Glutamate Release During Reward Seeking KATE M WASSUM, University of California Los Angeles, Melissa Malvaez, Venuz Y Greenfield, Allison M Yorita, Lili Feng, Harold G Monbouquette
2:45	(1230-3)	Improving Temporal Resolution of Enzyme Based Electrochemical Sensors for Detection of Non-Electroactive Analytes Important in Brain Chemistry ANN-SOFIE CANS, Chalmers University of Technology, Yuanmo Wang, Jenny Bergman, Joakim Wigström
3:20		Recess
3:35	(1230-4)	Building a 'Well-tempered' Biosensor for Real-Time Neurochemical Monitoring in the Intensive Care Unit MARTYN G BOUTELLE, Imperial College London, Isabelle C Samper, Chu Wang, Thomas Watts, Michelle L Rogers, Chi Leng Leong, Sally A Gowers
4:10	(1230-5)	Optogenetic-Control of Glutamate Release in the Rat Hippocampus and Frontal Cortex Measured Using Enzyme-Coated Ceramic Based Microelectrode Arrays GREG A GERHARDT, University of Kentucky Medical Center

SYMPOSIUM

Session 1240

The Challenge of Detection for Drugged Driving

arranged by Herbert H Hill, Washington State University

Tuesday Afternoon, Room B311

Herbert H Hill, Washington State University, Presiding

1:30		Introductory Remarks - Herbert H Hill
1:35	(1240-1)	Police Officer Difficulties with Drug-Impaired Driver Arrests NICHOLAS PETER LOVRICH, Washington State University
2:10	(1240-2)	Human Cannabinoid Metabolism and Disposition in Biological Matrices after Controlled Cannabis Administration MARILYN ANN HUESTIS, NIDA

2:45	(1240-3)	Analytical Methods for the Detection of Marijuana in Biological Fluids in a Forensic Toxicology Laboratory BRIANNA PETERSON, Washington State Patrol
3:20		Recess
3:35	(1240-4)	Detection of Drug Consumption in Europe WOLFGANG VAUTZ, ISAS
4:10	(1240-5)	Detection of Marijuana from Human Breath by Breathalyzer-IMS HERBERT H HILL, Washington State University, Jessica A Tufariello

WORKSHOPS

Session 1250

Core-Shell versus Fully Porous HPLC Particles – The Current State of the Art in HPLC Columns

arranged by Jason Anspach and Lawrence Loo, Phenomenex

Tuesday Afternoon, Room B313

Jason Anspach, Phenomenex, Presiding

1:30		Introductory Remarks - Jason Anspach and Lawrence Loo
1:35	(1250-1)	Perspectives on the Development and Future of Monodisperse Fully-Porous Silica Supports DAVID S BELL, Supelco/Sigma-Aldrich
2:05	(1250-2)	Fully-Porous vs. Core-shell Particles – The Past, the Present and the Future LAWRENCE LOO, Phenomenex, Jason Anspach, Tivadar Farkas, Mike Chitty, Thuylinh Tran
2:35	(1250-3)	Advantages and Limitations of Superficially Porous Particles KEN BROECKHOVEN, Vrije Universiteit Brussel, Gert Desmet
3:05		Recess
3:20	(1250-4)	Next Generation Superficially Porous Particle Technology: Highly Ordered Pore Structures Formed by Pseudomorphic Transformation WILLIAM E BARBER, Agilent Technologies, Ta-Chen Wei, Wu Chen, Anne Mack, Jia Liu, Monika Dittmann, Xiaoli Wang
3:50	(1250-5)	Clarifying the Difference Between Columns Packed with Solid Core and Fully Porous Particles JACOB FAIRCHILD, Waters Corporation, Jonathan Turner, Bonnie Alden, Kevin Wyndham, Babajide Okandeji

ORGANIZED CONTRIBUTED SESSIONS

Session 1260

LIMS Live @ Pittcon: Best Practices and Lessons Learned From The Laboratory

arranged by Ken Ochi and Devender Gandhi, Accelerated Technology Laboratories

Tuesday Afternoon, Room B315

Ken Ochi, Accelerated Technology Laboratories, Presiding

1:30	(1260-1)	Where Do We Start? A Roadmap to LIMS Success CHRISTINE PASZKO, Accelerated Technology Laboratories
1:50	(1260-2)	The LIMS Needs Assessment: Your Secret Weapon to a Successful Deployment ALAN SERRERO, Gwinnett County Department of Public Utilities
2:10	(1260-3)	Finding the Perfect LIMS: Keys to a Successful RFP ASTER TEKLE, Alexandria Renew Enterprises
2:30	(1260-4)	Preparing for a LIMS – The Importance of Proper Planning KEITH KEESSE, Oklahoma Department of Agriculture, Cassandra Kontas
2:50		Recess
3:05	(1260-5)	Implementing a LIMS is a Project – Treat It Like One ROY D JONES, Duke Energy
3:25	(1260-6)	Life with a LIMS: What It's Meant for the City of Clearwater MARIA DE LA CANTERA, City of Clearwater (FL)
3:45	(1260-7)	Leveraging LIMS for Streamlining Next Generation Sequencing Data JENNIFER WELLER, University of North Carolina - Charlotte
4:05	(1260-8)	What Have We Learned? Final Thoughts On the Road to LIMS Success (Getting the Most From Your LIMS) DEVENDER GANDHI, Accelerated Technology Laboratories

ORGANIZED CONTRIBUTED SESSIONS

Session 1270

Quantifying the Tumor Microenvironment

arranged by Matthew R Lockett, University of North Carolina at Chapel Hill

Tuesday Afternoon, Room B316

Matthew R Lockett, University of North Carolina at Chapel Hill, Presiding

1:30	(1270-1)	Phosphoproteomics in Prostate Extracellular Vesicles W ANDY TAO, Purdue University
1:50	(1270-2)	Exploring the Permissive Stromal Microenvironment AMANDA B HUMMON, University of Notre Dame, Pinar Zorlutuna, Eric M Weaver
2:10	(1270-3)	Modulating Drug Resistance in Hypoxia Tumors DIMITRI PAPPAS, Texas Tech University
2:30	(1270-4)	Paper-Based Assays for the Study of Cancer Cell Biology, Invasion, and Metastasis MATTHEW R LOCKETT, University of North Carolina at Chapel Hill
2:50		Recess
3:05	(1270-5)	Examining Small Molecule Cellular Signaling in Complex Environments with Microscale Systems ASHLEIGH B THEBERGE, University of Washington
3:25	(1270-6)	Microengineered Physiological Biomimicry: Human Organ-on-Chips D DAN HUH, University of Pennsylvania
3:45	(1270-7)	Direct Optical Microscopy of Biological Interfaces CHARLES R MACE, Tufts University, Jenna A Walz, Irene Lui, Daniel J Wilson
4:05	(1270-8)	Deconvolving Glycans in Metastasis LARA K MAHAL, New York University

ORGANIZED CONTRIBUTED SESSIONS

Session 1280

SEAC - The Student Session in Electroanalysis

arranged by Stephen Maldonado, University of Michigan

Tuesday Afternoon, Room B401

Stephen Maldonado, University of Michigan, Presiding

1:30	(1280-1)	Developing an Innovative Bio-Inspired Scanning Probe Microscopy (Bio-SPM) Approach to Map Specific Molecular Flux FLORIKA CALING MACAZO, University of Maryland Baltimore County, Ryan J White
1:50	(1280-2)	Electrodeposition of Semiconductor Thin Films Using Electrochemical Liquid-Liquid-Solid (ec-LLS) Deposition JOSHUA DEMUTH, University of Michigan
2:10	(1280-3)	Alternating Current Potentiometric Scanning Ion Conductance Microscopy (AC-PSICM) LUSHAN ZHOU, Indiana University Bloomington, Yi Zhou, Wenqing Shi, Lane A Baker
2:30	(1280-4)	Toward the Electrochemical Detection of Single Atoms and Ions JEFFREY E DICK, The University of Texas at Austin
2:50		Recess
3:05	(1280-5)	Miniaturized Potentiometric Ion-Sensing Systems: From Bulk Electrodes to Paper-Based Ion-Sensing Devices JINBO HU, University of Minnesota, Andreas Stein, Philippe Buhlmann
3:25	(1280-6)	Spontaneous Photoelectrochemical Growth of Nanopatterned Semiconductor Films Driven by Anisotropic Interfacial Light Collection AZHAR I CARIM, California Institute of Technology, Nicolas A Batara, Anjali Premkumar, Harry A Atwater, Nathan S Lewis
3:45	(1280-7)	New Enzymes for the Hybrid Enzymatic and Organic Electrocatalytic Cascade for the Complete Oxidation of Glycerol SOFIENE ABDELLAOUI, University of Utah, Shelley D Minteer
4:05	(1280-8)	The Unique Electrochemical Reactivity of Small Metal Nanoparticles RAFAEL MASITAS, University of Louisville, Francis Zamborini

ORGANIZED CONTRIBUTED SESSIONS

Session 1290

Specialty Gas Analysis

arranged by Tracey Jacksier, Air Liquide

Tuesday Afternoon, Room B402

Tracey Jacksier, Air Liquide, Presiding

1:30	(1290-1)	Real-Time, Selective Analysis of Air and Specialty Gases DANIEL MILLIGAN, Syft Technologies Ltd, Vaughan Langford, Barry Prince, Murray McEwan
1:50	(1290-2)	Cavity Ring-Down Spectroscopy Analyzer for Trace Moisture Detection in Ultra-Pure Ammonia HELEN WAECHTER, Tiger Optics, Florian Adler, Marten Beels, Brian Siller, Bill West, Yu Chen
2:10	(1290-3)	Novel FTIR/GC Detector for Analyzing Impurities in Gas Standards MARTIN L SPARTZ, Prism Analytical Technologies, Inc., Charles Mark Phillips, Anthony S Bonanno, Peter P Behnke, Kelly R McPartland
2:30	(1290-4)	Optimization of a Cavity Ring-Down Spectrometer for the Measurement of Trace Ammonia Contamination in Semiconductor Cleanroom Environments GRAHAM A LEGGETT, Picarro, Mark Camenzind
2:50		Recess
3:05	(1290-5)	Analytical Challenges of Measuring Impurities in Biogas JANNEKE VAN WIJK, VSL, Annarita Baldan, Adriaan van der Veen, Stefan Persijn, Jeanrong Li
3:25	(1290-6)	Analysis and Stability of Low Concentration HCl Standards NATHALIE LUU, Air Liquide, Steve Hagen, Anthony Schleisman
3:45	(1290-7)	Analytical QA/QC Measures to Validate Your Analysis Method Using FTIR SYLVIE BOSCH-CHARPENAY, MKS Instruments
4:05	(1290-8)	Open Discussion

ORAL SESSIONS

Session 1300

Biomedical: Nanotechnology - Half Session

Tuesday Afternoon, Room B301

Jagdish Singh, Mississippi State University, Presiding

1:30	(1300-1)	Green Synthesis, Characterization of Saccharide Coated Gold Nanoparticles for Catalytic Applications HARSH MOOLANI, Western Kentucky University, Jason N Payne, Rajalingam Dakshinamurthy
1:50	(1300-2)	NanoCluster Beacons for Detection of a Single N6-Methyladenine Epigenetic Modification TIM YEH, University of Texas at Austin
2:10	(1300-3)	Self-assembly Approach to Integrated Nanozymes: Rational Design and Biomedical Applications HUI WEI, Nanjing University
2:30	(1300-4)	High Resolution Separation of Oligonucleotides and DNA Fragments Using a New Polymer-Based Reversed Phase Column JULIA BAEK, Thermo Fisher Scientific, Shanhua Lin, Xiaodong Liu, Jessica Wang

ORAL SESSIONS

Session 1310

Consumer Products Characterization - Half Session

Tuesday Afternoon, Room B408

William R LaCourse, University of Maryland Baltimore County, Presiding

1:30	(1310-1)	Characterization of Metallic Nanoparticles in Tattoo Ink Using Asymmetrical Flow Field-Flow Fractionation Coupled with ICP-MS SOHEYL TADJIKI, Postnova Analytics Inc., Evelin Moldenhauer, Tony Pfaffe, Trevor Havard, Thorsten Klein
1:50	(1310-2)	Developing a Color Matching Database in Supercritical CO₂ for Waterless Textile Dyeing ROLF SCHLAKE, Applied Separations, Susan Crowe, Madhu Anand, Rob Dorrcott
2:10	(1310-3)	Detection and Quantification of Allergens in Personal Care Products by GC and GC×GC Paired with TOFMS ELIZABETH M HUMSTON-FULMER, Leco Corporation, David E Alonso, Jonathan D Byer, Joseph E Binkley, Lorne E Fell
2:30	(1310-4)	Carbohydrate-Rich Microalgae Characterization Using High-Performance Anion-Exchange Chromatography PARUL ANGRISH, Thermo Fisher Scientific

TECHNICAL PROGRAM

ORAL SESSIONS

Session 1320

Detection of Illicit Drugs - Half Session

Tuesday Afternoon, Room B407

Nathaniel R Gomer, ChemImage Sensor Systems, Presiding

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| 1:30 | (1320-1) | The Detection of Illicit Drugs and Cutting Agents Using Shortwave Infrared Hyperspectral Imaging NATHANIEL R GOMER, ChemImage Sensor Systems, Jeffrey Beckstead, Oksana Olkhoviyk, Matthew P Nelson |
| 1:50 | (1320-2) | Characterization of Synthetic Phenethylamines Using High-Resolution GC-TOFMS and Mass Defect Filters RUTH SMITH, Michigan State University, Alexandria Anstett, Fanny Chu, David E Alonso |
| 2:10 | (1320-3) | The Development of a Novel Color Test for Improved Detection of Synthetic Cathinones TSUNGH SUEH WU, University of Wisconsin-Platteville, Charles Cornett, Brook Tashner, Nicole Kloepfer |
| 2:30 | (1320-4) | Potentiometric Sensor for Forensic Analysis: The Detection of the 'Undetectable Poison' Succinylcholine and Study of Its Enzymatic Degradation Kinetics MOHAMED K ABD EL-RAHMAN, Cairo University, Amr M Mahmoud |

ORAL SESSIONS

Session 1330

Environmental and Instrumentation Application of LC/MS - Half Session

Tuesday Afternoon, Room B408

William R LaCourse, University of Maryland Baltimore County, Presiding

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| 3:05 | (1330-1) | A New Type of Electron Ionization LC-MS and Its Applications AVIV AMIRAV, Tel Aviv University, Boaz Seemann, Svetlana Tsizin, Alexander Fialkov, Tal Alon |
| 3:25 | (1330-2) | Assessing the Occurrence and Fate of UV Filters in Seawater Swimming Pools by UPLC-Q-ToF-MS TAREK MANASFI, Aix-Marseille University, Ravier Sylvain, Bruno Coulomb, Jean-Luc Boudenne |
| 3:45 | (1330-3) | Expanded Analysis of Human Hormones in Drinking Water Using Solid Phase Extraction and Liquid Chromatography Tandem Mass Spectrometry CARL FISHER, Thermo Fisher Scientific, Claudia Martins, Pranathi Perati |
| 4:05 | (1330-4) | Multiclass Determination of New Psychoactive Substances in Municipal Wastewater IVAN SENTA, Rudjer Boskovic Institute, Ivona Krizman, Marijan Ahel, Senka Terzic |

ORAL SESSIONS

Session 1340

Environmental Applications of Electrochemistry and Sensors - Half Session

Tuesday Afternoon, Room B409

Susan S Marine, Miami University Middletown, Presiding

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| 1:30 | (1340-1) | Pretreatment and Spectroelectrochemical Sensing of Re(I)-Carbonyl Complexes SHIRMIR D BRANCH, University of Cincinnati, Amanda D French, Amanda M Lines, Brian M Rapko, Sam A Bryan, William R Heineman |
| 1:50 | (1340-2) | Wearable Gas Sensors: Shrinking Electrochemical Cells JOHN R SAFFELL, Alphasense Ltd., Joseph R Stetter |
| 2:10 | (1340-3) | Cloud Point Extraction for Electroanalysis: Anodic Stripping Voltammetry of Lead CORY A RUSINEK, University of Cincinnati, William R Heineman, Adam Bange, Ian Papautsky, Mercedes Warren |
| 2:30 | (1340-4) | Development of an Electrochemical Sensor for Detection of Dissolved Polycyclic Aromatic Hydrocarbons in Water ABRA PENEZIC, Rudjer Boskovic Institute, Blazenka Gasparovic, Andrew Nelson, Drazenka Stipanicev |

ORAL SESSIONS

Session 1350

Food Product Quality and Component Characterization II

Tuesday Afternoon, Room B403

Alexander J Krynitsky, US FDA, Presiding

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| 1:30 | (1350-1) | A Green Sample Preparation Device for Complex Biological, Environmental, Food, Pharmaceutical and Toxicological Samples ABUZAR KABIR, Florida International University, Rodolfo Mesa, Rayma Blanco, Kenneth G Furton |
| 1:50 | (1350-2) | Cannabinoids and Terpenes in Food TIM ANDERSON, Phenomenex, Kristen Parnell, Ramkumar Dhandapani |
| 2:10 | (1350-3) | Determination of Whey Adulteration in Milk Powder by Using Laser Induced Breakdown Spectroscopy GONCA BILGE, Hacettepe University, Banu Sezer, Kemal E Eseller, Halil Berbero lu, Ali Topcu, Ismail H Boyaci |
| 2:30 | (1350-4) | Bioactive Compounds and Antioxidant Activity of Guava Processed Byproducts and Wastes NEELA EMANUEL, NIFTEM, Sao Khushbu, Aman Kaushik |
| 2:50 | | Recess |
| 3:05 | (1350-5) | Analysis of Non Volatile Congeners in Spirits by Creation of an Ion Fragmentation Database for Use with Time of Flight LC MS RITA STEED, Agilent Technologies, Joni Stevens, Tarun Anumol, Gregory Hunlen, Luke Adam, Sue Dantonio |
| 3:25 | (1350-6) | A Simple Field Test Kit for the Detection of Iodine in Food Grade (Table) Salt RUFUS SHA'ATO, University of Agriculture, Nasiru L Usman |
| 3:45 | (1350-7) | Chromatography Advancements in Nutraceuticals and Dietary Supplements Testing ALLEN MISA, Phenomenex, Zeshan Aqeel |
| 4:05 | (1350-8) | Raman Microspectroscopy and Chemometrics: A Combined Approach to Perform A Rapid Untargeted Screening of Bacteria Present in Food Samples ALI ASSAF, University of Nantes, Emilie Grangé, Christophe Cordella, Douglas Rutledge, Michele Lees, Gerald Thouand |

ORAL SESSIONS

Session 1360

Forensic Trace Analysis - Half Session

Tuesday Afternoon, Room B407

Nathaniel R Gomer, ChemImage Sensor Systems, Presiding

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| 3:05 | (1360-1) | Analysis and Comparison of Fatty Acid Compositions in Latent and Smudged Fingermarks via Gas Chromatography-Mass Spectrometry (GC-MS) and Comprehensive Two-Dimensional Gas Chromatography-Time-of-Flight Mass Spectrometry (GCxGC-MS) CAITLIN COBERN, Penn State, Frank Dorman, Seth Michalski |
| 3:25 | (1360-2) | Mathematical Model to Predict Evaporation of Ignitable Liquids for Forensic Applications VICTORIA L MCGUFFIN, Michigan State University, Rebecca Brehe, John W McIlroy, Ruth Smith |
| 3:45 | (1360-3) | Analysis of Smoke Residues from Illicit Drugs as a Potential Source of Forensic Evidence JULIE BITTER, National Institute of Standards and Technology, Matthew Staymates |
| 4:05 | (1360-4) | LIBS Instrumentation for Fast Quantitative Analysis of Soil and Forensic Investigation of Nuclear Materials ALAIN BLOUIN, National Research Council Canada, Paul Bouchard, Josette El Haddad, Aissa Harhira, Mohamad Sabsabi |

ORAL SESSIONS

Session 1370

Laser Induced Breakdown Spectroscopy (LIBS) and Glow Discharge in Atomic Spectroscopy - Half Session

Tuesday Afternoon, Room B301

Jagdish Singh, Mississippi State University, Presiding

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| 3:05 | (1370-1) | Standoff LIBS Using a Spatial Heterodyne Spectrometer with Sub-Microsteradian Collection Optics PATRICK D BARNETT, University of South Carolina, Nirmal Lamsal, S Michael Angel |
| 3:25 | (1370-2) | Study of Matrix Effects for Reproducible LIBS Analysis of Powders MATTHIEU BAUDELET, University of Central Florida, Sudeep Jung Pandey, Richard Locke, Brandon Seesahai, Romain Gaume, Martin Richardson |
| 3:45 | (1370-3) | Particulate Identification Using Image Directed Laser Induced Breakdown Spectroscopy (LIBS) with Enhanced Spectral and Spatial Resolution for Pharmaceutical and Industrial Applications MARK SULLIVAN, rap.ID Inc, Oliver Valet |
| 4:05 | (1370-4) | Spectroscopy and Imaging Studies of a Solution-Cathode Glow Discharge MICHAEL R WEBB, University of North Carolina Wilmington, Christian G Decker, Denise E Moon |

ORAL SESSIONS

Session 1380

LC/MS Biological Applications

Tuesday Afternoon, Room B404

Mary Ellen McNally, E.I. DuPont de Nemours and Company, Presiding

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| 1:30 | (1380-1) | Distinguishing Isomeric Acylsugar Metabolites: Strategies for Labeling Using ¹³C-amino Acid Precursors and LC-MS/MS XIAOXIAO LIU, Michigan State University, Banibrata Ghosh, A Daniel Jones |
| 1:50 | (1380-2) | Oxidative Techniques for Pteridine Bioanalysis and Implications for ESI-MS Applications CASEY BURTON, Missouri University of Science and Technology, Honglan Shi, Yinfa Ma |
| 2:10 | (1380-3) | Intact Histones Separation by Using Submicron Particles with RPLC-MS XIMO ZHANG, Purdue University, Mary J Wirth |
| 2:30 | (1380-4) | High Throughput Analysis of TCA Metabolites Using Column Switching and IC-HRAM Mass Spectroscopy TERRI T CHRISTISON, Thermo Fisher Scientific, Junhua Wang, John E Madden, Monika Verma |
| 2:50 | | Recess |
| 3:05 | (1380-5) | Unified Drug Testing by Online SPE-LC/MS/MS with Focus on Productivity Achieved Through Ease of Use by Lab Technicians: One Totally Automated Method Measures ALL the Drugs in Urine and/or Oral Fluids MARK HAYWARD, ITSP Solutions, Rick Youngblood, Kim Gamble, Martin Johnson, Matthew Hardison |
| 3:25 | (1380-6) | High-Throughput Mass Spectrometric Analysis of Covalent Protein-Inhibitor Adducts for the Discovery of Irreversible Inhibitors: A Complete Workflow IAIN CAMPUZANO, Amgen, Tisha San Miguel, Todd Rowe, Daniel Onea, Victor Cee, Tara Arvedson, John McCarter |
| 3:45 | (1380-7) | Efficient Use of pH Control in Developing LC/UV/MS Methods THOMAS E WHEAT, Waters Corporation, Amanda B Dlugasch, Patricia R McConville |
| 4:05 | (1380-8) | Selectivity and Column Choices in HPLC Method Development WILLIAM LONG, Agilent Technologies, Anne Mack, Stephen Luke, Jason Link |

ORAL SESSIONS

Session 1390

Polymer Characterization and Applications

Tuesday Afternoon, Room B405

Christopher Henry, Waters Corporation, Presiding

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| 1:30 | (1390-1) | Transferring a GPC Method to A More Efficient SEC Method for Zoladex Co-Polymer Using an Advanced Polymer Chromatography Based U(H)PLC System Coupled with RI Detection CHRISTOPHER HENRY, Waters Corporation, Jeanette Bowden, Mark Wrona, Richard Ladd, Andy Boughey |
| 1:50 | (1390-2) | Characterization of Polyacrylamide at Different Ionic Strength and pH Conditions Using Asymmetrical Flow FFF and Multi-Angle Light Scattering Detector SOHEYL TADJIKI, Postnova Analytics Inc., Trevor Havarad, Japan Trivedi, Thorsten Klein |

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| 2:10 | (1390-3) | Patterning of Polycaprolactone-Impregnated Glass Microfiber Membranes: A Novel Approach to Fabrication of Microfluidic Devices GAYAN C BANDARA, Oregon State University, Vincent T Remcho |
| 2:30 | (1390-4) | Advanced Polymer Chromatography - Method Development Tools for SEC Analysis of PEG MICHAEL OLEARY, Waters Corporation, Damian Morrison |
| 2:50 | | Recess |
| 3:05 | (1390-5) | Determination of Minor Component Differences and Additives in Polyethylene Using Thermal Desorption, Heart-Cutting EGA, Reactive Pyrolysis and GC/MS Techniques TERRY RAMUS, Diablo Analytical, Dave Randle, Itsuko Iwai, Robert R Freeman |
| 3:25 | (1390-6) | Applying Automatic Polymer Identification Capability to DSC Thermograms BOB FIDLER, NETZSCH Instruments NA LLC, Ekkehard Post, Tobias Pflock, Stefan Schmoelzer, Gabriele Kaiser, Alexander Schindler |
| 3:45 | (1390-7) | Characterization and Determination of Irganox 1076 and 1010 in Polyethylene Using Thermal Desorption and Reactive Pyrolysis - GC/MS DAVE RANDLE, Frontier Lab USA, Itsuko Iwai, Terry Ramus, Robert R Freeman, Aki Hosaka, Ichi Watanabe |
| 4:05 | (1390-8) | Simple Analysis Method of Degradation for The Molded Articles Polymer by FTIR and SEM YOKO KATO, Advantest |

ORAL SESSIONS

Session 1400

Sampling and Sample Preparation-Environmental and Food (ID, Safety and Contaminants)

Tuesday Afternoon, Room B406

Garry Lynch, Bechtel Marine Propulsion Corporation, Presiding

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| 1:30 | (1400-1) | Sampling Condensed Hookah Smoke with C-18 SPME Fibers AMBERLIE A CLUTTERBUCK, University of Cincinnati, Joseph Caruso, William Wetzel, Julio Landero |
| 1:50 | (1400-2) | Bacterial DNA Analysis Using Solid-Phase Microextraction by Different Polymeric Ionic Liquid-Based Sorbent Coatings OMPRAKASH NACHAM, Iowa State University, Kevin D Clark, Matthew P Bommarito, Andrea E Tsatalis, Jared L Anderson |
| 2:10 | (1400-3) | ICE Concentration Linked with Extractive Stir Bar (ICECLIS): A Novel Sample Preparation Technique for Ultratrace Analysis BRIAN LOGUE, South Dakota State University |
| 2:30 | (1400-4) | Analysis of Pesticides in Foods by Direct Immersion SPME Using an Overcoated Fiber LEONARD M SIDISKY, Supelco/Sigma-Aldrich, Katherine Stenerson, Robert Shirey, Yong Chen, Tyler Young |
| 2:50 | | Recess |
| 3:05 | (1400-5) | Recent Advances in Sample Preparation for Extraction and SPE SM RAHMAT ULLAH, Thermo Fisher Scientific, Kannan Srinivasan, Mike McAdams, Glenn Kuse, Aaron Kettle |
| 3:25 | (1400-6) | Development of a Carbon Mesh Supported Thin Film Microextraction Membrane as a Means to Lower the Detection Limits of Bench-top and Portable GC-MS Instrumentation JONATHAN J GRANDY, University of Waterloo, Janusz Pawliszyn |
| 3:45 | (1400-7) | Investigation of Polymeric Ionic Liquid Sorbent Coatings in Solid-Phase Microextraction Coupled to High-Performance Liquid Chromatography for the Analysis of Polar Compounds HONGLIAN YU, Iowa State University, Josias Merib, Jared L Anderson |
| 4:05 | (1400-8) | Justification of Kinetic Calibration in Pre-Equilibrium Solid Phase Microextraction with a Mathematical Model and Computational Simulation MD NAZMUL ALAM, University of Waterloo, Fardin Ahmadi, Luis Ricardez-Sandoval, Janusz Pawliszyn |

TECHNICAL PROGRAM

POSTER SESSION

Session 1410

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Advances in Biomedical Applications

Tuesday Afternoon, Exposition Floor, 400 Aisle

- (1410-1 P) **Strategies for Glycomics, Glycoproteomics, and Glycosaminoglycan Research at the Complex Carbohydrate Research Center** STEPHANIE A ARCHER-HARTMANN, Complex Carbohydrate Research Center, Roberto Sonon, Parastoo Azadi, Christian Heiss, Mayumi Ishihara
- (1410-2 P) **Down Regulation of Smad-2 and VEGF Transcription and TGF- β 1 Signaling in Nano Sized Titanium Dioxide-Induced Liver Injury in Mice by Potent Antioxidants** SAMY A ABDEL AZIM, Cairo University, Abd El-Moneim M Affify
- (1410-3 P) **One Hydrothermal Processing of 1D Hydroxyapatite for Biomedical Application** ZORAN S STOJANOVIC, Institute of Technical Sciences of SASA, Nenad L Ignjatovic, Vuk D Uskokovic, Miroslav M Miljkovic, Vojka Zunic
- (1410-4 P) **DNA Micelle Flares: Thermodynamic Stability and Cellular Internalization** YANYUE WANG, University of Florida, Weihong Tan
- (1410-5 P) **Study of Various Cationic CPES' Interaction with Mammalian Cells** SHANSHAN WANG, University of Florida, Zhiliang Li, Yun Huang, Kirk S Schanze
- (1410-6 P) **Generation of T-cell Specific Aptamers Using a Novel Cell-Selext Method: Antibody Guided Cell-SELEX Technology** HASAN E ZUMRUT, City University of New York, The Graduate Center, Mallikarthy Prabodhika, Shomi Chakrabarti, Mst Naznin Ara, George Maio
- (1410-7 P) **Adeno-Associated Virus** YUAN WU, University of Florida
- (1410-8 P) **Continuous Electroporation Through a Mesoporous Gold Membrane** JULIETTE EXPERTON, University of Florida, Aaron Wilson, Charles R Martin
- (1410-9 P) **Analyzing the Effect of Beverages and Fluoride on Tooth Enamel with a FAAS and Dissolution** ANDREA GERCHMAN, St. John Fisher College, Kimberly Chichester
- (1410-10 P) **Profiling Volatile Organic Compounds in Exhaled Breath by TD-GC-TOF MS** LAURA MCGREGOR, Markes International Ltd, Caroline Widdowson, Nicola Watson, Chris Hall, Ken Umbarger
- (1410-11 P) **Purification of Pharmaceutical Proteins Including Antibody and Peptides Using Ion-Exchange Bulk Media Designed for High-Throughput Purification** TAKASHI SATO, YMC CO., Ltd., Munehiro Shoda, Chiaki Iwata, Noriko Shoji, Takatomo Takai
- (1410-12 P) **An Analysis of the Protective Effects of Selenium on Porcine Jejunal Epithelial Cells Following Cadmium-induced Oxidative DNA Damage** SARAH JOANNE LYNCH, Dublin City University, Blánaid White, Dermot Walls, Karina Horgan
- (1410-13 P) **Imaging Mass Spectrometry Reveals the Chemistry in Chemically Fixed Adrenal Cells Prepared for Transmission Electron Microscopy Analysis** JELENA LOVRIC, Chalmers University of Technology, Per Malmberg, Bengt R Johansson, John S Fletcher, Andrew Ewing
- (1410-14 P) **Measurement of the Correlation Between Type of Mutation and Conditions that Alter Aging in Yeast** ANDREEA P MUSTEATA, Rensselaer Polytechnic Institute, Patrick Maxwell
- (1410-15 P) **Self-Assembly Aptamer-Graphene Oxide Nanosheets as an Anticoagulant** PEI-XIN LAI, National Taiwan Ocean University
- (1410-16 P) **Synthesis of Protein-Capped Gold Nanoparticles with Specific Protein Orientation as a DNA Transfection Vehicle** JU-YI MAO, National Taiwan Ocean University
- (1410-17 P) **Recovering the Electrocatalytic Activity of Pt Nanoparticle-DNA Collisions via Nuclease Digestion for Sensing Applications** ALMA CASTANEDA, University of Texas at Austin, Donald Robinson, Richard M Crooks, Keith Stevenson
- (1410-18 P) **Study of Stressed Monoclonal Antibody (mAb) Pharmaceuticals by Using Deep-UV Resonance Raman (DUVRR) Spectroscopy** CHEN QIU, US Food and Drug Administration, Sergey Arzhanstev, John Kauffman
- (1410-19 P) **Paper Membrane Based SERS Platform for Rapid Bacteria Enumeration** UGUR TAMER, Gazi University, Aysen Gumustas, Bozkurt Akif, Merve Eryilmaz, Esra Acar, Demet Cetin, Zekiye Suludere, Ismail H Boyaci
- (1410-20 P) **Microfluidics for the Detection of Minimal Residual Disease in Acute Myeloid Leukemia Patients Using Circulating Leukemia Cells Selected from Blood** JAMES TAYLOR, University of North Carolina at Chapel Hill, Joshua Jackson, Malgorzata Witek, Paul Armistead, Steven A Soper

POSTER SESSION

Session 1420

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Advances in Metabolomics, Proteomics, Lipidomics

Tuesday Afternoon, Exposition Floor, 400 Aisle

- (1420-1 P) **Universal Derivatization of Metabolites for Improved Sensitivity in Electrospray Ionization Mass Spectrometry** TIANJIAO HUANG, Saint Louis University, Maria Toro, James L Edwards
- (1420-2 P) **Identification of a Biological Fear Cue in Blue Crab Urine Via 1H NMR-Based Metabolomics** REMINGTON X POULIN, Georgia Institute of Technology, Marc Weissburg, Julia Kubanek
- (1420-3 P) **Analysis of Urine SRMs Using Solid Phase Micro Extraction, Dynamic Headspace and Liquid Injection with Comprehensive Two-Dimensional Gas Chromatography (GC \times GC)-High Resolution Time-of-Flight Mass Spectrometry** DAVID E ALONSO, Leco Corporation, Joseph E Binkley, Elizabeth M Humston-Fulmer, Lorne E Fell, Jonathan D Byer
- (1420-4 P) **Feasibility of Early Detection of Acute Pulmonary Exacerbations by Exhaled Breath Condensate Metabolomics** XIAOLING ZANG, Georgia Institute of Technology, Maria E Monge, Nael A McCarty, Arlene Stecenko, Facundo M Fernandez
- (1420-5 P) **Prebiotic Peptidomics: An Ultra-Performance Liquid Chromatography-Ion Mobility-Tandem Mass Spectrometry (UPLC-IM-MS/MS) Workflow Applied to Origins-of-Life Chemistry** JAY G FORSYTHE, Georgia Institute of Technology, Sheng-Sheng Yu, Ramaranayanan Krishnamurthy, Martha A Grover, Nicholas V Hud, Facundo M Fernandez
- (1420-6 P) **Development of a High Throughput Organelle Extraction Procedure from Rat Tissues** BRANDON EASPARRO, Omni International, Shari Garrett, James Atwood
- (1420-7 P) **Serum Lipidomics Identifies Biomarkers of Acute Traumatic Brain Injury** SCOTT HOGAN, Georgia Institute of Technology, David A Gaul, Melissa A Velez, Michelle C LaPlaca, Facundo M Fernandez
- (1420-8 P) **An Accelerated Protein Sample Preparation Method for LC-MS-Based Proteomics** SUJATHA CHILAKALA, Cleveland State University, Yan Xu
- (1420-9 P) **High-Throughput Proteomics Analysis by LC-MS with AJS-CESI Technology** SUJATHA CHILAKALA, Cleveland State University, Yan Xu
- (1420-10 P) **Response of NEIL1 to Oxidatively Damaged G-Quadruplexes via Affinity Purification-Mass Spectrometry** JONATHAN ASHBY, University of California, Davis, Brittany Anderson, Sheila David
- (1420-11 P) **Expression and Spectroscopic Characterization of Allene Oxide Synthase: A Cytochrome P450 for the Rearrangement of Small Molecule Hydroperoxides** JULIE C MCINTOSH, University of North Carolina at Chapel Hill, Nathan A Whitman, Matthew R Lockett
- (1420-12 P) **Practical Considerations for Quantifying Protein Therapeutics in Biological Matrices by LC-MS/MS** ERIN E CHAMBERS, Waters Corporation, Mary Lame, Paula Orens, Hua Yang

POSTER SESSION

Session 1430

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Bioanalytical and Neurochemistry

Tuesday Afternoon, Exposition Floor, 400 Aisle

- (1430-1 P) **Using Effective Conductivity to Study Brain Tissue Morphology** JENNA DEVIVO, University of Pittsburgh, Yangguang Ou, Erika Varner, Adrian C Michael, Stephen Weber
- (1430-2 P) **Serotonin and Histamine Coregulation in the Mouse Premammillary Nucleus** RHIANNON ROBKE, University of South Carolina, Srimal A Samaranayake, Aya Abdalla, H Frederick Nijhout, Michael C Reed, Janet Best, Parastoo Hashemi
- (1430-3 P) **Development of a Nanoscale Calcium-Selective Electrode** THERESA M RUWE, Northern Kentucky University, Edward A Dobrzykowski, Teri Rae Armstrong, Celeste A Morris
- (1430-4 P) **Optimized Determination of L-Dopa at a Glassy Carbon Electrode Modified with Electrodeposited Films of Caffeic Acid** AHMAD ROHANI FAR, The University of Toledo, Amila M Devasurendra, Joshua A Young, Jon R Kirchoff
- (1430-5 P) **Mass Spectrometry Imaging for Targeted Metabolomics of Medulloblastoma** MARTIN R PAINE, Georgia Institute of Technology, Jingbo Liu, Danning Huang, Tobey MacDonald, Facundo M Fernandez
- (1430-6 P) **Ultra-High Performance Liquid Chromatography Mass Spectrometry Metabolic Fingerprinting of a Medulloblastoma Mouse Model** DANNING HUANG, Georgia Institute of Technology, Martin R Paine, Jingbo Liu, Tobey MacDonald, Facundo M Fernandez

- (1430-7 P) **Biophysical Evaluation of Surfactant Effects on Nanoparticle Toxicity a Lipid Model of the Blood-Brain Barrier** ADAM L HOFFMANN, Northern Kentucky University, Darcy Poor, Rolf Fowee, Marcus Jones, Andrew Hall, Kristi L Haik, Celeste A Morris
- (1430-8 P) **Novel Graphene-Modified Graphite Pencil Electrode for the Trace Quantification of L-Tyrosine in Human Urine** ABDEL-NASSER KAWDE, King Fahd University of Petroleum and Minerals
- (1430-9 P) **Online Liquid Chromatography - Surface Enhanced Raman Detection for Metabolic Profiling** ANH H NGUYEN, University of Notre Dame, Zachary D Schultz
- (1430-10 P) **Combining Microchip Electrophoresis, Mass Spectrometry, and Standard Addition to Identify N-glycan Structures in Serum** XIAOMEI ZHOU, Indiana University, Christa Snyder, Margit I Campos, Milos V Novotny, Stephen C Jacobson
- (1430-11 P) **Multichannel Impedance-Based Biosensing Using Virus-Polyethylenimine Films for Bladder Cancer Detection** ALANA OGATA, University of California Irvine, Reginald M Penner, Crystin Eggers
- (1430-12 P) **Development of a Wearable Device for Neurochemical Monitoring of Energy Availability in the Injured Brain Using On-Line Microdialysis** ISABELLE C SAMPER, Imperial College London, Sally A Gowers, Chu Wang, Martyn G Boutelle
- (1430-13 P) **Label-Free Profiling of O-Linked Glycans by HPLC with Charged Aerosol Detection** IAN N ACWORTH, Thermo Fisher Scientific, David Thomas, Rainer Bauder, William Kopaciewicz
- (1430-14 P) **Amperometric Quantitative Measurements of Individual Vesicular Transmitters in Single Adrenal Chromaffin Cells with Nano-Tip Conical Carbon Fiber Microelectrodes** SOODABEH MAJDI, Chalmers University of Technology
- (1430-15 P) **In Vitro Electrochemical Investigation of ATP: Catecholamine Interactions** ZAHRA TALEAT, Chalmers University, Johan Dunevall, Ricardo Borges, Judith Estevez, Andrew Ewing
- (1430-16 P) **Quantifying the Progression of Amyotrophic Lateral Sclerosis** AIDAN P WICKHAM, Imperial College London, Christopher E Shaw, Kerry R Mills, James Bashford, Emmanuel M Drakakis, Martyn G Boutelle
- (1440-11 P) **A Micro Pathogenic Microorganism Detector Applied for Mobile Phone Devices** LIANG SUJIA, Zhejiang University, Yu Dongdong, Zhou Jianguang
- (1440-12 P) **The Preservation of DNA Using Magnetic Ionic Liquids** MATTHEW SORENSEN, Gustavus Adolphus College, Kevin D Clark, Omprakash Nacham, Jared L Anderson
- (1440-13 P) **Automatic Data Analysis for Nanopore Detection** ZHEN GU, East China University of Science and Technology, Chan Cao, Yi-Lun Ying, Yi-Tao Long
- (1440-14 P) **Experiments and Modeling of Sequential Enzyme Activity in Biphasic Reaction Media** BRADLEY W DAVIS, Waynesburg University, William M Aumiller, Negar Hashemian, Antonios Armaou, Christine D Keating
- (1440-15 P) **Fast Multipoint Immobilized MOF Bioreactor** HSI-YA HUANG, Chung Yuan Christian University, Wan-Ling Liu, Stephen Lirio, Chia-Her Lin
- (1440-16 P) **HPLC Determination of the Rosmarinic Acid Content of Common Household Herbs** BRANDT A WOOD, California University of Pennsylvania
- (1440-17 P) **Molecular Modeling of Binding of Coumarins to DNA Gyrase** SARA MARIYAM ABDULLA, College of Chemical Sciences
- (1440-18 P) **Monitoring Cluster Ions Derived from Aptamer-Modified Gold Nanofilms under Laser Desorption/Ionization for the Detection of Circulating Tumor Cells** WEI-JANE CHIU, National Taiwan Ocean University, Chih-Ching Huang
- (1440-19 P) **Same Nucleotide Composition and High Sequence Similarity of MicroRNAs - An Analytical Challenge to RNA Studies?** JOSEPH N MWANGI, University of North Carolina at Greensboro, Norman Chiu
- (1440-20 P) **Travelling Wave Ion Mobility Mass Spectrometry of Isomeric MicroRNA Biomarkers** NORMAN CHIU, University of North Carolina at Greensboro, Joseph Mwangi
- (1440-21 P) **Ultrafast Spectroscopic Studies of Molecular Interactions and Vibrational Energy Relaxation Dynamics in Binary Solvents** CHEN QIU, Michigan State University, Gary Blanchard
- (1440-22 P) **Surface-enhanced Raman Spectroscopy Based Total Protein Assay** MERVE ERYILMAZ, Gazi University, Adem Zengin, Ugur Tamer
- (1440-23 P) **Ionic Liquid Crosslinkers for Chiral Imprinted NanoGUMBOS** SUZANA HAMDAN, Louisiana State University, Leonard Moore, Jason LeJeune, Farhana Hasan, Trevor K Carlisle, Jason E Bara, Douglas Gin, Andrew L LaFrate, Richard D Noble, David Spivak, Isiah M Warner
- (1440-24 P) **Fabricated Multi-functional DNA Nanogel to Delivery Drug to Target Cells** XIGAO CHEN, University of Florida
- (1440-25 P) **Withdrawn**
- (1440-26 P) **A Novel Bioassay Platform Using Silica Core-Stabilized Liposome Shell Microparticles for Ligand Discovery** KENDALL E SANDY, University of Arizona, Jinyan Wang, Mark T Agasid, Craig A Aspinwall
- (1440-27 P) **Detection of Disease Associated MicroRNA Combinations with a Smart AND Sensor** LULU ZHANG, Oregon State University, Sean M Burrows
- (1440-28 P) **Withdrawn**
- (1440-29 P) **E-spun Collagen-CNT/Silk-CNT Composite Fibers to Transmit Electrical Signals for Cell Stimulation** NAIWEI CHI, Illinois Institute of Technology
- (1440-30 P) **Sensitive Quantification of Protease Activity in Biological Samples by Using MCE-LIF** LI PAN, Jackson State University, Yiming Liu, Shulin Zhao

POSTER SESSION

Session 1440

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Bioanalytical: Miscellaneous Analytical Techniques

Tuesday Afternoon, Exposition Floor, 400 Aisle

- (1440-1 P) **An Analytic Approach to the Laser-Assisted Microscopy of Erythrocyte Deformability** FARAMARZ RAHNAMA, University of Calcutta, Azamat Vaseghi
- (1440-2 P) **Fabrication of Passive Microfluidic Diodes with Tunable Breakthrough Junctions** MARK D HOLTAN, Auburn University, Christopher J Easley
- (1440-3 P) **Microfluidic Thermofluorimetric Analysis (μ TFA) for Protein Quantification in Nanoliter and Picoliter Volumes** JUAN HU, Auburn University, Joonyul Kim, Mark D Holtan, Christopher J Easley
- (1440-4 P) **Analysis of Fluorinated Lidocaine Derivatives Under Varying Conditions and Its Application in the Body** CYANN CICCONI, Seton Hill University
- (1440-5 P) **Non-Enzymatic Modification of Human Serum Albumin: A Study Focusing On Advanced Glycation End Products by D-Galactose and D-Glucose** MENASHI A COHENFORD, Marshall University
- (1440-6 P) **Study Interactions Between 21 Proteins and Nanoparticles** YAOKAI DUAN, University of California Riverside, Wenwan Zhong
- (1440-7 P) **Development of Conductive Polymeric Ionic Liquid-Based Electrodes** AMILA M DEVASURENDRA, The University of Toledo, Joshua A Young, Ahmad Rohani Far, LM Viranga Tillekeratne, Jon R Kirchhoff
- (1440-8 P) **Plasmonic Applications in the Mid-IR: Spectroscopic Surface Plasmon Resonance (SPR) Detection of N₂O Gas and Hexadecanethiol Self-Assembled Monolayer on a Low Loss, Plasmonic Tunable Novel Material Dy:CdO** HNIANG KHAMH, North Carolina State University
- (1440-9 P) **Orientation of Membrane-Bound Cytochrome P450's in Nanodiscs** IVAN LENOV, University of Illinois, Stephen Sligar
- (1440-10 P) **A Comparison of Binding Constants for FITC-Labeled Single Stranded DNA with Anti-FITC Antibody** QIAN LIU, Wake Forest University, Keith Bonin, Jason Gagliano, Kathryn Riley

TECHNICAL PROGRAM

POSTER SESSION

Session 1450

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Bioanalytical: Separation Techniques

Tuesday Afternoon, Exposition Floor, 400 Aisle

- (1450-1 P) Surface Modified Nylon Capillary-Channeled Polymer (C-CP) Fibers for Protein Ion-Exchange Separations LIUWEI JIANG, Clemson University, R Kenneth Marcus
- (1450-2 P) SEC Analysis of a Monoclonal Antibodies Using a Hybrid Silica Based Stationary Phase JEFFREY KAKALEY, YMC America Inc., Ernest Sobkow
- (1450-3 P) HPLC Method Transfer for Biopharmaceutical Analysis BROOKE M KOSHEL, Waters Corporation, Sean M McCarthy
- (1450-4 P) Ratio of Different Fatty Acids Determined by GC-MS in Exosomes Purified Through Size Exclusion Chromatography RUI XU, Jackson State University, Yiming Liu, Joseph Fernandes, Radhika Pochampally
- (1450-5 P) Analysis of Chromium Species in Dietary Supplements Using ICP-MS and Speciated Isotope Dilution Mass Spectrometry (SIDMS) KAITLIN MILLER, Duquesne University, Logan T Miller, Jennifer Crawford, Stuart Procter, Matt Pamuku, Skip Kingston
- (1450-6 P) Metabolomic Signatures from Early Stage Ovarian Cancer Patients DAVID A GAUL, Georgia Institute of Technology, Christina M Jones, Long Q Tran, John F McDonald, Facundo M Fernandez
- (1450-7 P) Reducing Adhesion of Proteins on Stainless Steel Components by the Application of a Carboxysilane Coating LUKE PATTERSON, SilcoTek Corporation, Alfredo Narvaez, David Daghfal, Vaidya Shyam, Min Yuan, David Smith
- (1450-8 P) Optimizations of Proteomic Sample Preparation Method for *Xenopus Laevis* Embryonic Proteomics ELIZABETH H PEUCHEN, University of Notre Dame, Liangliang Sun, Norman J Dovichi
- (1450-9 P) Determination of the Constituent Compounds in the Essential Oil from the Stem Bark of *Ficus Capensis*, A Multipurpose Phytomedicine, by GCMS and their Relevance to the Bioactivity of the Plant MODUPE M OGUNLESI, University of Lagos, Christianah T Aleshinloye
- (1450-10 P) GC-MS Analysis of the Essential Oil from the Stem Bark of *Tetrapleura Tetrapetra*, a Multipurpose Medicinal Plant, and Bioactivities of Some Constituent Compounds MODUPE M OGUNLESI, University of Lagos, Christianah T Aleshinloye
- (1450-11 P) Quantification of Trehalose and Other Sugars in Submergence Resistant Rice ELIZABETH N MARTINEZ, California State Polytechnic University, Pomona, Rejbana Alam, Julia Bailey-Serres, Endang M Septiningsih, Gregory A Barding
- (1450-12 P) Exploring SFC for the Separation of Peptides and Small Proteins CECILIA MAZZA, AkzoNobel PPC AB, Joakim Höglblom, Peter Gidlund
- (1450-13 P) Automated Solid Phase Extraction Method for the Assessment of Human Exposure to Polycyclic Aromatic Hydrocarbons Using the Biomarker Metabolite 1-Hydroxypyrene in Urine MICHAEL JOE TANNER, J2 Scientific, Jeff Wiseman
- (1450-14 P) High Speed SDS-PAGE of Proteins PARUL MODI, Thermo Fisher Scientific, Stephen Roemer
- (1450-15 P) Withdrawn
- (1450-16 P) Optimized Wide Pore Superficially Porous Particles by One-Step Coating Process for Fast and Efficient Separation of Large Biomolecules WU CHEN, Agilent Technologies, Anne Mack, Xiaoli Wang
- (1450-17 P) Fast Quantification of Immunoglobulin G Using A New Protein A Analytical HPLC Column KOSUKE ARAKI, Tosoh, Satoshi Fujii, Shigeru Nakatani, Atis Chakrabarti
- (1450-18 P) Charging YOYO-1 on Capillary Wall for Online DNA Intercalation and Integrating This Approach with Multiplex PCR and Bare Narrow Capillary-Hydrodynamic Chromatography for Online DNA Analysis HUANG CHEN, University of Oklahoma, Zaifang Zhu, Joann Lu, Shaorong Liu
- (1450-19 P) From Peptide Fractions to Pure, Dry Powders: Development of a Novel Automated Chromatographic Purification Process Supported by Solid-Phase Trapping YAMAZAKI TOMOYUKI, Shimadzu Corporation, Okoba Tsutomu, Matsuo Eichichi, Masuda Junichi, Iwata Yosuke, Robert E Buco, Nishimura Masayuki
- (1450-20 P) Coupling Ion Exchange Chromatography with Reverse Phase Liquid Chromatography for High-Throughput Analysis of Intact Proteins ZAI FANG ZHU, University of Oklahoma, Joann Lu, Huang Chen, Shaorong Liu

POSTER SESSION

Session 1460

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

High-Throughput Chemical Analysis

Tuesday Afternoon, Exposition Floor, 400 Aisle

- (1460-1 P) Withdrawn
- (1460-2 P) Characterization and Use of a Microspectrophotometer for Quantitative Bio-Applications THOMAS M SPUDICH, Maryville University, Bradley Postier, Ronald Mills
- (1460-3 P) California Chlor-Alkali Production Facility Monitors Organic Carbon for Increased Reliability and Equipment Protection MARK MULLETT, GE Analytical Instruments, Gary Erickson
- (1460-4 P) New Analysis Technology of Ultra-Trace Yellow Components in a Transparent Film HOKO SUTO, Hitachi Chemical Co., Ltd., Kosuke Iwamoto, Akihiro Unno
- (1460-5 P) Leaning out Stage 1 Conductivity JENNY G WATSON, GE Analytical Instruments
- (1460-6 P) Theoretical Simulation of a Helium DC Glow Discharge Used as an Ambient Desorption/Ionization Source for Mass Spectrometry WADE C ELLIS, Brigham Young University, Paul B Farnsworth, Ross L Spencer
- (1460-7 P) Mathematical Modeling and Computational Simulation of Matrix Effect on Uptake Kinetics in Solid Phase Microextraction MD NAZMUL AALM, University of Waterloo, Luis Ricardez-Sandoval, Janusz Pawliszyn
- (1460-8 P) Simple Imager for Multi-Well Plates THAYUMANASAMY SOMASUNDARAM, Florida State University, Michael Zawrotny

POSTER SESSION

Session 1470

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Surface and Microscopic Characterization of Nanostructures and Biological Materials

Tuesday Afternoon, Exposition Floor, 400 Aisle

- (1470-1 P) Characterizing Nanoparticle Size and Particle-Surface Interactions Using Nanophotonic Force Microscopy DAKOTA O'DELL, Cornell University, Perry Schein, Summer Saraf, David Erickson
- (1470-2 P) Tuning Localized Surface Plasmon Resonance Wavelengths of Nanoparticles by Mechanical Deformation FATHIMA S AMEER, Clemson University, Shilpa Varahagiri, Fenglin Wang, Hannah Mack, Marian Kennedy, Jeffrey N Anker
- (1470-3 P) Comparison of Color Pigment Removal between Graphitized Carbon Black and Zirconia-Based Adsorbents for QuEChERS Process PATRICK MYERS, Supelco/Sigma-Aldrich, Katherine Stenerson, Tyler Young, Jennifer Claus, Michael Ye
- (1470-4 P) Potential-Dependent Adsorption of Water-Soluble Porphyrins at Liquid/Liquid Interfaces Studied by Polarization-Modulation Total Internal Reflection Fluorescence Spectroscopy SHO YAMAMOTO, Kanazawa University, Hirohisa Nagatani, Hisanori Imura, Kotaro Morita
- (1470-5 P) The Concept of Lipobeads in the Context of Encapsulated Drug Delivery: Technological Challenges vs. Potential Advantages SERGEY V KAZAKOV, Pace University
- (1470-6 P) Combination of Surface Plasmon Resonance - Surface Enhanced Raman Scattering Spectroscopy in the Kretschmann Configuration JU-YOUNG KIM, University of Notre Dame, Zachary D Schultz
- (1470-7 P) Preparation and Characterization of Photo-Patterned Amorphous Carbon Films with Thiol-Click Reactions CATHERINE G MCKENAS, University of North Carolina at Chapel Hill, Matthew R Lockett
- (1470-8 P) Electrophoretic Separation of Carbon Dots KARINA M TIRADO-GONZÁLEZ, University at Buffalo, SUNY, Zuqin Xue, Luis A Colón
- (1470-9 P) Preparation and Separation of Highly Fluorescent Carbon Dots ZUQIN XUE, University at Buffalo, SUNY, Luis A Colón, Karina M Tirado-González
- (1470-10 P) Microscopy in Analysis of Erythrocyte Shape Changes VALIEV HAMMAT, Institute Applied Mechanics RAS, Karnet Yulia, Yumashev Oleg, Snegireva Nataliya

WEDNESDAY, MARCH 9, 2016 MORNING

- (1470-11 P) **High Temperature In-Situ Reaction Monitoring of CdS Quantum Dots Using Spectrophotometers with Peltier Cell Holders** KYUNBAE LEE, Scinco R&D Center, In-Sung Kang, Kyung-Won Ro
- (1470-12 P) **Determination of Airborne Concentration of Single-Wall Carbon Nanotubes and Metals by Wet Electrostatic Precipitation and Inductively Coupled Plasma Mass Spectroscopy** PETER ANDERSEN, Elemental Scientific, John Aumen, Matt Anderson, Grant Josh
- (1470-13 P) **Impacts of Mesoporous Silica Shells on Reactivity of Metal-Semiconductor Hybrid Nanocatalysts** FEI ZHAO, Georgia State University, Bin Dong
- (1470-14 P) **Investigating Chemical Reactivity of Nanoparticles Using Nano-Impact Electrochemistry** ANAHITA KARIMI, Clarkson University
- (1470-15 P) **Advanced Analysis of LIB and Related Materials** KEIJI SUMIYA, Hitachi Chemical Co., Ltd., Hiroki Hirano
- (1470-16 P) **Evaluation of Apples Browning Using a Camera-Imaging Visual Analyzer** ANDREW COWELL, Alpha MOS, Jean-Christophe Mifsud, Herve Lechat, Marion Bonnefille
- (1470-17 P) **Ligand-Coated Zinc Oxide Nanoparticle Adsorption to Cellulose** STEPHEN R PRINTZ, Western Carolina University, Carmen L Huffman
- (1470-18 P) **Gemcitabine Conjugated Cysteine Modified Gold Nanoparticles: Improved Potency and Targeted Nanocarriers for Cancer Treatment** NIKUNJKUMAR NARAYANBHAI VALAND, Gujarat University, Manish B Patel, Kalpesh B Solanki, Shobhana K Menon
- (1470-19 P) **Investigation of Nitrogen-Doped Graphene Quantum Dots: Temperature Dependent Nitrogen Incorporations and their Effect on Optical Properties** TIMOTHY PILLAR-LITTLE, University of Kentucky, Doo Young Kim
- (1470-20 P) **Industrial Characterization of Nano-scale Roughness on Polished Surfaces** NIKOLAJ A FEIDENHANS'L, Danish Fundamental Metrology, Poul-Erik Hansen, Lukas Pilny, Morten H Madsen, Giuliano Bissacco, Jan C Petersen, Rafael Taboryski
- (1470-21 P) **High Throughput Fabrication of Nano and Micro Structured Polymer Foils by Roll-to-Roll-Extrusion Coating** SWATHI MURTHY, Danish Tchnical University/ Inmold, Maria Matschuk, Henrik Pranov, Henrik Pedersen, Guggi Kofod, Rafael Taboryski
- (1470-22 P) **Holographic Characterization of Particles in Complex Suspensions** DAVID B RUFFNER, Spheryx, Inc., Jaroslaw M Blusewicz, Priya Kasimbeg, David G Grier, Laura Philips
- (1470-23 P) **Withdrawn**
- (1470-24 P) **Impacts of Mesoporous Silica Shells on Reactivity of Metal-Semiconductor Hybrid Nanocatalysts** FEI ZHAO, Georgia State University, Bin Dong
- (1470-25 P) **Characterization of Carbon Nanomaterial Dispersions for Printed Electronics** QIHUA WU, Brewer Science, Carissa Jones, Kay Mangelson, Christopher Landorf, Stephen Gibbons
- (1470-26 P) **Quantum Dots Embedded Silica Nanoparticles Functionalized for Interface Partitioning** SAFYAN AKRAM KHAN, King Fahd University of Petroleum and Minerals, Zain H Yamani, Mohammed H Aljabri

AWARDS

Session 1480

Satinder Ahuja Award for Young Investigators in Separation Sciences

arranged by Neil D Danielson, Miami University of Ohio

Wednesday Morning, Room B312

Neil D Danielson, Miami University of Ohio, Presiding

8:30		Introductory Remarks - Neil D Danielson
8:35		Presentation of the 2016 ACS Division of Analytical Chemistry Award for Young Investigators in Separation Sciences to Matthew D Miller, The Dow Chemical Company, by Neil D Danielson, Miami University of Ohio
8:40	(1480-1)	Fully Unlocking Polyolefin Chemical Composition Distributions: Break-through Separations Using Graphitic Carbon MATTHEW D MILLER, The Dow Chemical Company, Rongjuan Cong, Willem deGroot, Chanda Klinker, Dean Lee, John W Lyons, David Mark Meunier, Abhishek Roy, Freddy Van Damme, Bill Winniford, Zhe Zhou
9:15	(1480-2)	Demystifying Flow Modulated Comprehensive Two Dimensional Gas Chromatography (GC x GC) as a Practical Problem Solving Tool BILL WINNIFORD, Dow Chemical, James Griffith, Anna Sandlin, Jim Luong, Chris Siegler, Kefu Sun
9:50	(1480-3)	Separation of Building Blocks from Block Copolymers by High Performance Liquid Chromatography with Preloaded Adsorption Barriers DAVID MARK MEUNIER, Dow Chemical Company, Yongfu Li, Tirtha Chatterjee, Todd O Pangburn, Eric Pearce, Mark Rickard, John W Lyons
10:25		Recess
10:40	(1480-4)	Macromolecule and Nanoparticle Analyses: Beyond Molecular Weight and Size Measurements S KIM R WILLIAMS, Colorado School of Mines
11:15	(1480-5)	Uncertainties in Analyte Measurements in Dried Blood Spots PURNENDU DASGUPTA, University of Texas at Arlington, Brian Stamos, Jordan Berg

SYMPOSIUM

Session 1490

ACS-ANYL - Supported Bilayers in Bio/Chemical Analysis

arranged by Craig A Aspinwall, University of Arizona

Wednesday Morning, Room B308

Craig A Aspinwall, University of Arizona, Presiding

8:30		Introductory Remarks - Craig A Aspinwall
8:35	(1490-1)	Spectroscopic Studies of the Formation, Structure, and Applications of Hybrid Supported Phospholipid Bilayers JOEL M HARRIS, University of Utah, Jay P Kitt
9:10	(1490-2)	Surface-Sensitive Imaging of Supported Membranes and Single Lipid Vesicles for Medical Applications FREDRIK HÖÖK, Chalmers University of Technology
9:45	(1490-3)	Mobile, Oriented Proteinaceous Supported Bilayers Made Directly from Cell Plasma Membranes for Bioanalytical Assays SUSAN DANIEL, Cornell University
10:20		Recess
10:35	(1490-4)	Stabilized Lipid Bilayers as a Platform for Fabrication of Ion Channel Functionalized Sensors CRAIG A ASPINWALL, University of Arizona, S Scott Saavedra, Leonard K Bright, Mark T Agasid
11:10	(1490-5)	Supported Lipid Bilayers and Scanning Ion Conductance Microscopy LANE A BAKER, Indiana University

Tuesday Afternoon

Wednesday Morning

TECHNICAL PROGRAM

SYMPOSIUM Session 1500

Analytical Applications of Terahertz Time Domain Spectroscopy (THz-TDS)

arranged by Mark A Arnold, University of Iowa

Wednesday Morning, Room B302

Mark A Arnold, University of Iowa, Presiding

8:30		Introductory Remarks - Mark A Arnold
8:35	(1500-1)	Exploration of Interlayer Chemistry in Clay Minerals by Terahertz Spectroscopy INGRID WILKE, Rensselaer Polytechnic Institute
9:10	(1500-2)	Analytical Applications of Terahertz Spectroscopy in Nanotechnology and Biotechnology ANIS RAHMAN, Applied Research & Photonics
9:45	(1500-3)	PAT Measurements to Enhance Small-Molecule Drug Development and Manufacturing HUIQUAN WU, Food and Drug Administration
10:20		Recess
10:35	(1500-4)	Understanding Bonding in Cocrystals and Identifying Polymorphs in Small-Molecule Drugs TIMOTHY MICHAEL KORTER, Syracuse University
11:10	(1500-5)	Analytical Measurements and Dielectric Properties of Organic Cocrystals by Time-Domain Terahertz Spectroscopy MARK A ARNOLD, University of Iowa

SYMPOSIUM Session 1510

Frontiers of Plasmonics

arranged by Zachary D Schultz, University of Notre Dame and Jean-Francois Masson, Université de Montréal

Wednesday Morning, Room B303

Zachary D Schultz, University of Notre Dame, Presiding

8:30		Introductory Remarks - Zachary D Schultz and Jean-Francois Masson
8:35	(1510-1)	Real-Time Tunable Emission from Plasmonic Nanolasers TERI W ODOM, Northwestern University
9:10	(1510-2)	Nanoplasmonic Sensors for Rapid Concentration and Sensitive Detection of Biomolecules SANG-HYUN OH, University of Minnesota
9:45	(1510-3)	Plasmonic Rectification ZACHARY D SCHULTZ, University of Notre Dame
10:20		Recess
10:35	(1510-4)	Trends and Challenges of Nanoplasmonic Biosensors for Clinical Use in Diagnostics LAURA M LECHUGA, ICN2. CSIC & CIBER-BBN
11:10	(1510-5)	Plasmonic Nanobiosensors: From Therapeutic Drug Monitoring to the Detection of Molecules Secreted by Cells JEAN-FRANCOIS MASSON, Université de Montreal

SYMPOSIUM Session 1520

IAEAC: International Association of Environmental Analytical Chemistry - Upconverting Nanocrystals: Near Infrared Excitable Probes for Background-Free Luminescent Sensing

arranged by Antje J Baeumner, University of Regensburg

Wednesday Morning, Room B304

Antje J Baeumner, University of Regensburg, Presiding

8:30		Introductory Remarks - Antje J Baeumner
8:35	(1520-1)	Optical Nanotransformers for In-Situ Upconversion: From Design to Functional Imaging and Sensing PARAS N PRASAD, SUNY Buffalo, Guanying Chen, Tymish Y Ohulchanskyy
9:10	(1520-2)	Photodynamic Therapy, Drug Delivery, Persistent and Photo-Stimulated Emission Using Low Excitation Photons JOHN A CAPOBIANCO, Concordia University
9:45	(1520-3)	Printing Enhanced Upconverting Nanocrystals on Solid Supports STANLEY MAY, University of South Dakota, Aravind Baride, Jeevan Meruga, Mary Berry, Jon Kellar, William Cross, Grant Crawford
10:20		Recess
10:35	(1520-4)	Surface Modifications of Upconverting Nanoparticles and Their (Bio)analytical Applications THOMAS HIRSCH, University of Regensburg
11:10	(1520-5)	Upconversion Nanoparticles as Active Elements in Optical Sensing for Development of Protein and Oligonucleotide Bioassays ULRICH J KRULL, University of Toronto Mississauga, Samer Doughan, Anna Shahmuradyan, Feng Zhou, Yi Han

SYMPOSIUM Session 1530

Ion Mobility/Mass Spectrometry for Metabolomics and Clinical Analysis

arranged by Richard Alan Yost, University of Florida

Wednesday Morning, Room B305

Richard Alan Yost, University of Florida, Presiding

8:30		Introductory Remarks - Richard Alan Yost
8:35	(1530-1)	Structural Mass Spectrometry for Systems, Synthetic, and Chemical Biology JOHN A MCLEAN, Vanderbilt University
9:10	(1530-2)	Enhancing Ion Mobility-Mass Spectrometry Metabolomic Analyses with High Throughput Front End Separations ERIN S BAKER, Pacific Northwest National Laboratory, Xing Zhang, Kristin E Burnum-Johnson, Jennifer E Kyle, Cameron P Casy, Young-Mo Kim, Erika M Zink, Dennis Mehinagic, Matthew E Monroe, Yehia M Ibrahim, Daniel Orton, Justin G Teeguarden, Thomas O Metz, Richard D Smith
9:45	(1530-3)	Ion Mobility and Metabolomics, Two New Tools for Current Drug Discovery and Drug Development ROB J VREEKEN, Janssen Pharmaceutica
10:20		Recess
10:35	(1530-4)	Cystic Fibrosis Breathomics by Transmission-Mode Direct Analysis in Real Time-Traveling Wave Ion Mobility-Mass Spectrometry FACUNDO M FERNANDEZ Georgia Institute of Technology, Facundo M Fernandez, Christina M Jones, Maria E Monge, Nael A McCarty, Arlene Stecenko, Jose J Perez
11:10	(1530-5)	Ion Mobility/Mass Spectrometry for Metabolomics and Clinical Analysis: Progress and Prospects RICHARD ALAN YOST, University of Florida, Christopher D Chouinard, Christopher R Beekman, Michael T Costanzo, Jared J Boock, Robin Kemperman, Wei S Michael, Timothy J Garrett, Christopher A Beecher

SYMPOSIUM Session 1540

Precision Bioanalytical Measurements

arranged by Steven A Soper, St. Louis University and Susan M Lunte, University of Kansas

Wednesday Morning, Room B309

Steven A Soper, St. Louis University, Presiding

8:30		Introductory Remarks - Steven A Soper and Susan M Lunte
8:35	(1540-1)	Microdialysis Sampling and Separations: A Tribute SUSAN M LUNTE, University of Kansas
9:10	(1540-2)	Expanding the Application Space of In Vivo Microdialysis Sampling in the Areas of Drug Metabolism, Free Radical Chemistry, Neurochemistry, and Tissue Engineering JULIE STENKEN, University of Arkansas
9:45	(1540-3)	The Development of New Tools Based on Whispering Gallery Mode Sensing ROBERT C DUNN, University of Kansas, Sarah Wildgen, Daniel Kim, Judith Flores
10:20		Recess
10:35	(1540-4)	Utilizing Oxidative DNA Damage to Explore the Mode of Action of Oxidative Events and Antioxidative Responses BLANAID WHITE, Dublin City University, Dermot Walls, Sarah Joanne Lynch, Karina Horgan, Sinead Loughran, Roya Hakimjavadi
11:10	(1540-5)	Precision Medicine: Enabled by Single Cell Analysis STEVEN A SOPER, University of North Carolina

SYMPOSIUM Session 1550

Standoff Detection Methods for Security Applications

arranged by Sanford A Asher, University of Pittsburgh
and Michael Shepard, Dept. Homeland Security, S&T Directorate

Wednesday Morning, Room B310

Michael Shepard, Dept. Homeland Security, S&T Directorate, Presiding

8:30		Introductory Remarks - Michael Shepard
8:35	(1550-1)	Novel Approaches to Standoff Hyperspectral Imaging Based Detection of Explosives and Other Threats CHARLES W GARDNER, ChemImage Sensor Systems, Matthew P Nelson, Nathaniel R Gomer, Oksana P Klueva
9:10	(1550-2)	Standoff Detection of Explosives Residues Using Integrated Quantum Cascade Laser Arrays MARK F WITINSKI, Pendar Technologies, Romain Blanchard, Daryoosh Vakhshoori
9:45	(1550-3)	Standards for Optical Based Standoff Detection Fabricated Using Inkjet Printing GREG GILLEN, NIST
10:20		Recess
10:35	(1550-4)	Recent Advances in Standoff Chemical Threat Detection Using Deep-Ultraviolet Raman Spectroscopy ADAM J HOPKINS, Alakai Defense Systems, Kenneth R Pohl, Rob Waterbury, Edwin Dottery
11:10	(1550-5)	Deep UV Standoff Raman Detection of Explosives: Fundamentals and Methodologies SERGEI V BYKOV, University of Pittsburgh, Katie L Gares, Kyle T Hufziger, Sanford A Asher

SYMPOSIUM Session 1560

Sum Frequency Generation (SFG) Vibrational Spectroscopic Studies on Proteins and Peptides at Interfaces

arranged by Zhan Chen, University of Michigan

Wednesday Morning, Room B311

Zhan Chen, University of Michigan, Presiding

8:30		Introductory Remarks - Zhan Chen
8:35	(1560-1)	Determining the Structure of Surface Bound Proteins DAVID G CASTNER, University of Washington
9:10	(1560-2)	The Interactions of Ions with Peptides and Lipid Bilayers PAUL CREMER, Penn State University
9:45	(1560-3)	Proteins at Interfaces: Structure and Platform for Novel Biomaterials MISCHA BONN, Max Planck Institute for Polymer Research, Tobias Weidner
10:20		Recess
10:35	(1560-4)	Proteins at Interfaces Probed by Chiral Sum Frequency Generation ELSA CY YAN, Yale University
11:10	(1560-5)	Structure-Function Relationships of Surface Immobilized Peptides and Enzymes ZHAN CHEN, University of Michigan

WORKSHOPS Session 1570

Analytical Information Markup Language (AnIML) Data Standards

arranged by Burkhard Schaefer, BSSN Software GmbH

Wednesday Morning, Room B313

Burkhard Schaefer, BSSN Software GmbH, Presiding

8:30		Introductory Remarks - Burkhard Schaefer
8:35	(1570-1)	Generating AnIML Technique Definitions MARK FAULKNER BEAN, GSK
9:05	(1570-2)	Filling the Automation and Enterprise Gap with Data and Device Standardization CARMEN CONDRAU, SILA Consortium, Devon Johnston
9:35	(1570-3)	Instant JChem and AnIML: Curation, Searching, and Visualization of MS Library and Empirical Data MICHAEL BRADEN, ChemAxon
10:05		Recess
10:20	(1570-4)	Use of AnIML and Other Methods for Software Visualization and Automation DAVID M COX, SCIEX, John Gibbons
10:50	(1570-5)	Cloud-Based Analytical Data Management Using the AnIML Standard BURKHARD SCHAEFER, BSSN Software GmbH

ORGANIZED CONTRIBUTED SESSIONS Session 1580

Food Contaminant Methods

arranged by Wendy Young, Food and Drug Administration

Wednesday Morning, Room B315

Wendy Young, Food and Drug Administration, Presiding

8:30	(1580-1)	Quantitative HPLC-MS/MS Analysis of Metabolites of Hypoglycin A and Methylenecyclopropylglycine (MCPG) in Human Urine SAMANTHA L ISENBERG, Centers for Disease Control and Prevention, Melissa D Carter, Leigh A Graham, Thomas P Mathews, Darryl Johnson, Jerry D Thomas, James Pirkle, Rudolph C Johnson
8:50	(1580-2)	LC-MS/MS Detection of Tetrodotoxin in Fresh/Frozen and Salt-Dried Fish Products SARA C MCGRATH, FDA/CFSAN, Jonathan R Deeds
9:10	(1580-3)	Fast Liquid Chromatography - Tandem Mass Spectrometry Analysis of > 150 Drug Residues including Aminoglycosides in Food Animal Tissues STEVEN J LEHOTAY, USDA Agricultural Research Service, Alan R Lightfield
9:30	(1580-4)	Determination of Diglycolic Acid in Foods Containing Carboxymethyl Cellulose WENDY YOUNG, Food and Drug Administration, Lowri DeJager
9:50		Recess
10:05	(1580-5)	Sulfite Determination in Food by Liquid Chromatography-Mass Spectrometry KATHERINE S ROBBINS, US FDA, Shaun MacMahon, Lowri de Jager
10:25	(1580-6)	Pesticide Screen Method Development Using Micro Flow LC and High Resolving Power Mass Spectrometry MARK CROSSWHITE, Florida Department of Agriculture, Walter Hammack, Gerard Ghislain, Fadi Aldeek, Matthew Standland, Daniel Canzani
10:45	(1580-7)	Application of Raman Imaging for the Analysis of Food Packaging Stability RIC GONZALEZ, ConAgra Foods, Inc., Indarpal Singh
11:05	(1580-8)	Open Discussion

ORGANIZED CONTRIBUTED SESSIONS Session 1590

On-Site Detection of THC and Related Drugs

arranged by Maggie Tam, Canada Border Services Agency and Charles S Harden, US Army ECBC

Wednesday Morning, Room B316

Maggie Tam, Canada Border Services Agency, Presiding

8:30	(1590-1)	Challenges of Drug Detection in the Field from the Enforcement Perspective MAGGIE TAM, Canada Border Services Agency
8:50	(1590-2)	Forensic Screening Using High-Performance Ion Mobility Spectrometry CHING WU, Excellims Corporation, Mark Osgood, Anthony Midey
9:10	(1590-3)	Handheld Differential Mobility Spectrometry for Drug Interdiction PAUL J RAUCH, Chemring Detection Systems, Eric Lynch
9:30	(1590-4)	Detection of Tetrahydrocannabinol and Related Compounds in Human Breath Using High-Field Asymmetric Waveform Ion Mobility Spectrometry JARED J BOOCK, University of Florida, Michael T Costanzo, Richard Alan Yost
9:50		Recess
10:05	(1590-5)	Detection of Illicit Drugs of Abuse Using Existing Military Chemical Detection Equipment CHARLES S HARDEN, US Army ECBC
10:25	(1590-6)	Innovative and Rapid Detection of Marijuana Consumption from Direct Breath Analysis CHANDRASEKHARA HARIHARAN, ION-GAS GmbH, Oliver Kayser
10:45	(1590-7)	Understanding Canine Detection of Explosives and Narcotics Using a 3D Printed Artificial Dog Nose MATTHEW STAYMATES, NIST, William MacCrehan, Jessica Staymates, Greg Gillen, Brent Craven
11:05	(1590-8)	Open Discussion

TECHNICAL PROGRAM

ORGANIZED CONTRIBUTED SESSIONS

Session 1600

PAI-NET - Characterization of Micro/Nano Liquid Phases

arranged by Akihide Hibara, Tokyo Institute of Technology and Kenji Kojima, PAI-NET

Wednesday Morning, Room B301

Akihide Hibara, Tokyo Institute of Technology, Presiding

8:30	(1600-1)	Development of Microfluidic Lattices for High-Performance Cell/Particle Separations MASUMI YAMADA, Chiba University, Minoru Seki
8:50	(1600-2)	Microfluidic-Based Approach for Producing Diffraction Quality Protein Crystals MAEKI MASATOSHI, Hokkaido University, Pawate Ashtamurthy, Sugishima Masakazu, Watanabe Keiichi, Takeshi Manabu, Kenis J Paul, Miyazaki Masaya
9:10	(1600-3)	Sample Pretreatments for Droplet-Based Microanalytical System by Using Nanodroplet Formation MAO FUKUYAMA, Kyoto Institute of Technology, Akihide Hibara, Yumi Yoshida, Kohji Maeda
9:30	(1600-4)	Development of DNA and/or RNA Extraction Method from Single Cell YUKIHIRO OKAMOTO, Osaka University
9:50		Recess
10:05	(1600-5)	In Vivo Detection and Quantification of Circulating Cells and Nanoparticles in Whole Blood Using Photoacoustic-Fluorescence Flow Cytometry DMITRY A NEDOSEKIN, University of Arkansas for Medical Sciences, Vladimir P Zharov
10:25	(1600-6)	Microfluidic Construction of Artificial Cell-Like Reactors MASAHIRO TAKINOUE, Tokyo Technology
10:45	(1600-7)	Parallel Lipid Bilayer Formation by Microfabrication and Its Applications RYUJI KAWANO, Tokyo University of Agriculture and Technology
11:05	(1600-8)	Unique Liquid Properties by Surface Silanol Groups in Extended-Nano Spaces YUTAKA KAZOE, The University of Tokyo, Keisuke Ikeda, Kazuma Mawatari, Takehiko Kitamori

ORAL SESSIONS

Session 1610

Biomedical: New Technologies for Breath Analysis (Half Session)

Wednesday Morning, Room B409

8:30	(1610-1)	Heart-Cutting Multidimensional Micro Gas Chromatography (μGC) System for Breath Analysis MENGLIAN ZHOU, University of Michigan, Jiwon Lee, Hongbo Zhu, Robert Nidetz, Kevin Ward, Xudong Fan, Katsuo Kurabayashi
8:50	(1610-2)	Real-time PTR-TOF-MS Measurements Reveal Effects of Respiratory Maneuvers onto Exhaled Breath Biomarker Profiles PRITAM SUKUL, University Medicine of Rostock, Peter Oertel, Phillip Trefz, Khushman Taunk, Jochen K Schubert, Wolfram Miekisch, Svend Kamysek
9:10	(1610-3)	High Altitude Respiratory Research Using Quadrupole Mass Spectrometry CHARLES W DE CARLO, Extrel CMS, James R Brenner, Zbigniew Krieger, Frank DeThomas
9:30	(1610-4)	VOC Detection in Animal Models for Medical Research WOLFGANG VAUTZ, ISAS, Liedtke Sascha, Nils Kunze, Thorsten Perl, Ursula Telgheder

ORAL SESSIONS

Session 1620

Clinical/Toxicology

Wednesday Morning, Room B402

Tyler Davis, West Virginia University, Presiding

8:30	(1620-1)	Determination of Manganese Using Cathodic Stripping Voltammetry on a Platinum Electrode WENJING KANG, University of Cincinnati, Cory A Rusinek, Adam Bange, Erin Haynes, William R Heineman, Ian Papautsky
8:50	(1620-2)	Impact of Amphiphilic Poly(amido)amine Dendrimers on the Biophysical and Biorecognition Properties of Bilayer Membranes SAMUEL S HINMAN, University of California, Riverside, Charles J Ruiz, Ling Peng, Quan Cheng
9:10	(1620-3)	Analysis of Drugs in Saliva During Treatment of Post-Traumatic Stress Disorder Patients KATHRYN DANA, Real-Time Analyzers, Inc, Chetan Shende, Stuart Farquharson, Albert J Arias
9:30	(1620-4)	G-Quadruplex: A Biocompatible Additive for Enhancing the Antibacterial Activity of H₂O₂ YUQIAN XING, University of North Dakota, Xiao Liu, Minh H Duong, Julia Xiaojun Zhao
9:50		Recess
10:05	(1620-5)	Capillary Electrophoresis Investigation of Multiwalled Carbon Nanotube-Biomolecule Binding TYLER DAVIS, West Virginia University, Lisa A Holland, Julia Ann Mouch
10:25	(1620-6)	Determining Variability in Potency of Marijuana for Potential Medical Application REBECCA PLESSEL, Pennsylvania State University, Frank Dorman, Amanda Rigdon
10:45	(1620-7)	Design and Development of a Portable Aptasensor for Toxicity Monitoring of Field Samples GONCA BULBUL, Clarkson University, Akhtar Hayat, Silvana Andreescu
11:05	(1620-8)	Quantitative Assessment of Nanoparticles Exposure Potential Effects in Embryonic Zebrafish XIAOBO LIU, Clarkson University, Eduard Dumitrescu, Kenneth Wallace, Silvana Andreescu

ORAL SESSIONS

Session 1630

Electrochemistry - Biological Applications

Wednesday Morning, Room B403

Yinfa Ma, Missouri University of Science and Technology, Presiding

8:30	(1630-1)	Development of an Optrode for In Vivo Neurochemical Studies THOMAS FIELD, University of Kansas, Meng Sun, Peter M Ruggles, Michael A Johnson
8:50	(1630-2)	Adenosine Transiently Modulates Vasodilation in Caudate-Putamen YING WANG, University of Virginia, B Jill Venton
9:10	(1630-3)	Amperometric and Voltammetric Measurements in the Cell Cytosol Using Conical Carbon Nanoelectrodes EDWIN MITCHELL, North Carolina State University, James Roberts, Leslie A Sombers
9:30	(1630-4)	Tunable Electroosmotic Push-Pull Perfusion Shows Higher Aminopeptidase N Activity in CA1 than CA3 of the Rat Hippocampus YANGGUANG OU, University of Pittsburgh, Bocheng Yin, Jenna DeVivo, German Barrionuevo, Stephen Weber
9:50		Recess
10:05	(1630-5)	Optogenetic Control of Octopamine Release in Drosophila Melanogaster Larval Ventral Nerve Cord and Detection with Fast Scan Cyclic Voltammetry (FSCV) POOJAN PYAKUREL, University of Virginia, B Jill Venton
10:25	(1630-6)	Clarifying the Complex Chemical Mechanisms that Underlie the Voltammetric Detection of Hydrogen Peroxide LESLIE A SOMBERS, North Carolina State University, Samantha K Smith, Leyda Z Lugo-Morales, James Roberts, Maxim A Voinov, Tatyana I Smirnova
10:45	(1630-7)	FSCV Measurements of Neurotransmitters in Daphnia MATT N JACKSON, Wayne State University, Srimal A Samaranayake, David Pitts, Shawn McElmurry, Annette R Tremonti, Parastoo Hashemi
11:05	(1630-8)	Glutamate Receptor Influence on Localized Oxygen Metabolism LINDSAY WALTON, University of North Carolina at Chapel Hill, Nick Boustead, Susan Carroll, R Mark Wightman

ORAL SESSIONS Session 1640

Environmental, Pharm and Nano Methods Development in Atomic Spectroscopy

Wednesday Morning, Room B404

David Clarke, Teledyne CETAC Technologies, Presiding

8:30	(1640-1)	Novel Automation Streamlining Microwave Digestion to Detection for Elemental Analysis DAVID CLARKE, Teledyne CETAC Technologies, Matthew Nigro, James Block
8:50	(1640-2)	Use of Atomic Fluorescence Spectrometry (AFS) for Element Specific Hg Detection Combined with Combustion WARREN T CORNS, P S Analytical
9:10	(1640-3)	Development of Online Method for Simultaneous Preconcentration of Cd, Cu, Ni and Zn in Environmental Samples Using Modified Alumina ZAHEER A KHAN, SBBU, SBA
9:30	(1640-4)	Dual Analyte Analysis of Bimetallic and Monometallic Nanoparticle Mixtures Using Field Flow Fractionation Separation Coupled to spICP-MS CHADY STEPHAN, PerkinElmer, Ruth Merrifield
9:50		Recess
10:05	(1640-5)	Analysis of Trace Metals in Pharmaceutical Formulations - Issues with USP 232 and Q3D Regulations PHILIP RIBY, Liverpool John Moores University, Samar Thiab, Philip Salmon, Matt Roberts, Philip Riby
10:25	(1640-6)	Development and Validation of a New Method to Measure Activity of the Na⁺, K⁺ ATPase Using ICP-MS QQQ CORY A STINER, University of Cincinnati, Julio Landero, Judith Heiny
10:45	(1640-7)	Arsenic Speciation in Water Samples – Development of a New ISO/CEN Method CORNELIUS BROMBACH, P S Analytical, Bin Chen, Warren T Corns, K C Thompson
11:05	(1640-8)	Exploiting the Limits of Single Particle ICP-MS – From Particle Size to Particle Number CHADY STEPHAN, PerkinElmer

ORAL SESSIONS Session 1650

Food Contaminants

Wednesday Morning, Room B314

Joan M Stevens, Agilent Technologies, Inc., Presiding

8:30	(1650-1)	The Analysis of Chlorinated Dioxins and Difurans in Pet Food PHILIP BASSIGNANI, Fluid Management Systems, Rudolf Addink
8:50	(1650-2)	Selective Lipid Removal from Complex Samples for Multi-Residue Analysis DERICK LUCAS, Agilent Technologies, Limian Zhao, Bruce Richter, Joan Stevens, Megan Juck
9:10	(1650-3)	Arsenic Contamination and the Emergence of Speciation in the Food Chain HELMUT ERNSTBERGER, Perkin Elmer, Kenneth Neubauer
9:30	(1650-4)	Elemental Profile of Tobacco used in Counterfeit Cigarettes YI HE, John Jay College/CUNY, Carrie Green, Rufus Chaney, Fidelis Tan, Ye Hua, Victoria Mei, Marin Kurti, Klaus von Lampe
9:50		Recess
10:05	(1650-5)	Determination of Antimony in Food Samples by Slurry Sampling Hydride Generation Atomic Absorption Spectrometry JERZY MIERZWA, Tennessee State University
10:25	(1650-6)	The Analysis of Chlorinated Dioxins, Difurans and Polychlorinated Biphenyls in Edible Oils PHILIP BASSIGNANI, Fluid Management Systems, Rudolf Addink
10:45	(1650-7)	Application of Mid-Infrared Portable Spectrometry in Determination of Trans-fatty Acid Content in Bakery Products MEI SHOTTS, The Ohio State University, Luis Rodriguez-Saona
11:05	(1650-8)	Rapid Detection of Processed Uranium in Food ABDUR-RAFAY SHAREEF, FDA, Lin Zhichao, Emanuele Kathryn, Stephanie Healey, Patrick Regan, William Cunningham, Brian Baker

ORAL SESSIONS Session 1660

LIMS – No One Size Fits All

Wednesday Morning, Room B405

Hubert MacDonald, The Pittsburgh Conference, Presiding

8:30	(1660-1)	Quantum Time Savings with LIMS Deployment DEVENDER GANDHI, Accelerated Technology Laboratories
8:50	(1660-2)	Informatics for Externalization GRAHAM A MCGIBBON, ACD/Labs, Pranas Japertas, Ryan Sasaki
9:10	(1660-3)	Going Mobile with LIMS for Field Data Collection KEN OCHI, Accelerated Technology Laboratories
9:30	(1660-4)	Pay Now or Later: Creating Solid System Application User Requirements KATHERINE TEMPLE, CSOLS, Inc., Daniel Freel
9:50		Recess
10:05	(1660-5)	Key Factors to Consider in Transitioning to a New LIMS SONJA STUTSMAN, Accelerated Technology Laboratories
10:25	(1660-6)	LIMS Implementation: “Big Bang” or “Phased” Approach HOWARD J ROSENBERG, CSols, Inc.
10:45	(1660-7)	Migrating from a Legacy LIMS to a Modern Platform LAURA LEE WILLIFORD, Accelerated Technology Laboratories, Devender Gandhi
11:05	(1660-8)	Integrated Informatics: Single Vendor vs. “Best of Breed” HOWARD J ROSENBERG, CSols, Inc.

ORAL SESSIONS Session 1670

Mass Spectrometry-Environmental, ICP-MS and Others

Wednesday Morning, Room B406

Yongbo Dan, Missouri University of Science and Technology, Presiding

8:30	(1670-1)	Ultra-Trace Analysis of Mercury Species in Drinking Water Using Ion Chromatography and Speciated Isotope Dilution Mass Spectrometry (IC-SIDMS) PATRICK BENECEWICZ, Duquesne University, Skip Kingston, Matt Pamuku, Stuart Procter, Christopher Loran
8:50	(1670-2)	Ion Mobility-Mass Spectrometry Screening Reveals Small Molecules Capable of Chemical and Structural Modulation of Amyloidogenic Protein RICHARD A KERR, University of Michigan, Jeffrey Derrick, Michael Beck, Hyuck Jin Lee, Mi Hee Lim, Brandon T Ruotolo
9:10	(1670-3)	Transformation Kinetics of Metallic Nanoparticles in Environmental and Cell Culture Exposure Media as Measured by spICP-MS CHADY STEPHAN, PerkinElmer, Ruth Merrifield
9:30	(1670-4)	Reading Information Digitally-Encoded in Synthetic Polymers: A Sequencing Approach by Tandem Mass Spectrometry LAURENCE CHARLES, Aix-Marseille University, Jean-François Lutz
9:50		Recess
10:05	(1670-5)	Enzymatic Digestion-Single Particle ICP-MS Method to Characterize Nanoparticle Uptake by Plants DAN YONGBO, Missouri University of Science and Technology, Weilan Zhang, Runmiao Xue, Ma Xingmao, Chady Stephan, Honglan Shi
10:25	(1670-6)	Study of the Transmission of Megadalton-Sized Ions from Atmospheric Pressure to Vacuum in a Q-TOF Charge Detection Mass Spectrometer STACI N ANTHONY, Indiana University, Benjamin E Draper, Martin F Jarrold
10:45	(1670-7)	Characterization of TiO₂-Nanoparticles Using Asymmetrical Flow- and Centrifugal Field-Flow-Fractionation Coupled with MALS, DLS and ICP-MS Detection SOHEYL TADJIKI, Postnova Analytics Inc., Florian Meier, Evelin Moldenhauer, Trevor Havard, Thorsten Klein
11:05	(1670-8)	Enhanced Real-Time Gas Analysis with SIFT-MS Using Negative Reagent Ions DANIEL MILLIGAN, Syft Technologies Ltd, Vaughan Langford, Thomas McKellar, Barry Prince, Murray McEwan

TECHNICAL PROGRAM

ORAL SESSIONS

Session 1680

Pharmaceutical Applications of Liquid Chromatography

Wednesday Morning, Room B401

Paulina Piotrowski, The Pennsylvania State University, Presiding

8:30	(1680-1)	Method Development Strategies and Applications of 2D LC for Pharmaceutical Analysis PANKAJ AGGARWAL, Pfizer Inc., David T Fortin, Angel R Diaz
8:50	(1680-2)	Coupling Mass Detection with UV to Improve Method Sensitivity for Esters of Benzenesulfonic and p-Toluenesulfonic Acids in Analysis of Genotoxic Impurities MARGARET MAZIARZ, Waters Corporation, Christopher Henry, Mark Wrona
9:10	(1680-3)	Method Development for Non-Chromophoric Pharmaceutical Analytes Using Alternative Chromatographic and Detection Techniques ZONGYUN HUANG, Bristol-Myers Squibb, William Fish
9:30	(1680-4)	The Impact of LC Instrument Characteristics on HPLC and UPLC Method Migration and Method Transfer PAULA HONG, Waters Corporation, Patricia R McConville
9:50		Recess
10:05	(1680-5)	Development and Validation of A Novel Stability-Indicating Reversed-Phase High-Performance Liquid Chromatography Method for Assay of Thiabendazole and Estimation of its Related Compounds JIANGTAO HE, Meril, A Sanofi Company, Huang Junmin, Abu Rustum
10:25	(1680-6)	Fast Centrifugal Partitioning Chromatography ROB DRISCOLL, Robatel Inc.
10:45	(1680-7)	Development and Validation of a Reversed Phase Chiral HPLC Method for Verification of Afoxolaner as a Racemic Mixture NILUSHA PADIVITAGE, Meril, A Sanofi Company, Satish Kumar, Abu Rustum
11:05	(1680-8)	Development for a Sensitive Method for the Determination of Diphenylphosphoryl Azide and Hydrogen Azide in Active Pharmaceutical Compounds XUEJUN XU, Bristol-Myers Squibb, Martin Nunez, Yun K Ye, Thomas V Raglione

ORAL SESSIONS

Session 1690

Portable Instruments - Half Session

Wednesday Morning, Room B409

Robert W Baudoux, Sr., RWB Convention Mgt, Presiding

10:05	(1690-1)	Development of Portable Instrumentation Using the Arduino Microcontroller Platform for Field-Ready Electrochemical Experimentation DREW C FARRELL, University of Arizona, Michael L Heien
10:25	(1690-2)	A Novel Instrument for Microscale IR Thermography in High Temperature Applied to Solar Salts JUNKO MORIKAWA, Tokyo Institute of Technology, Massimiliano Zamengo, Yukitaka Kato
10:45	(1690-3)	A New GC/FTIR Detection Method as Applied to Inline Monitoring of Siloxanes in Biogas CHARLES MARK PHILLIPS, Prism Analytical Technologies, Inc., Martin L Spartz, Anthony S Bonanno, Peter P Behnke
11:05	(1690-4)	Next-Generation Handheld XRF Analyzer – Smarter, Smaller and Faster ESA NUMMI, Thermo Fisher Scientific

ORAL SESSIONS

Session 1700

Sensors - Bioanalytical and Homeland Security/Forensics

Wednesday Morning, Room B407

Katie Edwards, Cornell University, Presiding

8:30	(1700-1)	Photonic Crystal Protein Hydrogel Sensor for Candida Albicans ZHONGYU CAI, University of Pittsburgh, Daniel H Kwak, David Punihaole, Zhenmin Hong, Sachin S Velankar, Xinyu Liu, Sanford A Asher
8:50	(1700-2)	Development of a Wireless Microfluidic Biosensor System for Real-Time Monitoring of Human Transplant Organs in Transit SALLY A GOWERS, Imperial College London, Isabelle C Samper, Chu Wang, Thomas Watts, Bynvant Sandhu, Vassilios Papalois, Martyn G Boutelle
9:10	(1700-3)	Ion-Selective Electrodes with PEDOT(PSS) as Solid Contact: Influence of the PEDOT(PSS) Thickness on the Equilibration Time MARCIN GUZINSKI, The University of Memphis, Jennifer M Jarvis, Erno Lindner, Bradford D Pendley
9:30	(1700-4)	Evaluating Real Time Binding Interactions in Insulin Immunoassay for Diagnosis of Type of Diabetes by Surface Plasmon Resonance VINI SINGH, Oklahoma State University, Sadagopan Krishnan
9:50		Recess
10:05	(1700-5)	Extended Nanopore Residence Times via Metallic Clusters JOSEPH E REINER, Virginia Commonwealth University, Amy E Chavis, Kyle T Brady, Nuwan Kothalawala
10:25	(1700-6)	Kinetics Quantification of MicroRNAs as Disease Biomarkers on Microelectrode Point-of-Care Sensors at Attomoles within Minutes TANYU WANG, Georgia State University, Gangli Wang
10:45	(1700-7)	Hyphenated Inverted Mesa E-QCM Sensors for Explosives Detection ABDUL REHMAN, King Fahd University of Petroleum and Minerals
11:05	(1700-8)	A New Miniaturized Sensor for Real-Time Suit Penetration Assessment in the Man-In-Simulant-Test (MIST) Protocol NICHOLAS FITZGERALD, Defence Science and Technology Group, Karl Pavay

ORAL SESSIONS

Session 1710

Thermal Analysis

Wednesday Morning, Room B408

Fu-mei Lin, The Pittsburgh Conference, Presiding

8:30	(1710-1)	Using Isothermal Titration Calorimetry to Measure Thermodynamic Parameters of Adsorption on Chromatographic Media ANTHONY R HORNER, University of Pittsburgh, Stephen R Groskreutz, Stephen Weber
8:50	(1710-2)	Thermal Conductivity Measurement of Solar Salt in High Temperature Using the Temperature Wave Method JUNKO MORIKAWA, Tokyo Institute of Technology, Yukitaka Kato, Massimiliano Zamengo
9:10	(1710-3)	TGA-GC-MS Analysis of Different Tobacco Types EKKEHARD POST, NETZSCH Geraetebau GmbH, Bob Fidler, Jan Hanss
9:30	(1710-4)	Pyrolysis Gases of Polycarbonate Identified by TGA-FT-IR and TGA-GC-MS EKKEHARD POST, NETZSCH Geraetebau GmbH, Bob Fidler
9:50		Recess
10:05	(1710-5)	Understanding Auto-Catalysis Using Scanning, Isothermal and Adiabatic Calorimetry PETER RALBOVSKY, Netzsch Instruments, Bob Fidler
10:25	(1710-6)	Developing Databases and Optimized Spectral Searching from TGA-IR Hyphenation Experiments IAN ROBERTSON, PerkinElmer Limited, Justin Lang, Jack Botting
10:45	(1710-7)	Thermal Excitation, Optical Response: A Novel Approach to Thermal Analysis by TMOR SARAH SCHWARZ G HENRIQUES, Anton Paar OptoTec GmbH, Tobias Husemann, Jens Kruse, Nils Bertram
11:05	(1710-8)	Characterization of Nanomaterials with Thermal Analysis and Hyphenated Techniques CHADY STEPHAN, PerkinElmer, Jun Wang

POSTER SESSION

Session 1720

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Applications of LC/MS

Wednesday Morning, Exposition Floor, 400 Aisle

- (1720-1 P) **Determination of Fentanyl in Canine Plasma Using HPLC-MS Detection** JOAN B BAILEY, University of Tennessee, Sherry K Cox, Molly White, Kristen Gordon, Reza Seddighi
- (1720-2 P) **Targeted Metabonomic Study of Plasma from Rats with Acute Colitis Using LCMS-IT-TOF Based Metabonomics** LINGLING SHEN, Shimadzu Global COE, Shimadzu Co., Ltd, Jingting Yao, Taohong Huang, Xiaojun Zhang, Qisheng Zhong
- (1720-3 P) **Optimization of On-column Trypsin Digestion Coupled with LC-MS/MS for Analysis of Apolipoproteins in Serum** CHRISTOPHER TOTH, Centers for Disease Control and Prevention, Zsuzsanna Kuklenyik, Jeffrey Jones, Bryan A Parks, Michael S Gardner, Jon Rees, Yulanda Williamson, David Schieltz, Lisa McWilliams, James Pirkle, John R Barr
- (1720-4 P) **A Simple and Sensitive LC-MS/MS Method for the Determination of Free 8-Hydroxy-2'-deoxyguanosine in Human Urine** ZUWEI WANG, JES Tech, Scott M Smith
- (1720-5 P) **Evaluation of Streamlined SPE Processing Using Novel Column based Components prior to LC-MS/MS** LEE WILLIAMS, Biotage GB Limited, Helen Lodder, Victor Vandell
- (1720-6 P) **Multi-Class Screening of Drug Abuse in Hair by Matrix Solid Phase Dispersion – Ultra-sound Extraction and HPLC-MS/MS Detection** ANTONIO MOREDA-PIÑEIRO, University of Santiago de Compostela, Mercedes Saavedra-Suarez, Juan Sanchez-Gonzalez, Pilar Bermejo-Barrera, Maria del Carmen Barciela-Alonso, Elena Pena-Vazquez, Raquel Dominguez-Gonzalez
- (1720-7 P) **Optimization of QuEChERS Sample Preparation Method for the Determination of Bisphenol A in Carrots** OLUJIDE T AKINBO, Butler University, Hugh Kestufskie
- (1720-8 P) **Quantification of Iodine-Containing Hormones Present in Dietary Supplements by Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS)** ENRIQUE G YANES, U.S. Food and Drug Administration (FDA), Robert A Wilson, James A Turner, Ryan Saadawi
- (1720-9 P) **Ultra High Performance Liquid Chromatography Tandem Mass Spectrometry Method for Simultaneous Determination of Multiple Bioactive Constituents in Fruit Extracts of Myristica Fragrans and its Marketed Poly Herbal Formulations Using a Polarity Switch Technique** RENU PANDEY, Sophisticated Analytical Instrument Facility, CSIR, Brijesh Kumar
- (1720-10 P) **A Targeted Multidimensional Approach with MS Detection (SPE-RPLC/MS) for the Assessment of Trace Free Drug Species in Unadulterated Antibody-Drug Conjugate (ADC) Samples with Improved Specificity and Sensitivity** ROBERT BIRDSALL, Waters Corporation, Sean M McCarthy, Scott Berger, Weibin Chen, Alain Beck
- (1720-11 P) **Method Development and Optimization for the Combined Analysis of Synthetic Cannabinoids and Designer Cathinones in Urine** HOLLY CASTELLANO, Duquesne University, Stephanie Wetzel
- (1720-12 P) **Separation and Identification of Lentil (Lens Culinaris) Proteins by Mass Spectrometry** ALBERTA ARYEE, Agriculture & Agri-Food Canada, Joyce I Boye
- (1720-13 P) **Withdrawn**
- (1720-14 P) **Quantitation of Proto-Peptide Building Blocks in Complex Model Prebiotic Mixtures via Liquid Chromatography-Tandem Mass Spectrometry** ERIC T PARKER, Georgia Institute of Technology, Jeffrey L Bada, Facundo M Fernandez

POSTER SESSION

Session 1730

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Capillary Electrophoresis

Wednesday Morning, Exposition Floor, 400 Aisle

- (1730-1 P) **Capillary Electrophoresis Method to Detect Circulating Steroids in Individual Zebrafish Plasma** PAIGE A REED, West Virginia University, Vincent T Nyakubaya, William J Feeney, Lisa A Holland, Jennifer Ripley-Stueckle
- (1730-2 P) **Fluorogenic Derivatization of Amino Acids for Laser-Induced Fluorescence Detection in Capillary Electrophoresis** NAVEEN MADDUKURI, Wichita State University, Qiyang Zhang, Maojun Gong
- (1730-3 P) **Investigating Electrospray Behavior in Capillary Electrophoresis Coupled Mass Spectrometry** JARED A LAMP, University of Notre Dame
- (1730-4 P) **Validated Capillary Zone Electrophoretic Method for Simultaneous Determination of Some Antihypertensive Drugs in Their Single-pill Combination Therapy** FAWZY A EL-YAZBI, Alexandria University, Hytham M Ahmed, Tarek S Belal, Rasha A Shaalan, Sohaila M Elonsy

- (1730-5 P) **Single Enzyme Molecule Studies with CE-LIF and CE-MS** EMILY A AMENSON, University of Notre Dame, Norman J Dovichi
- (1730-6 P) **Xenopus Laevis Metabolomic Profiling via CZE-ESI-MS/MS and MALDI-TOFMS** JENNIFER ARCEO, University of Notre Dame, Nicole Schiavone, Danielle Boley, Elizabeth H Peuchen, Norman J Dovichi
- (1730-7 P) **Insights into Chiral Recognition Mechanisms for Acryloyl Terminated Polymeric Surfactants: Application of Linear Solvation Energy Relationship in Micellar Electrokinetic Chromatography and Capillary Electrochromatography** YANG LU, Georgia State University, Shahab S Shamsi
- (1730-8 P) **Study of Electrooxidation Products of Primary Alcohols by EC-CE-C4D: Assessment of the Conversion Efficiency of Alcohols into Their Carboxylates on Gold and Platinum Electrodes in Different Media** MAURO SERGIO FERREIRA SANTOS, USP, Fernando S Lopes, Ivano G R Gutz
- (1730-9 P) **Microscale Quantification of Nanoparticle-Biomolecule Interactions with Capillary Electrophoresis** JULIA ANN MOUCH, Bethany College, Tyler Davis, Lisa A Holland
- (1730-10 P) **Comparative Validation of Sofosbuvir Determination in Pharmaceuticals by Several Chromatographic, Electrophoretic and Spectrophotometric Methods** AMIRA F EL-YAZBI, Alexandria University
- (1730-11 P) **Quantification of Amino Acids in Cordyceps by MEKC** XIN WEI, Wuhan University Zhongnan Hospital, Hankun Hu, Yiming Liu, Yue Xu

POSTER SESSION

Session 1740

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Forensics and Homeland Security

Wednesday Morning, Exposition Floor, 400 Aisle

- (1740-1 P) **Fingerprinting of Falsified Artemisinin Combination Therapies (ACTs) via DART Ionization Coupled to a Compact Single Quadrupole Mass Spectrometer** MATTHEW C BERNIER, Georgia Institute of Technology, Joseph LaPointe, Brian Musselman, Facundo M Fernandez
- (1740-2 P) **Lead-Free Gunshot Residues as Forensic Evidence** CHRISTOPHER R DOCKERY, Kennesaw State University, Lashaundra Fambro, Ethan Miller, Deirdre VanDenbos, Wassim Abdul Khalek
- (1740-3 P) **Forensic Analysis of Textile Fibers Exposed to Cigarette Smoke Using Non-Destructive Room Temperature Excitation-Emission Fluorescence Microscopy** HUGH HAYES, University of Central Florida, Andres Campiglia, Arsenio Munoz de la Pena, Hector C Goicoechea
- (1740-4 P) **Forensic Analysis Of Textile Fibers Exposed To Laundry Detergents Using Fluorescence Excitation-Emission Spectroscopy** NIRVANI MUJUMDAR, University of Central Florida
- (1740-5 P) **Eye-safe, Wide-Area Hyperspectral Raman Imaging Using a Spatial Heterodyne Raman Spectrometer** NATHANIEL R GOMER, ChemImage Sensor Systems, Matthew P Nelson
- (1740-6 P) **Development and Optimization of Solid Phase Extraction (SPE) Method for Determination of Benzodiazepines in Wastewater and Surface Water by High-Performance Liquid Chromatography (HPLC)** HONGXIA GUAN, Georgia Gwinnett College, Qingsong Cai
- (1740-7 P) **Determination and Measurement of Wildland Fire Markers in Residential Structures Using TD-GCMS** MARY C MARTIN, Prism Analytical and Central Michigan University, Alice Delia, Dale LeCaptain
- (1740-8 P) **Differentiate Delta-9-tetrahydrocannabinol (Δ^9 -THC) and Delta-8-tetrahydrocannabinol (Δ^8 -THC)** KEN TSENG, Nacalai USA, Toshi Ono, Tsunehisa Hirose, Kazuhiro Kimata
- (1740-9 P) **Identification and Quantification of Explosives and Their Residues in Water Using a Novel Surfactant in MEKC** CHRISTINE COPPER, U.S. Naval Academy, Marlene Perez, Alexis Clark, Karen Brensinger, Christopher Rollman, Jacqueline Rine, Ashton Genzman, Ira Lurie, Mehdi Moini
- (1740-10 P) **Novel Concept of Biomarker Analysis in Forensic Analysis** JAN HALAMEK, SUNY Albany
- (1740-11 P) **Evaluation of GC-IRD Methods for Sensitivity and Selectivity in Forensic Drug Identification** RANDALL CLARK, Auburn University, Younis Abiedalla, Jack DeRuiter
- (1740-12 P) **Screening of Drugs of Abuse Using DART-MS and Real Time Reverse Library Search** FREDERICK LI, IonSense, Inc., Brian Musselman, Joe Tice, Stephen Shrader
- (1740-13 P) **Sol-gel Sorbent Beds for All-in-One Sampling, Preconcentration, and Separation of Trace Explosive Vapors** MICHELLE CERRETA, U.S. Naval Research Laboratory, Braden Giordano, Kevin Johnson
- (1740-14 P) **Techniques for Analyzing Volatile Organic Compounds Emitted During Aerobic Decomposition of Pig Carcasses and Swine Tissues** MASOUMEH DALILIAN, Middle Tennessee State University, Ngee Sing Chong, Samantha Keene, Lydia Rickman
- (1740-15 P) **High Frequency, High Pressure Tandem Mass Spectrometry** ANDREW HAMPTON, University of North Carolina at Chapel Hill, J Michael Ramsey
- (1740-16 P) **Gun Residue Analysis Using Paper Microfluidics** CHASTITY PAREDES-RODRIGUEZ, Penn State Berks, James Karlinsey

TECHNICAL PROGRAM

POSTER SESSION

Session 1750

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Liquid Chromatography

Wednesday Morning, Exposition Floor, 400 Aisle

- (1750-1 P) **Determination of Pyrethrins in Pyrethrum Oil Extracts** IAN N ACWORTH, Thermo Fisher Scientific, David Thomas, Alan Wong, Jan Glinski
- (1750-2 P) **Pesticide Residue Analysis of Cereal Grains Treated with Traditional Fungicides or a Tannic Acid Biopesticide** BROOKE M BIEN, Western Carolina University, Cynthia Atterholt
- (1750-3 P) **Microwave-Assisted Extraction of Triketone and Pyrazole Corn Herbicides from Agricultural Soil** SANJA STIPIČEVI, Institute for Medical Research and Occupational Health, Milena Milaković, Marija Dvorščak, Sanja Fingler, Gordana Mendaš
- (1750-4 P) **Development and Validation of a Method for the Simultaneous Extraction and Separated Measurement of Diflubenzuron and Azamethiphos from the Soft Tissue of Mussel M. Chilensis** LUIS NORAMBUENA, Instituto de Fomento Pesquero, Sergio Contreras-Lynch
- (1750-5 P) **Determination of Anions and Cations in Water Matrices Using Non-suppressed Ion Chromatography** JOSEPH PAUL ROMANO, Waters Corporation, Mark E Benvenuti, Kenneth Rosnack
- (1750-6 P) **Application of Factorial Design for the Determination of Ammonium in Saline Waters by Ion Chromatography Using an Ultrasound-assisted Purge-and-Trap System** MANUEL C CARNEIRO, CETEM, Fernanda N Ferreira, Fernanda Veronesi M Pontes, Julio C Afonso, Arnaldo A Neto, Maria Ines Couto Monteiro
- (1750-7 P) **Determination of Nitrogen Compounds in Saline Waters by Matrix Interference-Free Ion Chromatography** MARIA INES COUTO MONTEIRO, CETEM, Fernanda N Ferreira, Fernanda Veronesi M Pontes, Julio C Afonso, Manuel C Carneiro, Arnaldo A Neto
- (1750-8 P) **Micellar and Sub-Micellar UHPLC of Aromatic Acid Geometric Isomers** JENNIFER M FASCIANO, Miami University, Neil D Danielson
- (1750-9 P) **Hydrophilic Interaction Liquid Chromatography of Aromatic Acid Isomers on a Plain Silica Stationary Phase Using a Ternary Mobile Phase** ASHLEY E RICHARDSON, Miami University, Neil D Danielson
- (1750-10 P) **Understanding the Importance of Instrument Design To Take Full Advantage of 1.0mm Internal Diameter (ID) Columns when Running UPLC** JENNIFER SIMEONE, Waters Corporation, Paula Hong, Patricia R McConville
- (1750-11 P) **Investigation of Reverse-Phase - HILIC Continuous Analysis Using a One Column** RONALD BENSON, Shodex/Showa Denko America, Inc., Junji Sasuga, Tomokazu Umezawa, Hideyuki Kondo
- (1750-12 P) **One Diode Array Detector for Analytical, Semi-Preparative, Preparative and Biocompatible HPLC** KATHRYN E MONKS, Knauer
- (1750-13 P) **A Novel Diphenyl Stationary Phase for Metabolite Profiling** MARK WOODRUFF, Fortis Technologies, Ken Butchart
- (1750-14 P) **Silica Hybrid Monoliths with a Carbonaceous Surface for Liquid Chromatography** AMARIS C BORGES-MUNOZ, University at Buffalo SUNY, Luis A Colón
- (1750-15 P) **Evaluation of the Performance of Ultra-high Pressure Chromatography (UPLC) Systems** IMAD A HAIDAR AHMAD, Novartis, Frank Hrovat, Adrian Clarke, James Tam, Xue Li, Thomas Tarara, Andrei Blasko
- (1750-16 P) **Optimizing Reagent Free Ion Chromatography; Electrolytic Water Purification** JOHN M RIVIELLO, Trovion Company, Archava Siriraks, Daniel Khor
- (1750-17 P) **Functionalized Carbon Nanotubes as Pseudo-Stationary Phases in Capillary Electrokinetic Chromatography - Evaluation of Retention Energetics and Analysis of a Wide Range of Neutral and Charged Species** SARAH ALHARTHI, Oklahoma State University, Ziad El Rassi
- (1750-18 P) **Determination of Hydroperoxides Using High Performance Liquid Chromatography with Reductive Electrochemical Detection** JUN CHENG, Thermo Fisher Scientific, Yan Liu, Khalil Divan
- (1750-19 P) **Label-Free Analysis by HPLC with Charged Aerosol Detection of N-linked Glycans Separated by Charge** IAN N ACWORTH, Thermo Fisher Scientific, David Thomas, William Kopaciewicz
- (1750-20 P) **Multi-Modal Analyte Detection of Cyclodextrin and Ketoprofen Inclusion Complex Using UV and CAD on an Integrated UHPLC System** BRUCE BAILEY, Thermo Fisher Scientific, Marc Plante, Ian N Acworth, Evert-Jan Sneekes, Frank Steiner

- (1750-21 P) **RP-HPLC Method Development and Validation for the Analysis of Pharmaceutical Drugs-Linezolid** RAJESHKUMAR H CHAUDHARI, B/H Saikrishna Hospital, Vadilal G Patel
- (1750-22 P) **Purification of Chlorogenic Acid from Green Coffee Using Core-shell Technology in Axia Preparative Format** MARC JEAN JACOB, Phenomenex
- (1750-23 P) **HILIC HPLC Separation of Oxycodone for Assay and Purity** BRADLEY KUMAGAI, Theravance Biopharma
- (1750-24 P) **Transfer of the Method for Related Substances Analysis of Metoclopramide HCl Between Different LC Systems** MARGARET MAZIARZ, Waters Corporation, Christopher Henry, Mark Wrona
- (1750-25 P) **RP-HPLC Method Development and Validation for the Analysis of Pharmaceutical Drugs-60% Sodium Lactate** VADILAL G PATEL, B/H Rajpath Hotel, Rajeshkumar H Chaudhari
- (1750-26 P) **Polar Stationary Phases for Capillary Liquid Chromatography based on Metallic Oxides** CARLA GRAZIELI AZEVEDO DA SILVA, Unicamp, Carol H Collins, Carla B Bottoli
- (1750-27 P) **Selection of Chromatographic Columns by Supercritical Fluid Chromatography** CARLA GRAZIELI AZEVEDO DA SILVA, IQ/UNICAMP, Carol H Collins, Isabel Cristina S Jardim
- (1750-28 P) **Stability Evaluation of Core Shell C18 with Encapsulated Type End-Capping** NORIKAZU NAGAE, ChromaNik Technologies Inc., Tomoyasu Tsukamoto
- (1750-29 P) **Development of an Interactive Counter Current Extraction Simulation** SEAN A REED, Westminster College, Erin Wilson, James Anthony

POSTER SESSION

Session 1760

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Pharmaceutical-IC, LC, and SFC

Wednesday Morning, Exposition Floor, 400 Aisle

- (1760-1 P) **Determination of Aluminum in OTC Products** MANALI AGGRAWAL, Thermo Fisher Scientific, Jeffrey Rohrer
- (1760-2 P) **Analysis of Antibiotics Sold in Pharmaceutical Market in Idumota, Lagos Using HPLC** SIXTUS I AMADI, Hydrochrom Resources Ltd
- (1760-3 P) **A Sensitive Method for Direct Analysis of Impurities in Apramycin and Other Aminoglycoside-Antibiotics Using Hydrophilic Interaction Liquid Chromatography and Charged Aerosol Detection** ZHEN LONG, Thermo Fisher Scientific, Qi Zhang, Lina Liang, Yan Jin, Ian N Acworth, Evert-Jan Sneekes, Frank Steiner
- (1760-4 P) **Chemically Stable Reversed Phase Chromatography Material Scalable from UHPLC to Semi Prep and Production** CECILIA MAZZA, AkzoNobel PPC AB, Fredrik Lime
- (1760-5 P) **Characterization and Lot-to-Lot Variability of Complex Surfactants by High Performance Liquid Chromatography and Charged Aerosol Detection** MARC PLANTE, Thermo Fisher Scientific, Ian N Acworth, Bruce Bailey, Evert-Jan Sneekes, Frank Steiner
- (1760-6 P) **Direct-Determination of Underivatized Carbohydrates in Biopharmaceutical Formulations Using Heart-Cut, 2D HPLC-HILIC and Charged Aerosol Detection** MARC PLANTE, Thermo Fisher Scientific, Bruce Bailey, Ian N Acworth, Evert-Jan Sneekes, Frank Steiner
- (1760-7 P) **Fast Method Screening for Chromatographic Separation of Enantiomers Utilizing Polysaccharides Type Chiral Stationary Phases** TAKASHI SATO, YMC CO., Ltd., Noritaka Kuroda, Saoko Nozawa, Keiko Kihara, Noriko Shoji, Takatomo Takai
- (1760-8 P) **Label-Free Measurement of Sialic Acids Released From Glycoproteins, by High Performance Liquid Chromatography and Charged Aerosol Detection** QI ZHANG, Thermo Fisher Scientific, Ian N Acworth, Bruce Bailey, Evert-Jan Sneekes, Frank Steiner
- (1760-9 P) **Challenges in Developing Analytical Methods for Cleaning Validations in a GMP Regulated Environment** XIAOHUI YANG, Baxter Healthcare, Robert Garber, Walter Wasylenko, Lakshmy Nair, Jane Werling, George Monen, Beena Uchil
- (1760-10 P) **SFC Analysis of Nutraceuticals and Pharmaceuticals Using SFC Optimized Stationary Phases** MATTHEW PRZYBYCIEL, ES Industries
- (1760-11 P) **Analysis of Metoprolol and Select Impurities Using a Hydrophilic Interaction Chromatography Method with Combined UV and Charged Aerosol Detection** BRUCE BAILEY, Thermo Fisher Scientific, Ian N Acworth, Evert-Jan Sneekes, Frank Steiner
- (1760-12 P) **Benefits of Using Mass Detection for Assessing Quality and Purity of Cetrinonium Bromide Pharmaceutical Raw Material** MARGARET MAZIARZ, Waters Corporation, Christopher Henry, Mark Wrona, Dominic Moore, Chengxia O'Shea

- (1760-13 P) **Characterization of a Biologic Therapeutic: Reversed Phase/HILIC Analysis of Protein and Excipients** BRUCE BAILEY, Thermo Fisher Scientific, Marc Plante, Ian N Acworth, Evert-Jan Sneekes, Frank Steiner
- (1760-14 P) **Efficient, Effective and Proven Approach to Chiral Method Development for Purification Scale Up** SEAN ORLOWICZ, Phenomenex, Michael McCoy
- (1760-15 P) **Guidelines for Method Transfer and Optimization of the Newest Charged Aerosol Detector** MARC PLANTE, Thermo Fisher Scientific, Bruce Bailey, Ian N Acworth, Paul Gamache, Evert-Jan Sneekes, Frank Steiner
- (1760-16 P) **Chiral Separation Using SFC and HPLC** HIDETOSHI TERADA, Shimadzu, Takato Uchikata, Funada Yasuhiro, Tanaka Kenichiro, Arao Yohei
- (1760-17 P) **Determination of Ascorbic Acid in Citrus Fruits and Pharmaceutical Formulations by Hydrophilic Interaction Chromatography (HILIC)** YUEGANG ZUO, University of Massachusetts Dartmouth, Ruiting Zuo, Si Zhou, Yiwei Deng
- (1760-18 P) **HPLC Method Development and Validation for the Assay and Organic Impurities of Naproxen in Naproxen API, Naproxen Delayed-Release Tablets and Naproxen Oral Suspension** JENNIFER FEDOROWSKI, United States Pharmacopeial Convention, Joshua Bhattacharya, Arindam Ganguly, Natalia Kouznetsova, Jennifer Belsky
- (1760-19 P) **Sample Analysis of Compounds with Multiple Chiral Centers by Two-Dimensional HPLC** CHI TSANG, Genentech, Kelly Zhang
- (1760-20 P) **Mobile Phase Effects in Reversed-Phase Chromatography of Monoclonal Antibodies at High Temperature** LILLEL K BRANDES, Sigma-Aldrich/Supelco
- (1760-21 P) **Separation of Aminoglycoside Antibiotics by Using Hydrophilic Interaction Liquid Chromatography** YU LONG, Dalian Institute of Chemical Physics, Wei Jie, Shen Aijin, Guo Zhimou, Liang Xinmiao
- (1760-22 P) **Utilization of HPTLC and Diffuse Reflectance Spectroscopy to Quickly Evaluate Product Quality of Cotrimoxazole Tablets from Tanzania** DAVID WAYNE JENKINS, FHI 360, Eliangiringa Kaale, Samuel Hope, Thomas Layloff
- (1760-23 P) **Amino Acid Analysis for Qualitative and Quantitative Composition of Pharmaceutical Products** NATALIA BELIKOVA, SGS Life Science Services
- (1760-24 P) **Separation and Detection of Small Molecules by Low-Flow Liquid Chromatography Mass Spectrometry for Pharmacokinetic Studies** JAMES N MARR, Merck & Co., Rena Zhang, Gary Adamson

POSTER SESSION

Session 1770

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Pharmaceutical-MS, LC/MS and Others

Wednesday Morning, Exposition Floor, 400 Aisle

- (1770-1 P) **A New Approach to the Automated Identification of Metabolites in Multi-Vendor Datasets** RICHARD LEE, ACD/Labs, Vitaly Lashin, Andrey Paramonov, Alexandr Sakharov, Rytis Kubilius
- (1770-2 P) **Analysis of Atropine Sulfate by HPLC Using Mass Spec HPLC Mobile Phase** JEFFREY KAKALEY, YMC America Inc., Ernest Sobkow
- (1770-3 P) **Alternative Oxidation Technique for Pharmaceutical Forced Degradations** KEN NGIM, Theravance Biopharma US, Inc., Claudine Ooi, Bradley Kumagai
- (1770-4 P) **Investigating Transdermal Diffusion of Vitamin D and 25-Hydroxyvitamin D** MARCEL MUSTEATA, Albany College of Pharmacy, Isaac Mall
- (1770-5 P) **Calibration Free, Semi-Quantitative Analysis of Defined Drug Formulations Using FTIR Pre-computed Mixture Spectra** WILLIAM COSTA, Fiveash Data Management, Inc., Bill McCarthy, Todd Strother
- (1770-6 P) **Novel Self-Patented Gold Nanoparticle Synthesis, Characterization and Antibacterial Susceptibility Testing** WILLIAM HAMILTON, Western Kentucky University, Jason N Payne, Fenil Chavda, Rajalingam Dakshinamurthy
- (1770-7 P) **Unattended, Representative Sampling of a Wide Range of Chemical Reactions** VASO VLACHOOS, Mettler Toledo, Jane Riley
- (1770-8 P) **Square Wave Adsorptive Stripping Voltammetric Determination of Ketoconazole Drug in the Saudi Market** ABDEL-NASSER KAWDE, King Fahd University of Petroleum and Minerals, Mohamed A Morsy
- (1770-9 P) **Capillary Electrophoresis: MEKC Assay Method for Simultaneous Determination of Olmesartan Medoxomil, Amlodipine Besylate and Hydrochlorothiazide in Tablets** MAHESH V ATTIMARAD, College of Clinical Pharmacy, Sree N Harsha, Bander E Al Dubaib, Anroop B Nair
- (1770-10 P) **A Comparison of Complete Dissolution Versus Leach of the Target Analytes by Using and Omitting HF** DAN IVERSEN, CEM, Tyler Edwards
- (1770-11 P) **Standardization of Experimental Conditions of USP Melting Point Reference Standards in DSC Applications** OSOMWONKEN IGBINSON, United States Pharmacopeial Convention, Guillermo A Casay, Antonio Hernandez-Cardoso, Steven T Rau, Kanda K Balasubramanian
- (1770-12 P) **Identification of Persistent Pd-containing Impurities Using LC-MS/MS and LC-ICP-MS** RENEE K DERMENJIAN, Merck
- (1770-13 P) **A Co-Crystal of Febuxostat and Isonicotinamide: Synthesis and Characterization** YANLEI KANG, Zhejiang University, Xiurong Hu, Jianming Gu, Dongdong Yu, Jianguang Zhou
- (1770-14 P) **Real Time Stability of NSAIDs in Aqueous Solutions by Infrared Spectroscopy** ANUMEHA P MUTHAL, Seton Hall University, Vrushi Bhowtanka, Nicholas Snow
- (1770-15 P) **Headspace Sampling of Residual Solvents Per USP 467 Using a Gas Tight Syringe** ANNE JUREK, EST Analytical, Lindsey Pyron, Kelly Cravenor, Justin Murphy
- (1770-16 P) **Comparative Evaluation of Physicochemical Properties of Some Commercially Available Brands of Metformin Hydrochloride Tablets in Lagos, Nigeria** ADERONKE A ADEPOJU-BELLO, University of Lagos, Olawale S Bisiriyu
- (1770-17 P) **A Simple and Rapid LC-MS/MS Method for the Determination of BMCL26, a Novel Anti-Parasitic Agent, in Rat Plasma** RAMAKRISHNA REDDY VOGGU, Cleveland State University, Xiang Zhou, Bin Su, Baochuan Guo
- (1770-18 P) **Derivative and Chemometric Spectrophotometric Methods for the Determination of Aripiprazole in Presence of its Related Impurities** SALLY TAREK, Cairo University
- (1770-19 P) **Drug-Herb Interaction: A Crossover Study of the Effect of a Polyherbal Formulation on Metroinidazole Pharmacokinetic Profile** GRACE EIGBIBHALU UKPO, University of Lagos, Teddy S Ehiyeta, Steve O Ogonnia, Idris O Balogun
- (1770-20 P) **Supersaturation of Spray-Dried-Dispersion (SDDs) - Development and Evaluation of a Characterization Method** BENJAMIN H WU, Bristol-Myers Squibb
- (1770-21 P) **Headspace Grade Solvents for Trace Level Analyte Detection** SUBHRA BHATTACHARYA, Thermo Fisher Scientific, Eric Oliver, Stephen Roemer
- (1770-22 P) **Analytical Strategies in the Development of Generic Drug Products: Excipient Quantitation** ALEXANDER WILLIAM GARNER, Mayne Pharma
- (1770-23 P) **Quantitative Laser Diffraction Method for the Assessment of Subvisible Protein Particles** ROBERT E BUCO, Shimadzu Corporation, Matthew Ferrarelli, Ariadna Martos, Andrea Hawe, Michael Wiggenhorn, Shinichiro Totoki, Haruo Shimaoka, Markus Ortlieb
- (1770-24 P) **3D-Printed LTP Ionization Source for the Direct Analysis of Biomolecules** SANDRA MARTINEZ JARQUIN, Centro de Investigacion Y de Estudios Avanzados Del IPN, Robert Winkler
- (1770-25 P) **Demonstrating the Uptake Mechanism of Cisplatin in Cells by Single Cell ICP-MS** CHADY STEPHAN, PerkinElmer
- (1770-26 P) **The Practice and Challenges of Ultrafast Chiral Separations in UHPLC and Super/Subcritical Fluid Chromatography (SFC)** CHANDAN L BARHATE, University of Texas at Arlington, M Farooq Wahab, Daniel W Armstrong
- (1770-27 P) **Isolation of Pharmaceutical Impurities Utilizing MS-Directed Purification Platforms** ERIC STRECKFUSS, Merck
- (1770-28 P) **Determining Equivalency of Generic and Name Brand Oral Suspensions Using Zeta Potential** JACK G SAAD, Micromeritics, Myke Scoggins, Danielle Sowle
- (1770-29 P) **Analysis of the Photodegradation Products of Nifedipine in Photoprotective Topical Formulations by HPLC and Mass Spectrometry** ELLEN K WASAN, University of Saskatchewan, Joshua Poteet, Ed Krol, Jacqueline Cawthray, Anas El-Aneed, Kevin Soulsbury, Munawar Mohammed

TECHNICAL PROGRAM

POSTER SESSION

Session 1780

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Practical Chromatography in Today's Laboratory

Wednesday Morning, Exposition Floor, 400 Aisle

- (1780-1 P) **A Rapid Isocratic LC Separation of Soft Drink Additives Using an Environmentally Friendly Mobile Phase with UV Detection** MARK E BENVENUTI, Waters Corporation, Joseph Paul Romano
- (1780-2 P) **High Efficiency Chiral Separations Using Sub-2 μm Monodisperse Chiral Stationary Phases** ZACHARY BREITBACH, The University of Texas at Arlington, Chandan L. Barhate, M Farooq Wahab, David S Bell, Daniel W Armstrong
- (1780-3 P) **Advances in Chiral HPLC Column Technology: Superficially Porous Particle Based Chiral Stationary Phases** ZACHARY BREITBACH, The University of Texas at Arlington, M Farooq Wahab, Daniel W Armstrong
- (1780-4 P) **A New Standard in Analytical Workflow Design** WILLIAM HEDGEPEETH, Shimadzu Scientific Instruments, Kenichiro Tanaka
- (1780-5 P) **Conductivity and pH Monitoring as an Effective Tool for Multi-Step Biological Separations** LUKE ROENNEBURG, Gilson, Inc., Laine Stewart, Karen Kleman
- (1780-6 P) **Centrifugal Partition Chromatography: A Preparative Tool for Isolation and Purification of Xylindrin from *Chlorociboria aeruginosa*** ANUKUL BOONLOED, Oregon State University, Genevieve L Weber, Sumate Pengpukiat, Vincent T Remcho
- (1780-7 P) **Analysis of Petroleum Products Using Comprehensive Two-Dimensional Gas Chromatography (GC \times GC) with Both Time of Flight MS and Flame Ionization Detectors** JOSEPH E BINKLEY, Leco Corporation, Christina N Kelly, Jonathan D Byer, David E Alonso, Lorne E Fell
- (1780-8 P) **Evaluation of Polycyclic Aromatic Hydrocarbon Standard Reference Materials 869b and 1647f on Different Stationary Phases for Liquid Chromatography** WALTER B WILSON, National Institute of Standards and Technology, Jorge O Oña-Ruales, Lane C Sander, Stephen A Wise
- (1780-9 P) **Liquid Chromatographic Retention Behavior of Polycyclic Aromatic Sulfur Heterocycles and Their Alkyl-Substituted Derivatives** WALTER B WILSON, National Institute of Standard and Technology, Lane C Sander, Stephen A Wise
- (1780-10 P) **Evaluation of 25-Hydroxy Vitamin D Extraction Using Phospholipid Depletion Plate Technology and Method Comparison Using Automated Sample Preparation** KERRY CHALLENGER, Biotage GB Limited, Lee Williams, Helen Lodder, Victor Vandell
- (1780-11 P) **Effects of Ultracentrifugation on HDL and LDL Size Distribution** JEFFREY JONES, Centers for Disease Control and Prevention, Zsuzsanna Kuklenyik, Christopher Toth, Bryan A Parks, Michael S Gardner, Jon Rees, Yulanda Williamson, David Schieltz, Lisa McWilliams, John R Barr, James Pirkle
- (1780-12 P) **Biomolecular Separations through Tunable Nanoporous Gold Membranes** DANIEL A MCCURRY, University of Illinois at Urbana-Champaign, Ryan C Bailey
- (1780-13 P) **Non-Contact Pd Separation based on Laser-Induced Particle Formation for Determination of ^{107}Pd with ICP-MS** TAKUMI YOMOGIDA, Japan Atomic Energy Agency, Shiho Asai, Morihisa Saeki, Yukiko Hanzawa, Fumitaka Esaka, Hironori Ohba, Yoshihiro Kitatsuji
- (1780-14 P) **Surfactant-Pluronic Gel Phases for Electrophoresis** ASHLEY E RICHARDSON, Miami University, Elise M Leonard, Neil D Danielson
- (1780-15 P) **Insights into the Effect of the PDMS-layer on the Kinetics and Thermodynamics of Analytes Sorption onto the PDMS-overcoated Coating** ERICA A SOUZA-SILVA, Universidade Federal do Rio Grande do Sul, Emanuela Gionfriddo, Janusz Pawliszyn
- (1780-16 P) **A New Anion Exchange Column for Fast Ion Chromatographic Separation of Monosaccharides and Disaccharides in Biofuel, Food, and Beverage Samples** YAN LIU, Thermo Fisher Scientific, Andy Woodruff, Charanjit Saini, Yury Agroskin, Christopher Pohl
- (1780-17 P) **Column Robustness Challenges during HPLC Method Development** JUN WANG, Takeda Boston, Laila Kott, Elizabeth Hewitt, Scott Zugel
- (1780-18 P) **There are Problems Associated with Gradient and Method Transfer in HPLC and UHPLC – Are There Explanations and Usable Workarounds? Part 1 of 2** MICHAEL WOODMAN, Agilent Technologies, Gregory Hunlen
- (1780-19 P) **Understanding the Causes and Minimizing the Impact of LC Carryover in Most LC Systems** MICHAEL WOODMAN, Agilent Technologies, Gregory Hunlen

SEAC POSTER SESSION

Session 1790

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

SEAC Poster Session

Wednesday Morning, Exposition Floor, 400 Aisle

- (1790-1 P) **New Portable Electrochemical Instrument for *In Situ* Analysis** PABLO FANJUL-BOLADO, DropSens S.L, David Hernández-Santos, Laura Fernández-Llano, Marta Neves, Pablo Bobes-Limenes, Alejandro Pérez-Junquera, Begoña González-García, Carla Navarro-Hernández
- (1790-2 P) **Aqueous and Non-Aqueous Electrochemical Activities of Mercaptosuccinic Acid Stabilized Au11-13 Clusters** JONATHAN PADELFO, Georgia State University, Gangli Wang
- (1790-3 P) **Copolymerized Triazole Based Ionic Liquid as New Sensing Material in Ion-Selective Sensors** LUKASZ K MENDECKI, Keele University
- (1790-4 P) **Investigation of Cloud-Point Extraction and UV-Vis for Determining Copper and Cadmium in Vegetables** ASADUZZAMAN NUR, Tennessee Technological University, Andrew Callender
- (1790-5 P) **Potentiometric Ion-Selective Electrodes based on Metastable Photoacid for Cation Detection** PARTH K PATEL, University of Central Florida, Karin Y Chumbimuni-Torres
- (1790-6 P) **Signal Amplification of a Highly Selective Universal MicroRNA Electrochemical Sensor for Single Nucleotide Polymorphism Detection** DAWN MILLS, University of Central Florida, Jeffer Pinzon, Percy Calvo-Marzal, Dmitry M Kolpashchikov, Karin Y Chumbimuni-Torres
- (1790-7 P) **Self-Reference Single Strip Paper Based Sensors for Ion Detection** ANDREW J MANHAN, University of Central Florida, Stephanie Armas, Karin Y Chumbimuni-Torres
- (1790-8 P) **Development and Characterization of an Ion Selective Microsensor for the Detection and Monitoring of Zinc Levels in Citrus Plants** COURTNEY HULCE, University of Central Florida, Jared Church, Swadeshmukul Santra, Woo Hyoung Lee, Karin Y Chumbimuni-Torres
- (1790-9 P) **Poly(3-octylthiophene)-Based Solid Contact Ion-Selective Electrodes with Improved Potential Stability** JENNIFER M JARVIS, University of Memphis, Marcin Guzinski, Bradford D Pendley, Erno Lindner
- (1790-10 P) **Urine Carbon Dioxide in Septic Shock** JAMES G ATHERTON, University of Memphis, Artur Jasinski, Erno Lindner, Bradford D Pendley, Marcin Guzinski, William King
- (1790-11 P) **Disposable Paper-Based Electrochemical Ion-Sensing Platform** JINBO HU, University of Minnesota, Andreas Stein, Philippe Buhlmann
- (1790-12 P) **Development of Calibration-Free Electrochemical Sensors Using Novel Redox Polymers** XUE ZHEN, University of Minnesota, Philippe Buhlmann
- (1790-13 P) **Ultrasensitive Detection of Dopamine with Carbon Nanopipettes** KEKE HU, Queens College CUNY, Michael Mirkin, Yun Yu, Min Zhou
- (1790-14 P) **Avoiding Errors in Electrochemical Measurements: Effect of Frit Material on the Performance of Reference Electrodes with Porous Frits** MARAL PS MOUSAVI, University of Minnesota, Stacey Saba, Evan Anderson, Marc A Hillmyer, Philippe Buhlmann

WEDNESDAY, MARCH 9, 2016 AFTERNOON

AWARDS Session 1800

Ralph N Adams Award

arranged by Norman J Dovichi, University of Notre Dame

Wednesday Afternoon, Room B312

Norman J Dovichi, University of Notre Dame, Presiding

1:30		Introductory Remarks - R Mark Wightman
1:35		Presentation of the 2016 Ralph Adams Award to David R Walt, Tufts University, by Norman J Dovichi, University of Notre Dame
1:40	(1800-1)	Clinical Applications of Single Molecule Arrays (Simoa) DAVID R WALT, Tufts University
2:15	(1800-2)	Microengineered Devices for Biomedical Research NANCY ALLBRITTON, University of North Carolina at Chapel Hill
2:50	(1800-3)	Micro- and Nanofabricated Molecular Measurement Devices J MICHAEL RAMSEY, University of North Carolina at Chapel Hill
3:25		Recess
3:40	(1800-4)	Paper-Based Microfluidic Devices for Point-of-Need Bioanalysis CHARLES R MACE, Tufts University, Syrena C Fernandes, Samuel Berry
4:15	(1800-5)	Developmental Proteomics NORMAN J DOVICH, University of Notre Dame, Liangliang Sun, Matthew M Champion, Guijie Zhu, Paul Huber

AWARDS Session 1810

The Coblentz Society - Williams-Wright Award

arranged by Nancy Jestel, Sabic Innovative Plastics

Wednesday Afternoon, Room B314

Nancy Jestel, Sabic Innovative Plastics, Presiding

1:30		Introductory Remarks - Nancy Jestel
1:35		Presentation of the 2016 Coblentz Society's Williams-Wright Award to D Warren Vidrine, Vidrine Consulting, by Nancy Jestel, Sabic Innovative Plastics
1:40	(1810-1)	Industrial Analysis Utilizing Vibrational Spectrometry D WARREN VIDRINE, Vidrine Consulting
2:15	(1810-2)	Biological Infrared Spectroscopy: An Overnight Success Story 64 Years in the Making BOB MESSERSCHMIDT, Nueon Inc.
2:50	(1810-3)	Reflections of a Chemometric Spectroscopist DAVID M HAALAND, Spectral Resolutions, David A Melgaard, Howland D Jones
3:25		Recess
3:40	(1810-4)	The Laminated Card STUART YANIGER, ITW Fluids North America
4:15	(1810-5)	Open Discussion

SYMPOSIUM Session 1820

ACS-ANYL - Advances in Instrumentation for Ion Mobility Mass Spectrometry

arranged by Matthew F Bush, University of Washington

Wednesday Afternoon, Room B308

Matthew F Bush, University of Washington, Presiding

1:30		Introductory Remarks - Matthew F Bush
1:35	(1820-1)	Ultra-High Resolution Ion Mobility Separations based upon Long Path Length Structures for Lossless Ion Manipulations (SLIM) RICHARD D SMITH, Pacific Northwest National Laboratory, Ahmed Hamid, Sandilya Garimella, Yehia M Ibrahim, Liulin Deng, Ian K Webb, Aleksey V Tolmachev, Erin S Baker
2:10	(1820-2)	Ion Mobility Mass Spectrometers for Structural Biology and Biophysics MATTHEW F BUSH, University of Washington
2:45	(1820-3)	Toward Protein Ion Surface Characterization with IMS/HDX-MS/MS Techniques STEPHEN J VALENTINE, West Virginia University, Mahdiar Khakinejad, Gregory Donohoe, Samaneh Ghassabi Kondalaji
3:20		Recess
3:35	(1820-4)	Maximizing Fragmentation Duty Cycle for Ion Mobility-Ion Trap Instrumentation Using the Fourier Transform and Photodissociation BRIAN CLOWERS, Washington State University, Kelsey Morrison
4:10	(1820-5)	A Multi-Pass Cyclic Ion Mobility Separator: Design and Performance KEVIN GILES, Waters Corporation, Jason Wildgoose, Steve Pringle

SYMPOSIUM Session 1830

Advancing Strategies for Chronic In Vivo Sensing

arranged by R Mark Wightman, University of North Carolina at Chapel Hill and Adrian C Michael, University of Pittsburgh

Wednesday Afternoon, Room B302

R Mark Wightman, University of North Carolina at Chapel Hill, Presiding

1:30		Introductory Remarks - R Mark Wightman and Adrian C Michael
1:35	(1830-1)	Modulating Blood-Brain Barrier Healing Around Intracortical Electrode Implants RAVI BELLAMKONDA, Georgia Institute of Technology, Varun Yarabarla, Alexus Clark, Brianna Gresham, Robert Kretschmar, Shoba Paul, Jessica Falcone
2:10	(1830-2)	Is Microdialysis Specifically Monitoring the Tonic Modality of Dopamine Transmission? GAETANO DI CHIARA, University of Cagliari
2:45	(1830-3)	Long-Term Monitoring of Dopamine PAUL EM PHILLIPS, University of Washington
3:20		Recess
3:35	(1830-4)	Calibration of In Vivo Voltammetry R MARK WIGHTMAN, University of North Carolina at Chapel Hill
4:10	(1830-5)	Advancing the Possibilities for Chronic Brain Microdialysis ADRIAN C MICHAEL, University of Pittsburgh, Erika Varner, Khanh Ngo, Andrea Jaquins-Gerstl, Stephen Weber

SYMPOSIUM Session 1840

Analytical Challenges Relating to the Discovery, Development, Manufacturing and Use of Cancer Immunotherapy Medicines

arranged by Maribel Beaumont and Christopher Welch, Merck Research Laboratories

Wednesday Afternoon, Room B303

Maribel Beaumont, Merck Research Laboratories, Presiding

1:30		Introductory Remarks - Maribel Beaumont
1:35	(1840-1)	Concepts of Cancer Immunotherapy ROBERT KASTELEIN, Merck & Co.
2:10	(1840-2)	Identifying and Profiling Tumor Specific T Cells Using Mass Cytometry and Highly Multiplexed Peptide-MHC Tetramer Staining EVAN W NEWELL, Singapore Immunology Network
2:45	(1840-3)	Analytical Challenges in the Discovery, Development and Commercialization of Keytruda MARIBEL BEAUMONT, Merck Research Laboratories
3:20		Recess
3:35	(1840-4)	Development of Microtools for Immune Therapy Applications CHRISTOPHER LOVE, Koch Institute for Integrative Cancer Research at MIT
4:10	(1840-5)	Analytical Challenges During Development of Monoclonal Antibody Therapeutics JOHN T STULTS, Genentech, Inc, David Michels

TECHNICAL PROGRAM

SYMPOSIUM Session 1850

Analytical Chemistry of Oil and Gas Prospecting in Brazil

arranged by Maira Menezes, NurnbergMesse Brasil

Wednesday Afternoon, Room B304

Jailson de Andrade, Universidade Federal da Bahia-UFBA, Presiding

1:30		Introductory Remarks - Jailson de Andrade
1:35	(1850-1)	Analytical Chemistry Challenges of Oil and Gas Prospection and Exploration JAILSON B DE ANDRADE, UFBA
2:10	(1850-2)	Compound Specific $\delta^{13}C$ Determination of Light Hydrocarbons (n-alkanes and Olefins from C1 to C5) at Low Concentration for Oil and Gas Prospection ARTHUR DE LEMOS SCOFIELD, PUC-RIO, Angela R Wagener, Laura R Morales, Lilian F Almeida
2:45	(1850-3)	Mass Spectrometry by FT-ICR and Orbitrap: Analysis of Crude Oil and Its Derivatives EDUARDO MORGADO SCHMIDT, State University Campinas

SYMPOSIUM Session 1860

Big Data in Analytical Sciences - Challenges and Solutions

arranged by Hang Lu, Georgia Tech and Andriana San Miguel, North Carolina State University

Wednesday Afternoon, Room B305

Hang Lu, Georgia Tech, Presiding

1:30		Introductory Remarks - Hang Lu
1:35	(1860-1)	Data Analysis Challenges in Plant Biology PHILIP BENFEY, Duke University
2:10	(1860-2)	First Steps into Big Data Chemistry- Ultra-High-Throughput Screening SPENCER D DREHER, Merck & Co., Inc.
2:45	(1860-3)	Big, But Small, Data: Network Analysis in Small Sample Size Systems Biology MARK P STYCZYNSKI, Georgia Institute of Technology
3:20		Recess
3:35	(1860-4)	Clustering and Differential Alignment Algorithm: Identification of Early Stage Regulators in the Arabidopsis Thaliana Iron Deficiency Response CRANOS WILLIAMS, North Carolina State University, Terri A Long, Alexandr Koryachko, Anna Matthiadis, James Tuck, Durreshahwar Muhammad, Joel Ducoste, Siobhan Brady, Jessica Foret
4:10	(1860-5)	Machine Learning for Big Nonlinear Problems in Science and Engineering LE SONG, Georgia Institute of Technology

SYMPOSIUM Session 1870

Electrical and Electrochemical Sensing and Detection based on Nucleic Acid Recognition

arranged by Rebecca Lai, University of Nebraska-Lincoln and Ryan J White, University of Maryland Baltimore County (UMBC)

Wednesday Afternoon, Room B309

Rebecca Lai, University of Nebraska-Lincoln, Presiding

1:30		Introductory Remarks - Rebecca Lai and Ryan J White
1:35	(1870-1)	A New Approach to POC Serology KEVIN W PLAXCO, University of California Santa Barbara
2:10	(1870-2)	Detection of Hepatitis B Virus DNA with a Paper Electrochemical Sensor RICHARD M CROOKS, University of Texas at Austin, Xiang Li, Karen Scida
2:45	(1870-3)	Using Widely Available Electrochemical Device for Sensing or Diagnostics YI LU, University of Illinois at Urbana-Champaign, JingJing Zhang, Yu Xiang
3:20		Recess
3:35	(1870-4)	Electrochemical Analysis of Clinically-Relevant Biomolecular Analytes Using Nanostructured Microelectrodes SHANA KELLEY, University of Toronto
4:10	(1870-5)	Signal Amplification for Biosensing Based on Nucleic Acid Recognition JU HUANGXIAN, Nanjing University

SYMPOSIUM Session 1880

Vibrational Spectroscopy of Biodegradable Plastics: Evolution, Revolution or Back to the Future

arranged by John F Rabolt, University of Delaware

Wednesday Afternoon, Room B310

John F Rabolt, University of Delaware, Presiding

1:30		Introductory Remarks - John F Rabolt
1:35	(1880-1)	Spectroscopic Study of Structural Evolution Dynamics of Bio-Based and Biodegradable Poly(hydroxyalkanoate) Copolymers ISAO NODA, University of Delaware, Brian Sobieski, Liang Gong, Bruce Chase, John F Rabolt
2:10	(1880-2)	Degradation Mechanisms of Poly(lactic acid)-Nanoparticle Composite and Phthalate Plasticized Poly(vinyl chloride) ZHAN CHEN, University of Michigan
2:45	(1880-3)	Vibrational Spectroscopic Studies on Biodegradable Polymer Microstructures SHAW L HSU, University of Massachusetts
3:20		Recess
3:35	(1880-4)	2D IR Correlation Study of Thin Films of Biodegradable PHA/PEG Blend YOUNG MEE JUNG, Kangwon National University, Yeonju Park, Yujing Chen, Isao Noda
4:10	(1880-5)	Characterization of Single Electrospun Biopolymer Nanofibers Using AFM-IR and Selected Area Electron Diffraction JOHN F RABOLT, University of Delaware, Liang Gong, Isao Noda, Bruce Chase, Curtis Marcott, C J McBrin, David Martin, Jinglin Liu, Chao Ni

WORKSHOPS Session 1890

CACA - How to be Successful in Your Career

arranged by Tao Jiang, Mallinckrodt Pharmaceuticals and Michael Ye, Supelco/Sigma-Aldrich

Wednesday Afternoon, Room B311

Tao Jiang, Mallinckrodt Pharmaceuticals, Presiding

1:30		Introductory Remarks - Tao Jiang and Michael Ye
1:35	(1890-1)	Insights on Job Searching MICHAEL W DONG, MWD Consulting
2:05	(1890-2)	Recognizing and Managing Career Passover ROBERT L STEVENSON, American Laboratory
2:35	(1890-3)	Advancing Academic Career as a Faculty YI HE, John Jay College/CUNY
3:05		Recess
3:20	(1890-4)	Career Development Workshop NAIDONG WENG, JNJ
3:50	(1890-5)	From a Bench Chemist to an Entrepreneur BRUCE LIU, ACB Scitech, Inc.
4:20	(1890-6)	Go Wider and Higher CHUPING LUO, Waters Corporation

WORKSHOPS Session 1900

Natural Health Products: Scientific Approaches to Securing Product Quality and Safety

arranged by Rob O'Brien, ISURA and Bob Chapman, National Research Council of Canada

Wednesday Afternoon, Room B313

Rob O'Brien, ISURA, Presiding

1:30		Introductory Remarks - Rob O'Brien and Bob Chapman
1:35	(1900-1)	Development of a Chemical Barcoding Methodology to Identify and Support the Quality and Safety of Functional Ingredients BOB CHAPMAN, National Research Council of Canada, Fabrice Berrue, Junzeng Zhang, Ian Burton, Joseph Hui, Sabrena MacKenzie, Camilo Martinez-Farina, Aissa Harhira, El Haddad Josette, Mohamad Sabsabi, Alain Blouin, Yuan-Chun Ma, Rob O'Brien
2:05	(1900-2)	Utility and Limitations of DNA Barcoding and Next Generation Sequencing for Herbal Product Authentication JONATHAN VAN HAMME, Thompson Rivers University
2:35	(1900-3)	Developing Metabolomics Approaches for Natural Product Authentication LIANG LI, University of Alberta
3:05		Recess
3:20	(1900-4)	Natural Health Product Quality Control: Addressing the Current Issue of Adulterants YUAN-CHUN MA, Canadian Phytopharmaceuticals Corporation
3:50	(1900-5)	Practical Gas Chromatographic based Approaches to Confirm Identity of Powdered Herbal Products ROB O'BRIEN, ISURA, Anderson Smith
4:20:50	(1900-6)	TLC and HPLC Fingerprinting for Authentication of Natural Health Products RUDOLF BAUER, University of Graz

ORGANIZED CONTRIBUTED SESSIONS

Session 1910

High Throughput Analysis for Food Safety and Cosmetics: Challenges and Validation

arranged by Perry G Wang, US FDA and Xiaogang Chu, China Academy of Inspection and Quarantine

Wednesday Afternoon, Room B315

Perry G Wang, US FDA, Presiding

1:30	(1910-1)	Rapid Determination of Non-Allowed Active Pharmaceutical Ingredients for the Treatments of Hair Loss in Cosmetics Using UHPLC-HRMS WANLONG ZHOU, US FDA, Perry G Wang, James B Wittenberg, Maria A Dionisio De Sousa, Alexander J Krynitsky
1:50	(1910-2)	Advances in High-Throughput Analysis for Determination of Marine Biotoxins in Seafood PEARSE MCCARRON, National Research Council, Daniel Beach
2:10	(1910-3)	Determination of Prostaglandin Analogs in Eye Area Cosmetic Products by High Performance Liquid Chromatography with Tandem Mass Spectrometry JAMES B WITTENBERG, Food and Drug Administration, Wanlong Zhou, Perry G Wang, Alexander J Krynitsky
2:30	(1910-4)	Withdrawn
2:50		Recess
3:05	(1910-5)	Analysis of Color Additives (Permitted and Non-Permitted) in Different Food Matrices by a HPLC Method SNEH D BHANDARI, Merieux NutrSciences, Tiffany Gallegos-Peretz
3:25	(1910-6)	A Comprehensive Approach on Food Safety Analysis, Screening and Quantitation by Using Data Independent Acquisition (DIA) and DDMS2 on HR/AM Q Exactive System JAMES S CHANG, Thermo
3:45	(1910-7)	Separation of Aminoglycoside Antibiotics by Using Hydrophilic Interaction Liquid Chromatography YU LONG, Dalian Institute of Chemical Physics, Wei Jie, Shen Aijin, Guo Zhimou, Liang Xinmiao
4:05	(1910-8)	Open Discussion

ORGANIZED CONTRIBUTED SESSIONS

Session 1920

Precision Bioanalytical Measurements

arranged by Robert Dunn, University of Kansas

Wednesday Afternoon, Room B316

Robert Dunn, University of Kansas, Presiding

1:30	(1920-1)	Analytical Precision in the Age of Metabolomics – Focus on the Fundamentals HOWARD HENDRICKSON, University of Arkansas for Medical Sciences, Lin Song
1:50	(1920-2)	Biocompatible Self-Tuning Nanomaterials Improve the Precision of Biomolecule Processing and Separation LISA A HOLLAND, West Virginia University, Srikanth Gattu, Brandon C Durney, Cassandra Crihfield
2:10	(1920-3)	Analytical Approaches for Environmental Metabolomics and Ecotoxicity Modeling CYNTHIA K LARIVE, University of California - Riverside, Corey M Griffith, Melissa M Morgan
2:30	(1920-4)	Extending the Free Drug Hypothesis: Physical Properties Driving Asymmetric Tissue Distribution DENNIS O SCOTT, Pfizer
2:50		Recess
3:05	(1920-5)	Barbeques and Tornadoes: Analytical Strategies for Metal Ion Determinations Using Separations and Sensors FIONA REGAN, Dublin City University
3:25	(1920-6)	A Mass Spectrometry Based High Throughput Screening Approach with Exquisite Selectivity HEATHER R DESAIRE, University of Kansas, Imaduwege Kasun
3:45	(1920-7)	Microfluidic Devices with Integrated Electrodes for Monitoring Cellular Systems R SCOTT MARTIN, Saint Louis University
4:05	(1920-8)	Novel Applications of Microdialysis Sampling: Where No Probe has Gone Before! SARA R THOMAS, Kansas University, Craig E Lunte, Susan M Lunte

ORGANIZED CONTRIBUTED SESSIONS

Session 1930

Technology Strategies for Explosives Sensing

arranged by Michael Shepard, Dept. Homeland Security, S&T Directorate and Samar K Guharay, The MITRE Corporation

Wednesday Afternoon, Room B401

Samar K Guharay, The MITRE Corporation, Presiding

1:30	(1930-1)	Overview of Operational Challenges to Domestic Security Screening MICHAEL SHEPARD, US Dept. of Homeland Security
1:50	(1930-2)	Generalized Systems Analysis Framework SAMAR K GUHARAY, The Mitre Corporation
2:10	(1930-3)	Statistical Methods for Constructing Chemometric Signatures in Noisy Environments CHRISTOPHER P SAUNDERS, South Dakota State University
2:30	(1930-4)	Operational Outlook for Remote Trace Explosives Detection RODERICK KUNZ, MIT Lincoln Laboratory
2:50		Recess
3:05	(1930-5)	Pushing the Limits of Trace Detection Technology STEFAN LUKOW, Morpho Detection
3:25	(1930-6)	Optimized Sampling and Analysis Strategies for Trace Explosives Detection GREG GILLEN, NIST
3:45	(1930-7)	Chemical Attribution Signatures of Homemade Explosives JOE CHIPUK, Signature Science
4:05	(1930-8)	Open Discussion

ORAL SESSIONS

Session 1940

Advances in Fuel and Petrochemical Analyses

Wednesday Afternoon, Room B402

John Baltrus, US Department of Energy-NETL, Presiding

1:30	(1940-1)	Chemical Fingerprinting of Crude Oils: Gaining an Extra Dimension from GCxGC-TOF MS LAURA MCGREGOR, Markes International Ltd, Nicola Watson, Kevin Collins, Chris Hall, Ken Umbarger
1:50	(1940-2)	Fast and Accurate Analysis of Extended Natural Gas Composition and Physical Properties Using a Temperature Programmable Gas Analyzer DEBBIE ALCORN, INFICON
2:10	(1940-3)	Application of Polymeric Ionic Liquids as Highly Robust and Selective Stationary Phases for Comprehensive Two-Dimensional Gas Chromatography CHENG ZHANG, Iowa State University, Rodney A Park, Jared L Anderson
2:30	(1940-4)	Solving Industrial Problems by Determining Compound Classes in Refinery Streams and Products CHRIS GOSS, Alberta Innovates Technology Futures, Dan Wispinski, Lee Marotta
2:50		Recess
3:05	(1940-5)	Optical Sensors for the Detection of Nitrogen Compounds in Aviation Fuels ROBERTO A FEDERICO-PEREZ, University of Tennessee, Ziling (Ben) Xue
3:25	(1940-6)	Fast Profiling of Petrochemical Samples by Thermal Analysis- Soft Ionization Mass Spectrometry: From Source Rock and Kerogen via Crude Oil to Petrochemical Products RALF ZIMMERMANN, University Rostock /HMGU, Thorsten Streibel, Mohammad Saraji, Michael Fischer, Sebastian Wohlfahrt, Andreas Walte, Thomas Denner
3:45	(1940-7)	Micro-Hollow Discharge Analysis of Carbonaceous Materials RANDY VANDER WAL, Penn State University, Chethan K Gaddam
4:05	(1940-8)	On-Site Fuel Analysis Using a Portable Near-Infrared Spectrometer STUART FARQUHARSON, Real-Time Analyzers, Inc, Carl Brouillette, Wayne Smith, Chetan Shende

TECHNICAL PROGRAM

ORAL SESSIONS

Session 1950

Bioanalytical: Using Microfluidics/Lab-on-a-Chip Techniques

Wednesday Afternoon, Room B404

Casey Burton, Missouri University of Science and Technology, Presiding

1:30	(1950-1)	Pressure-Actuated Integrated Microfluidic Devices for Biomarker Analysis VISHAL SAHORE, Brigham Young University, Suresh Kumar, Adam T Woolley
1:50	(1950-2)	Real-Time Imaging of Cancer Cell Chemotaxis in Paper-Based Scaffolds RACHAEL M KENNEY, University of North Carolina at Chapel Hill, Matthew W Boyce, Andrew S Truong, Matthew R Lockett
2:10	(1950-3)	Observation of Rapid Changes in Drug Susceptibility of Tumor Cells in a Hypoxia Microfluidic Culture Device TODD GERMAIN, Texas Tech University, Dimitri Pappas
2:30	(1950-4)	Magnetic Microbead Based Capture and Labeling of DNA from Carbapenemase Resistance Genes RILEY K MILLS, Brigham Young University, Radim Knob, Adam T Woolley
2:50		Recess
3:05	(1950-5)	Screening Small Molecule Modulators of Cellular Chemotaxis in Paper-Based Invasion Assays C CHAD LLOYD, University of North Carolina at Chapel Hill, Matthew R Lockett, Rachael M Kenney, Andrew S Truong, Matthew W Boyce, Christian A Lochbaum
3:25	(1950-6)	Microchip Affinity Monoliths for Solid Phase Extraction of DNA for Bacteria Infection Detection RADIM KNOB, Brigham Young University, Riley K Mills, Adam T Woolley
3:45	(1950-7)	MALDI-IMS Evaluation of 3D Cell Cultures Treated with Combination Chemotherapeutics by a 3D Printed In-Vitro PK/PD Microfluidic Platform GABRIEL J LABONIA, University of Notre Dame, Amanda B Hummon
4:05	(1950-8)	Fully Automated Microfluidic Input/Output Multiplexer for Endocrine Tissue Culturing and Hormone Secretion Sampling XIANGPENG LI, Auburn University, Jessica C Brooks, Katarena Ford, Christopher J Easley

ORAL SESSIONS

Session 1960

Environmental Water Quality and Analysis

Wednesday Afternoon, Room B403

John P Auses, University of Pittsburgh, Presiding

1:30	(1960-1)	Targeted Discovery of Disinfection By-Products in Swimming Pools and Hot Tubs SUSAN D RICHARDSON, University of South Carolina, Jonathan D Byer, Eric J Daiber, Sri Devi A Ravuri, Joseph E Binkley, Christina M Joseph
1:50	(1960-2)	Evaluation of Iodo-, Bromo-, and Chloro-Acetic Acids Formation by Peracetic Acid Disinfection Using a Newly Developed Rapid HPIC-MS/MS Method RUNMIAO XUE, Missouri University of Science and Technology, Honglan Shi, Yinfa Ma, John Yang, Bin Hua, Enos Inniss, Craig Adams, Todd Erichholz
2:10	(1960-3)	Removal of Pharmaceutical Products from Wastewater Using Magnetic Bio-Char AKILA G KARUNANAYAKE, Mississippi State University, Olivia A Todd, Todd E Mlsna
2:30	(1960-4)	Determination of Priority Water Contaminants by Solid-Phase Extraction and UFLC-MS/MS Method HAITING ZHANG, Missouri University of Science and Technology, Danielle West, Honglan Shi, Yinfa Ma, Craig Adams, Todd Erichholz
2:50		Recess
3:05	(1960-5)	Characterization of Oil-based Pollutants Using Webcam-based Spectrometer YAGIZ SUTCU, InfoScope Research, Aysegul Ergin
3:25	(1960-6)	Coupling of Thin Film Microextraction Techniques to Portable GC-TMS Instrumentation for the On-Site, Sub-ppb, Detection of Pesticides From Environmental Waters JONATHAN J GRANDY, University of Waterloo, Janusz Pawliszyn
3:45	(1960-7)	SPE in US EPA Method 625, A Step Closer to Reality after Good Performance in Two Round Robins ZOE GROSSER, Horizon Technology, William Jones, David Gallagher, Michael Ebitson, Alicia Cannon
4:05	(1960-8)	Adsorption of Pb²⁺ from Aqueous Solution Using Low-Cost Chitosan-Modified Biochar, A Green Adsorbent NARADA W BOMBUALA DEWAGE, Mississippi State University, Todd E Mlsna

ORAL SESSIONS

Session 1970

GC Fuels, Energy and Petrochemical

Wednesday Afternoon, Room B405

Patricia Ranaivo, Indiana University Southeast, Presiding

1:30	(1970-1)	Zeolite-Loaded Metal-Catalyzed Hydrotreatment of Lignin to Aromatic Monomers Using Subcritical Water ERIC A BOAKYE, South Dakota State University, Douglas Raynie
1:50	(1970-2)	Olefins in Refinery Streams by GC-VUV DAN WISPINSKI, Alberta Innovates Technology Futures, Chris Goss, Phillip Walsh
2:10	(1970-3)	GC-Ion Mobility Spectrometry for Determination of Ageing of Mineral Oil Impregnated Presspaper Isolation Systems WOLFGANG VAUTZ, ISAS, Liedtke Sascha, Torben Muth, Frank Jenau
2:30	(1970-4)	High Level Fixed Gas Analysis, Including Hydrogen, with one Detector and One Carrier MATTHEW MONAGLE, AIC LLC
2:50		Recess
3:05	(1970-5)	Analysis of Dissolved Hydrocarbon Gases in Water – Pitfalls and Improvements MARK L BRUCE, TestAmerica
3:25	(1970-6)	Performance Evaluation of Modern Stainless Steel Capillary GC Columns REBECCA STEVENS, Restek Corporation, Corby Hilliard, Amanda Rigdon, Linx Waclaski, Jaap de zeeuw
3:45	(1970-7)	Determination of Polycyclic Aromatic Sulfur Heterocycles and Their Alkyl-Substituted Derivatives in Standard Reference Material 1597a WALTER B WILSON, National Institute of Standards and Technology, Stephen A Wise
4:05	(1970-8)	Vehicle Interior Air Quality - (S)VOC Emission from Materials: Regulation, Standard Methods and Analytical Implementation CAROLINE WIDDOWSON, Markes International

ORAL SESSIONS

Session 1980

Mass Spectrometry - Bioanalytical and Omics

Wednesday Afternoon, Room B406

Logan T Miller, Duquesne University, Presiding

1:30	(1980-1)	Mass Spectrometry in Discovery of Lipid Markers for Alzheimer's Disease SATYA GIRISH CHANDRA AVULA, Cleveland State University, Christine Reece, Jagan A Pillai, Yan Xu
1:50	(1980-2)	Novel Cationization Strategies for Improved Separation of Metabolite Isomers with Ion Mobility – Mass Spectrometry CHRISTOPHER D CHOUINARD, University of Florida, Robin Kemperman, Harrison King, Christopher R Beekman, Richard Alan Yost
2:10	(1980-3)	Development of Dried Matrix Card Quantification by Speciated Isotope Dilution Mass Spectrometry Using Elution and Laser Desorption Techniques LOGAN T MILLER, Duquesne University, Kaitlin Miller, Sarah Sheffield, Skip Kingston, Matt Pamuku, Scott Faber, Mark Little, Silverio Iacono
2:30	(1980-4)	Protease-Containing Membranes for Rapid Antibody Digestion Prior to Mass Spectrometry Analysis YONGLE PANG, Michigan State University, Wei-Han Wang, Gavin Reid, Donald F Hunt, Merlin Bruening
2:50		Recess
3:05	(1980-5)	Quantitative Environmental Human Health Assessment of Inorganic Elements in Dried Blood Spots Using Direct Isotope Dilution Laser Ablation and Elution Mass Spectrometry SARAH SHEFFIELD, Duquesne University, Logan T Miller, Scott Faber, Matt Pamuku, Skip Kingston
3:25	(1980-6)	Identification of the Cell Surface N-Glycoproteome by MS-based Proteomics JOHANNA SMEEKENS, Georgia Institute of Technology, Weixuan Chen, Ronghu Wu
3:45	(1980-7)	Probing the Cell-Surface N-Glycoproteome with Metabolic Chemical Reporters (MCRs) HAOPENG XIAO, Georgia Tech
4:05	(1980-8)	Quantitative Characterization of Protein Content from HDL and LDL Size Fractions BRYAN A PARKS, Centers for Disease Control and Prevention, Zsuzsanna Kuklenyik, David Schieltz, Michael S Gardner, Jon Rees, Lisa McWilliams, Yulanda Williamson, John R Barr

ORAL SESSIONS

Session 1990

Metabolomics, Proteomics, and Genomics

Wednesday Afternoon, Room B407

Qingbo (Roger) Yang, Missouri University of Science and Technology, Presiding

1:30	(1990-1)	A Combination of Multidimensional Chromatography and High Resolution Mass Spectrometry for Chemical Exposure Analysis DAVID E ALONSO, Leco Corporation, Joseph E Binkley, Elizabeth M Humston-Fulmer, Jonathan D Byer, Lorne E Fell
1:50	(1990-2)	Metabolomics of Nonalcoholic Fatty Liver Disease via LC-MS RAINEY E PATTERSON, University of Florida, Richard Alan Yost, Timothy J Garrett, Nishanth E Sunny, Srilaxmi Kalavalapalli, Kenneth Cusi
2:10	(1990-3)	Application of PDMS-Overcoated Matrix-Compatible Solid Phase Microextraction Fiber Coupled to Comprehensive Two-Dimensional Gas Chromatography-Time-of-Flight Mass Spectrometry for Improved Exploitation of Chromatographic Space in Global Chemical Profiling of Brazilian Cachaça ERICA A SOUZA-SILVA, Universidade Federal do Rio Grande do Sul, Fernando C Fontanive, Claudia A Zini
2:30	(1990-4)	Application of the Isotopic Ratio Outlier Analysis Phenotypic Protocol for Metabolomic Biomarker Discovery in Type 1 Diabetes Using T Cells CANDICE Z ULMER, University of Florida, Richard Alan Yost, Timothy J Garrett, Christopher A Beecher, Jing Chen, Clayton Matthews
2:50		Recess
3:05	(1990-5)	Secretome of Murine Islets of Langerhans ANDREW W SCHMUDLACH, University of Notre Dame, Jeremy Felton, Robert T Kennedy, Norman J Dovichi
3:25	(1990-6)	Optimizing Sampling Protocols for the Identification and Quantitation of Neuropeptides from Brain Tissues NING YANG, University of Illinois at Urbana-Champaign, Stanislav S Rubakhin, Jonathan V Sweedler, Krishna D Anapindi
3:45	(1990-7)	A Study of Protein Degradation and the Effect of Proteasome Inhibition by Combining Biorthogonal Noncanonical Amino Acid Labeling with Click Chemistry ZHENYU ZHOU, Georgia Institute of Technology
4:05	(1990-8)	Benchmarking of DNA-seq and RNA-seq Variant Detection Software GANG FENG, Northwestern University, Zhujun Huang, Lei Huang, Riyue Bao, Hongmei Jiang, Yuchen Bai, Xiaoyong Sun

ORAL SESSIONS

Session 2000

Raman, SERS, UVRF Applications

Wednesday Afternoon, Room B408

Matt Cerutti, Thermo Scientific, Presiding

1:30	(2000-1)	UV Resonance Raman (UVRF) Structural Studies of Polyglutamine (polyQ) Side Chains and Fibrils DAVID PUNIHAOLE, University of Pittsburgh, Zhenmin Hong, Ryan Jakubek, Elizabeth Dahlburg, Riley Workman, Jeffrey Madura, Sanford A Asher
1:50	(2000-2)	Sheath-Flow Microfluidic Approach for Combined Surface Enhanced Raman Scattering and Electrochemical Detection MATTHEW R BAILEY, University of Notre Dame, Amber Pentecost, Asmira Selimovic, R Scott Martin, Zachary D Schultz
2:10	(2000-3)	Raman Spectroscopy Monitors Glutamine and Asparagine Side Chain OCCO Dihedral Angles RYAN JAKUBEK, University of Pittsburgh, David Punihaole, Zhenmin Hong, Elizabeth Dahlburg, Steven Geib, Sanford A Asher
2:30	(2000-4)	Assessment of the Protein-Protein Interactions in a Highly Concentrated Antibody Solution by Using Raman Spectroscopy CHIKASHI OTA, Horiba, Ltd., Shintaro Noguchi, Satoru Nagatoishi, Kouhei Tsumoto
2:50		Recess
3:05	(2000-5)	Raman Imaging of Samples with Complex Surface Topographies TIM BATTEN, Renishaw plc, Tim Smith
3:25	(2000-6)	Improving Raman and Surface Enhanced Raman Spectroscopy Through Effective Sampling DONGMAO ZHANG, Mississippi State University
3:45	(2000-7)	Spatially Offset vs Conventional Raman for Through-Barrier Material Identification ROBERT STOKES, Cobalt Light Systems, Paul Loeffen, Darren Andrews, Ken Mann, Oliver Presly, Pavel Matousek
4:05	(2000-8)	Degradation Analysis of International Space Station Medications by Raman Spectroscopy STUART FARQUHARSON, Real-Time Analyzers, Inc, Chetan Shende, Alexander May, Carl Brouillette, Joseph Cosgrove

ORAL SESSIONS

Session 2010

Surface and Microscopic Characterization of Nanostructures and Biological Materials

Wednesday Afternoon, Room B409

Brian R Strohmeier, United States Steel Corporation, Presiding

1:30	(2010-1)	Fundamental Understanding of the Synergy Between Electroactive Poly (amic) Acid Membranes and Their Interaction with Nanoparticles VICTOR KARIUKI, Binghamton University
1:50	(2010-2)	Optical Property and Catalytic Activity of Gold Nanorods End-capped with a Second Metal GUFENG WANG, North Carolina State University, Nathalia Ortiz, Vineet Kumar
2:10	(2010-3)	Autocorrelation Function Analysis of Rotational Dynamics of Gold Nanorod KUANGCAI CHEN, Iowa State University/Georgia State University, Ning Fang
2:30	(2010-4)	Antibody-Like Biorecognition Sites for Proteins from Surface Imprinting on Nanoparticles SNEHASIS BHAKTA, University of Connecticut, Saiful Seraji, James F Rusling, Steven L Suib
2:50		Recess
3:05	(2010-5)	Selective Raman Imaging of Integrin Receptors Through Coupled Plasmonic Nanostructures LIFU XIAO, University of Notre Dame, Zachary D Schultz, Hao Wang
3:25	(2010-6)	Deep and High-Resolution Three-Dimensional Tracking of Single Particles Using Nonlinear and Multiplexed Illumination TIM YEH, University of Texas at Austin
3:45	(2010-7)	Development of a Dual Microscope System for Integration of Intracellular Calcium Imaging with Monitoring Insulin Secretion from Islets of Langerhans LIAN YI, Florida State University, Xue Wang, Michael G Roper
4:05	(2010-8)	Establishing Statistical Criteria for Detecting Molecular Motion in Single-molecule Diffusional Trajectories MOUSSA BARHOUM, University of Utah, Karl-Heinz Gericke, Joel M Harris

ORAL SESSIONS

Session 2020

Trace Explosives Detection - Half Session

Wednesday Afternoon, Room B301

Maria K Ferguson, PA Department of Environmental Protection, Presiding

1:30	(2020-1)	Analysis of the Decomposition of Hexamethylene Triperoxide Diamine (HMTD) as Determined by SPME-GC/MS and LC/MS LAURYN DEGREEFF, Naval Research Laboratory, Christopher Katilie, Frank L Steinkamp
1:50	(2020-2)	Separation of Inorganic Ions and Neutral Organic Nitroaromatic Compounds by Electrokinetic Chromatography JULIE R MCGETRICK, University of Montana, Christopher P Palmer
2:10	(2020-3)	Comparison of Inter-Instrument Relative Response Factors with Thermal Desorption Internal Standards H MITCHELL RUBENSTEIN, USAF, Maomian Fan, Claude C Grigsby, Kathy Fullerton, Brian Geier, Darrin Ott
2:30	(2020-4)	Through-Barrier Explosives and Hazardous Material Detection Using a Handheld Spatially Offset Raman Spectrometer PAUL LOEFFEN, Cobalt Light Systems, Robert Stokes, Ken Mann, Darren Andrews, Oliver Presly, Pavel Matousek

TECHNICAL PROGRAM

UNDERGRADUATE POSTER SESSION

Session 2030

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Undergraduate Poster Session

Wednesday Afternoon, Exposition Floor, 400 Aisle

- (2030-1 P) **Methods for Improving Cytokine in Vivo Calibration During Microdialysis Sampling** PATRICK M PYSZ, University of Arkansas, Tina M Poseno, Julie Stenken
- (2030-2 P) **Analysis of Nicotine Levels in Electronic Cigarettes** MARTIN ERIC MILLER, Austin Peay State University, Jacob Williams, Dillon Burrow
- (2030-3 P) **Thermal Behavior of Barium and Strontium Carbonates** CHARLES MANSFIELD EARNEST, Berry College, Ethan Miller
- (2030-4 P) **Improved Quantification of Gibbsite in Bauxite Ores** CHARLES MANSFIELD EARNEST, Berry College, Karla Gann, Britney Stong
- (2030-5 P) **Signal Enhancement Compensation in ICP-MS Analysis for Arsenic in the Presence of Organics** ADAM KAGEL, University of California, Davis, Carla Kagel, Richard Kagel, Nels Worden
- (2030-6 P) **Isotope Labeling in Astrobiology: Ethanol as a Carbon Source** NICOLE G PERKINS, California State Polytechnic University, Pomona, Gregory A Barding, Rakesh Mogul
- (2030-7 P) **Sulfidation of Silver Nanoparticles** NATHANIEL D FLETCHER, College of Charleston, Katherine M Mullaugh
- (2030-8 P) **Photodegradation and Ecotoxicity Studies of Sertraline, Fluoxetine, and their Photodegradants** SYLVIA C DAVILA, College of Charleston, Jessica R Hinson, Allison Welch, Wendy C Cory
- (2030-9 P) **Photodegradation of Bupropion and Gabapentin** NEHA V MUPPALA, College of Charleston, Kristina K Tran, Wendy C Cory
- (2030-10 P) **Accelerated Degradation of Diphenhydramine** JAMES L SOLOMON, College of Charleston, Michael T Blanton, Wendy C Cory
- (2030-11 P) **Preliminary Investigation of the Geographical Distribution of Synthetic UV Filters in Bahamian Surface Waters** AEJIN KIM, Elmira College, Christopher B Hall, Emily J Feldpausch, Betsy A Smith, Jared S Baker
- (2030-12 P) **Surface Plasma Polaritons from Voltage Charged Gold Nanotubes** SAM KONCHAN, University of Florida, Pradeep Ramiah Rajasekaran, Charles R Martin, Alec Talin
- (2030-13 P) **Electroporation Facilitation via Gold-Plated Membranes** AARON WILSON, University of Florida, Juliette Experton, Charles R Martin
- (2030-14 P) **The Analysis of Electronic Cigarette Solutions by ICP-MS for USP Regulated Contaminates** CHLOE E FERNANDES, Georgia Gwinnett College, Daniel H Jones
- (2030-15 P) **Comparison of Cellular Response to Atorvastatin Among Selected Cell Lines by MS-Based Proteomics** GEORGE TANG, Georgia Institute of Technology
- (2030-16 P) **Discovery Metabolomics of Early-Stage Ovarian Cancer in a Dicer-Pten Double Knockout Murine Model** LAURA C WINALSKI, Georgia Institute of Technology, Christina Jones, Maria E Monge, Jaeyeon Kim, Martin M Matzuk, Facundo M Fernandez
- (2030-17 P) **Colorimetric Detection of Pyrocatechol as a Model for Urushiol Analysis in Poison Ivy** COLLIN J STEEN, Kalamazoo College, Kari Anderson
- (2030-18 P) **Quantification of Salicylates in Stomach Relief Aids Using GC-MS and UV-Vis** MARINA CHRISTINA KOETHER, Kennesaw State University, Kimberly C Powers
- (2030-19 P) **Correlation Between Different Extraction Methods and the Ratio of Neral to Geranial in the Essential Oils of Lemongrass by GC-MS** MARINA CHRISTINA KOETHER, Kennesaw State University, Skyler Mize
- (2030-20 P) **Determining Dissolution Testing Time of Potassium in Potassium Gluconate Tablets by Conductivity with Confirmation by Flame Atomic Absorption Spectrometry** MARINA CHRISTINA KOETHER, Kennesaw State University, Minwoo Lee
- (2030-21 P) **Study of the Implementation of the Systematic Method in General Chemistry II** VICTORIA Y REINDERS, Maryville University Saint Louis, Thomas M Spudich, Natalie Ulrich
- (2030-22 P) **Characterization and Identification of Biosurfactants for Oil Remediation** KAYDREN B ORCUTT, Mercer University, Justis E Ward, Joseph W Kloeppe, Garland L Crawford, Kathryn D Kloeppe
- (2030-23 P) **Green Diesel and Biodiesel Fuel Additives and Their Effects on VOC Emissions** CHRISTOPHER MOORE, Middle Tennessee State University, Joseph Close
- (2030-24 P) **Investigating Dopamine Fluctuations Associated with Impulsive Decision Making Using Fast Scan Cyclic Voltammetry** BRENNEN GUZIK, North Carolina State University, Xiaohu Xie, Leslie A Sombers
- (2030-25 P) **Tracking Cellular Invasion and Death in Three Dimensional Paper-Based Cultures with Quantitative PCR** CHRISTIAN A LOCHBAUM, University of North Carolina at Chapel Hill, Andrew S Truong, Matthew R Lockett

- (2030-26 P) **Real-Time Measurements of Oxidative Stress During Chronic L-DOPA Treatment for Parkinson's Disease** CATHERINE F MASON, North Carolina State University
- (2030-27 P) **Pulsed Chronopotentiometry with Asymmetric Cellulose Triacetate Membrane-Based Ion-Selective Electrodes for Kinetic Discrimination of Lipophilic Ions During Measurement of Chloride** SIMON SEGAL, Northern Kentucky University, Jeremy Meyers, Kebede L Gemene
- (2030-28 P) **Water Quality Analysis of the Chattahoochee River** KIZGEL DAVIS-DESOUZA, Oglethorpe University, Kelly Jacobson, Md H Kabir
- (2030-29 P) **Physicochemical Characterization of Biodiesel from Different Vegetable Oils and Seeds** JOSEPH GOODWIN, Oglethorpe University, Michelle Huang, Grace Djokoto, Markus Germann, Md H Kabir
- (2030-30 P) **Colloidal CdSe Quantum Dots: Synthesis, Characterization, and Applications** KELLY JACOBSON, Oglethorpe University, Md H Kabir, Michael Rulison
- (2030-31 P) **Nanoparticle Toxicity on the Development of Brine Shrimp and Zebrafish** CAITLIN MAY, Oglethorpe University, Gregory Gabriel, Michael Rulison, Md H Kabir
- (2030-32 P) **Evaluation of Phthalate Wiping Protocols for Estimation of Dermal Exposure from Consumer Products** ALEXANDRIA VAN GROUW, University of Portland, Richard Kagel, Carla Kagel, Stephen McWeeney
- (2030-33 P) **Gaseous Molecular Analysis by High Resolution Coherent Multidimensional Spectroscopy (HRCMS)** ANGELAR KANINI MUTHIKE, Spelman College, Peter Chen, Jessica Robinson
- (2030-34 P) **Spectral Imaging of Plasma Optical Emission Via Compressed Sensing** JOHN D USALA, Texas Tech University, Gerardo Gamez
- (2030-35 P) **Analysis of Melamine in Solid Pet Food Samples Using Gold Nanoparticles and Reversed Phase Chromatography** AARON HUMMERT, Washburn University, Seid Adem
- (2030-36 P) **Using a Solvent-Free Synthesis-Grafting Method to Attach Phenanthroline and Dimethoxybenzene Groups to Glassy Carbon Electrodes** SOPHIA L MELNYK, Wittenberg University, Kristin K Cline
- (2030-37 P) **Does Grinding Glassy Carbon Electrodes in Diazonium Salts Lead to Covalently Bonded Groups?** CHELSEA L HORVATH, Wittenberg University, Kristin K Cline
- (2030-38 P) **Comparison of Grafted and Untreated Activated Carbon as Solid Phase Extraction Media for Preconcentrating Copper and Lead Ions** MARGARET COLE, Wittenberg University, Kristin K Cline
- (2030-39 P) **Barium Leaching in Ceramic Glazes** JASON HALMO, Hampden-Sydney College, Joshua Chamberlin, Paul Mueller
- (2030-40 P) **Spectroelectrochemical Urinalysis: A Kinetic Assay for Uric Acid** PAUL FLOWERS, University of North Carolina at Pembroke, Sean Downes, Sonvia Brown
- (2030-41 P) **Determination of Formaldehyde Concentration in Electronic Cigarettes** ROLAND LANDERS, Cumberland University, Sarah Pierce
- (2030-42 P) **Matrix Targeting Peptide Impact on Tertiary Folding of Cargo Proteins** TYLER J SMITH, Truman State University, Brian P Adams, Bethany P Manning
- (2030-43 P) **Electrospray Mass Spectrometry and Density Functional Theory Studies of the Estrone Fragmentation Mechanisms** YASSIN JEILANI, Spelman College, Daphney Sihwa, Gabrielle Webb, Nasrin Aweis
- (2030-44 P) **Metals in Mushrooms of Western Pennsylvania** KAELYN MARGARET GRESKO, California University of PA, Kimberly A Woznack
- (2030-45 P) **Method Development for the Analysis of Pesticide Degradates by GC-ECD** JESSICA REILLY, Saint Francis University, Samantha Radford
- (2030-46 P) **Investigation of Iron Dissolution from Pyrite Electrodes Using Electrochemical and Atomic Absorption Methods** KATELYN NUSBAUM, Saint Francis University, Brandyn Pryce, Rose A Clark
- (2030-47 P) **The Efficacy of Duckweed in Reducing the Concentration of Manganese in Abandoned Mine Drainage (AMD) through Phytoremediation** REBECCA ANNE BRADNAM, Westminster College, Helen M Boylan
- (2030-48 P) **Analysis of Water Quality in Western Pennsylvania near Hydraulic Fracturing Sites** KELSEY ANN KILBANE, Westminster College, Helen M Boylan, Jamie Linderman, Christina Mauri
- (2030-49 P) **Electrophoretic Character of Borate Buffers in Capillary and Microfluidic Channels** LAUNICK SAINT-FORT, Pennsylvania State University-Berks Campus, James Karlinsey
- (2030-50 P) **Interdisciplinary Undergraduate Research in Chemometrics: The Students' Perspective** STEPHANIE HOMITZ, Westminster College, Helen M Boylan, Christopher Caroff, Keilah Ireland, Carolyn Cuff
- (2030-51 P) **Analysis of the Toluene Efflux Pumps in Microorganisms Through Bioinformatics** MATHILDA WILLOUGHBY, Westminster College, Samantha Tower, Sarah Kennedy
- (2030-52 P) **Analysis of Urine Organic Acids via GC/MS-based Metabolomics to Determine the Effect of Diet on Urine Composition** JESSICA MINNICK, Georgia College and State University, Catrena Lisse
- (2030-53 P) **A Cascade SERS Signal Amplification Approach for Telomerase Activity at Single-cell Level** MULING SHI, Hunan University

THURSDAY, MARCH 10, 2016 MORNING

SYMPOSIUM Session 2040

ACS-ANLY - Advances in Electrokinetic Methods for Bioanalysis

arranged by Alexandra Ros, Arizona State University

Thursday Morning, Room B308

Alexandra Ros, Arizona State University, Presiding

8:30		Introductory Remarks - Alexandra Ros
8:35	(2040-1)	Nanofluidic Devices for Single-Particle Analysis of Virus Assembly STEPHEN C JACOBSON, Indiana University, Zachary D Harms, Lisa Selzer, Adam Zlotnick
9:10	(2040-2)	Amyloid Oligomers Analysis Using Microchannel Electrophoresis CHRISTA HESTEKIN, University of Arkansas, Sadia Paracha, Melissa Moss
9:45	(2040-3)	Surface Isoelectric Focusing (SIEF) for Therapeutic Protein Separations ADRIENNE R MINERICK, Michigan Technological University, Zhichao Wang
10:20		Recess
10:35	(2040-4)	Microfluidic-Based Electrokinetic Methods for Protein Separation and Sensing and Manipulation of Particles and Droplets CAROLYN L REN, University of Waterloo
11:10	(2040-5)	Towards Organelle Separation Exploiting Deterministic Absolute Negative Mobility ALEXANDRA ROS, Arizona State University, Jinghui Luo, Edgar Arriaga, Katherine Muratore

SYMPOSIUM Session 2050

Advances in Vibrational Spectroscopy for Medical Diagnostics

arranged by Igor K Lednev, University at Albany, SUNY

Thursday Morning, Room B302

Igor K Lednev, University at Albany, SUNY, Presiding

8:30		Introductory Remarks - Igor K Lednev
8:35	(2050-1)	Stimulated Raman Scattering Microscopy as a Tool for Brain and Skin Cancer Tissue Diagnoses SUNNEY XIE, Harvard University
9:10	(2050-2)	Raman Spectroscopy for Clinical Cell Analysis JÜRGEN POPP, Friedrich-Schiller University Jena
9:45	(2050-3)	Classification of Lung Cancers by Infrared Spectral Histopathology (SHP) MAX DIEM, Northeastern University
10:20		Recess
10:35	(2050-4)	Label-Free Spectroscopic Imaging for Molecular Diagnosis JI-XIN CHENG, Purdue University
11:10	(2050-5)	Raman Spectroscopy of Blood for Alzheimer's Disease Diagnostics IGOR K LEDNEV, University at Albany, SUNY, Elena Ryzhikova, Oleksandr Kazakov, Lenka Halamkova, Eric Molho, Earl Zimmerman

SYMPOSIUM Session 2060

Computational Chemistry Coupled to Analytical Measurements: A Synergistic Relationship

arranged by Bruce Chase, University of Delaware

Thursday Morning, Room B303

Bruce Chase, University of Delaware, Presiding

8:30		Introductory Remarks - Bruce Chase
8:35	(2060-1)	Advancing the Understanding of Rigid Rod Polymers with Statistical Mechanics and Analytical Chemistry STEVE LUSTIG, DuPont, Steven Allen, Juan David Londono, Christopher Seay
9:10	(2060-2)	Binding Free Energy of DNA on Graphite and Carbon Nanotubes by Single-Molecule Peeling ANAND JAGOTA, Lehigh University
9:45	(2060-3)	Theory and Simulations of Macromolecular Soft Materials: Linking Molecular Design to Macroscale Morphology and Function ARTHI JAYARAMAN, University of Delaware, Tyler B Martin
10:20		Recess
10:35	(2060-4)	Recent Computational Studies Related to the Use of Plasmonic Materials for Analytical Applications GEORGE C SCHATZ, Northwestern University
11:10	(2060-5)	Differentiation of Alpha and Beta Crystalline Polymorphs in Biodegradable Poly Hydroxybutyrate BRUCE CHASE, University of Delaware, Brian Sobieski, Isao Noda

SYMPOSIUM Session 2070

Identification and Analysis for Food Safety

arranged by Perry G Wang, US FDA

Thursday Morning, Room B304

Perry G Wang, US FDA, Presiding

8:30		Introductory Remarks - Perry G Wang
8:35	(2070-1)	Validation and Challenge for the Determination of Chemical Components in Cosmetic Products Using LC-MS and GC-MS PERRY G WANG, US FDA, Wanlong Zhou, Alexander J Krynskiy
9:10	(2070-2)	Development of Multi-Functional Ambient Mass Spectrometry for Food Safety Screening and Characterizing Polymers in Packing Materials JENTAIE SHIEA, National Sun Yat-sen University
9:45	(2070-3)	Emerging Disinfection Byproducts Halobenzoquinones in Treated Drinking Water XING-FANG LI, University of Alberta
10:20		Recess
10:35	(2070-4)	Effects of Different Dietary Doses of Copper and High Fructose Feeding on Rat Fecal and Liver Metabolome XIANG ZHANG, University of Louisville, Ming Song, Xiaoli Wei, Xinmin Yin, Aminul Prodhan, Craig McClain
11:10	(2070-5)	Identification and Confirmation of Chemical Residues in Foods for Regulatory Purposes STEVEN J LEHOTAY, USDA Agricultural Research Service

SYMPOSIUM Session 2080

Integrated Microfluidics

arranged by R Scott Martin, Saint Louis University

Thursday Morning, Room B305

R Scott Martin, Saint Louis University, Presiding

8:30		Introductory Remarks - R Scott Martin
8:35	(2080-1)	Integrated Microfluidics for Forensic Analysis: Creating Simple, Portable and Cost-effective Systems JAMES LANDERS, University of Virginia
9:10	(2080-2)	Microfluidic Technology for Protein Crystallization and Pharmaceutical Solid Form Screening PAUL KENIS, University of Illinois at Urbana Champaign
9:45	(2080-3)	Integrated Microfluidic Systems for Measuring Secretion from Cellular Networks MICHAEL G ROPER, Florida State University, Lian Yi, Adrian M Schrell, Xue Wang, Nikita Mukhitov, Basel Bandak, Kimberly Evans
10:20		Recess
10:35	(2080-4)	New Strategies for Enhancing Human-on-Chip Systems DANA SPENCE, Michigan State University
11:10	(2080-5)	Integrated Microfluidic Platform for Mass Spectrometry based Metabolomics JAMES L EDWARDS, Saint Louis University

TECHNICAL PROGRAM

SYMPOSIUM Session 2090

New Bioanalytical Separations for Molecular Mechanisms of Disease

arranged by B Jill Venton, University of Virginia and Lisa A Holland, West Virginia University

Thursday Morning, Room B309

B Jill Venton, University of Virginia, Presiding

8:30		Introductory Remarks - B Jill Venton and Lisa A Holland
8:35	(2090-1)	Capillary Separations that Unravel Molecular Mechanisms of Endocrine Dysfunction LISA A HOLLAND, West Virginia University, Vincent T Nyakubaya, Jennifer R Stueckle
9:10	(2090-2)	Separation-Based Methods for Measuring Reactive Oxygen and Nitrogen Species in Biological Samples SUSAN M LUNTE, University of Kansas
9:45	(2090-3)	How Separations—Both High and Low Resolution—Enable Selection of Clinically Useful Aptamers REBECCA WHELAN, Oberlin College
10:20		Recess
10:35	(2090-4)	Merging Microfluidics, Electrophoresis, and Mass Spectrometry for Protein Assays ROBERT T KENNEDY, University of Michigan
11:10	(2090-5)	CE-FSCV for Determining Neurotransmitter Tissue Content in Drosophila Disease Models B JILL VENTON, University of Virginia, Madelaine E Denno, Ryan Borman

SYMPOSIUM Session 2100

Overcoming the Obstacles to Making Measurements in the Brain

arranged by Stephen Weber, University of Pittsburgh

Thursday Morning, Room B310

Stephen Weber, University of Pittsburgh, Presiding

8:30		Introductory Remarks - Stephen Weber
8:35	(2100-1)	Probing the Spatial and Temporal Dynamics of Signaling Peptides in the Nervous Systems by a Multi-Faceted MS Approach LINGJUN LI, University of Wisconsin
9:10	(2100-2)	Overcoming Obstacles to Understanding Voltammetric Measurements of Dopamine in the Brain ADRIAN C MICHAEL, University of Pittsburgh, Seth H Walters, Elaine M Robbins, Brendan P Sestokas, Andrea Jaquins-Gerstl
9:45	(2100-3)	Simultaneous Optical Imaging of Neuronal, Glia, and Hemodynamic Waves During Seizures HONGTAO MA, Weill Cornell Medical College, Andy Daniel, Eliza Baird-Daniel, Philippe Laffont, Mingrui Zhao, Theodore H Schwartz
10:20		Recess
10:35	(2100-4)	Placing New Pieces in the Puzzle of Human Traumatic Brain Injury Using Multimodal Monitoring MARTYN G BOUTELLE, Imperial College London, Michelle L Rogers, Sally A Gowers, Chi Leng Leong, Vassilios Koutjannis, Anthony J Strong, Sharon Jewell
11:10	(2100-5)	Electroosmotic Perfusion in Brain Tissue for Determining Ectopeptidase Activity STEPHEN WEBER, University of Pittsburgh, Stephen R Groskreutz, Khanh Ngo, Yangguang Ou, Rachael Wilson, Jenna DeVivo, Bocheng Yin

SYMPOSIUM Session 2110

SAS - Handheld Spectrometers

arranged by Richard A Crocombe, PerkinElmer and Mark A Druy, Technology Assessment & Partnering

Thursday Morning, Room B311

Richard A Crocombe, PerkinElmer, Presiding

8:30		Introductory Remarks - Richard A Crocombe and Mark A Druy
8:35	(2110-1)	Handheld Laser-Induced Breakdown Spectroscopic Instruments AMY JO RAY BAUER, TSI, Incorporated
9:10	(2110-2)	Chemometrics in Action: Moving the Lab to the Field SUZANNE SCHREYER, Thermo Fisher Scientific, Michael Hargreaves
9:45	(2110-3)	Mass Spectrometry in Miniature CHRISTOPHER BROWN, 908 Devices
10:20		Recess

10:35	(2110-4)	Next Generation Portable Spectrometers: Spectroscopy Solutions Wherever You Want Them KATHERINE A BAKEEV, B&W Tek, Inc, Ken Li, Sean Wang, Jing Li, Jack Zhou
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11:10	(2110-5)	High Sensitivity Measurements in Liquids Using Mid-IR Lasers DON KUEHL, RedShift Systems, Rick Sharp, Eugene Ma, Jinghong Kim, Chip Marshall
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SYMPOSIUM Session 2120

Single Cell Molecular Analysis

arranged by Milan Mrksich, Northwestern University

Thursday Morning, Room B312

Milan Mrksich, Northwestern University, Presiding

8:30		Introductory Remarks - Milan Mrksich
8:35	(2120-1)	Using Single Molecule Arrays (Simoa) to Measure Proteins and Nucleic Acids in Single Cells DAVID R WALT, Tufts University, Stephanie Walter, Stephanie Schubert, Payal Ghatak
9:10	(2120-2)	Semiconducting Polymer Dots (Pdots) for Single-Cell Sensing and Molecular Analysis DANIEL T CHIU, University of Washington
9:45	(2120-3)	Assaying Single Cells as a Diagnostic Tool NANCY ALLBRITTON, University of North Carolina at Chapel Hill
10:20		Recess
10:35	(2120-4)	Using SAMDI Mass Spectrometry to Measure Enzyme Activity in Single Cell Lysates MILAN MRKSICH, Northwestern University
11:10	(2120-5)	A Novel Tool for Detection and Enumeration of Circulating Tumor Cells DAVID A GILJOHANN, AuraSense

ORGANIZED CONTRIBUTED SESSIONS Session 2130

Recent Advances in Ion Analysis

arranged by Kannan Srinivasan, Thermo Fisher Scientific

Thursday Morning, Room B313

Kannan Srinivasan, Thermo Fisher Scientific, Presiding

8:30	(2130-1)	Anion Analysis Using Capillary Ion Chromatography of Steam Cycle Water and Anion Analysis of Reactor Water by Matrix Elimination in a Nuclear Power Plant RICHARD WALLWORK, Pacific Gas and Electric
8:50	(2130-2)	New Developments in Multidimensional Analysis for Drinking Water Applications HERB WAGNER, Independent Contractor
9:10	(2130-3)	Recent Advances in Suppressor Technology in Ion Chromatography for Achieving Low Noise Performance KANNAN SRINIVASAN, Thermo Fisher Scientific, Brittany Omphroy, Sheetal Bhardwaj, Rong Lin, Christopher Pohl
9:30	(2130-4)	Indirect Pulsed Electrochemical Detection following Anion-Exchange Chromatography BILL LACOURSE, University of Maryland Baltimore County
9:50		Recess
10:05	(2130-5)	Revisiting the Many Facets of Ion Exclusion Chromatography C PHILLIP SHELOR, University of Texas Arlington, Purnendu Dasgupta
10:25	(2130-6)	Factors Underlying Recent Advances in High Speed and High Resolution Ion Chromatography CHARLES A LUCY, University of Alberta
10:45	(2130-7)	Peak Shapes in High Efficiency and Fast Chromatography: Contributions from the Slurry Packing Process and Detector Settings M FAROOQ WAHAB, University of Texas at Arlington, Purnendu Dasgupta, Daniel W Armstrong
11:05	(2130-8)	Recent Developments in Stationary Phases for Ion Chromatography CHRISTOPHER POHL, Thermo Fisher Scientific, Charanjit Saini, Mani Jayaraman, Maria Rey, Andy Woodruff

ORAL SESSIONS

Session 2140

Bioanalytical: Fluorescence/Luminescence Techniques

Thursday Morning, Room B405

Nathan Whitman, University of North Carolina at Chapel Hill, Presiding

8:30	(2140-1)	Ultrasensitive Detection of Ricin Toxin in Multiple Sample Matrixes Using Single-Domain Antibodies TRINH DINH, Tufts University, Shonda Gaylord, David R Walt, Kevin Ngan
8:50	(2140-2)	Unusual Red Emission of Graphene Quantum Dots at Extremely High pH YIYANG LIU, University of Kentucky, Doo Young Kim
9:10	(2140-3)	Bright Large Stokes' Shift NIR Fluorescent Silica Nanoparticle Labels and Probes GABOR PATONAY, Georgia State University, Gala Chapman, Maged Henary, Kyle Emer
9:30	(2140-4)	Development of Fluorescent Magnetic Particles for "On-Off" Switching based Detection of Various Lectin-Saccharide Interactions SUZUKI YOSHIO, AIST
9:50		Recess
10:05	(2140-5)	Cell-free Expression of Cytochrome P450-containing Liposomes for Drug Metabolism Screens NATHAN A WHITMAN, University of North Carolina at Chapel Hill, Julie C McIntosh, Jeffrey B Penley, Matthew R Lockett
10:25	(2140-6)	Tethered Cationic Lipoplex Nanoparticle Biochip for Fast Disease Detection JIANGMING HU, The Ohio State University, L J Lee
10:45	(2140-7)	Cell Surface Engineering with Lipid-Molecular Beacon Aptamer for Real Time Probing of Proteins in Cellular Microenvironment WEIJIA HOU, University of Florida
11:05	(2140-8)	Ratiometric Fluorescence Assay based Quantum Dots for Recognition of RRE RNA Ligands Using A New Fluorescence Indicator ZHIQI ZHANG, Shaanxi Normal University

ORAL SESSIONS

Session 2150

Electrochemistry - New Methods and Applications

Thursday Morning, Room B314

Leslie A Sombers, North Carolina State University, Presiding

8:30	(2150-1)	Elucidating the Structure/Function Relationship of Conductive Polymer Microelectrodes for Use in Fast-Scan Cyclic Voltammetry of Neurotransmitters ADAM R MEIER, University of Arizona, William Bahureksa, Michael L Heien
8:50	(2150-2)	Electrochemically Reduced Graphene Oxide as an Electrocatalyst Support for H₂S Detection JASON A BENNETT, Penn State Erie - The Behrend College
9:10	(2150-3)	Amperometric Determination of Aurocyanide for Hydrometallurgical Gold Processing WAYNE DICKINSON, Kemira
9:30	(2150-4)	Method for Removal of Non-Faradaic Contributions to Fast-Scan Cyclic Voltammetry Recordings JUSTIN A JOHNSON, University of North Carolina at Chapel Hill, R Mark Wightman
9:50		Recess
10:05	(2150-5)	Quantitative Analysis of Microiontophoresis Drug Delivery DOUGLAS KIRKPATRICK, University of North Carolina at Chapel Hill, R Mark Wightman
10:25	(2150-6)	Fast Scan Cyclic Voltammetry of Metals at Carbon-Fiber Microelectrodes: Correlation Between FSCV Response and Solution Dynamics PAVITHRA PATHIRATHNA, Wayne State University, Thushani Siriwardhane, Shawn McElmurry, Parastoo Hashemi
10:45	(2150-7)	Construction of Training Sets for Valid Calibration Using Principal Component Analysis NATHAN T RODEBERG, University of North Carolina at Chapel Hill, Justin A Johnson, R Mark Wightman
11:05	(2150-8)	Electrochemical Characterization and Catalytic Activity of Ultrasmall Gold Nanoparticles FRANCIS ZAMBORINI, University of Louisville, Rafael Masitas, Stacy Allen, Dhruba Pattadar

ORAL SESSIONS

Session 2160

Food Safety Evaluations - Half Session

Thursday Morning, Room B407

Alice Chen, The Pittsburgh Conference, Presiding

8:30	(2160-1)	Characterization of the Adulteration, Counterfeiting and Contamination of Spices, Spice Products and Supplements by the Detection of Toxic and Banned Organic Chemicals in Commercial Botanical Products PATRICIA ATKINS, SPEX CertiPrep
8:50	(2160-2)	Using SPE to Adjust Sensitivity to Analytical Requirements for Food Safety CHRIS SHEVLIN, Horizon Technology, William Jones
9:10	(2160-3)	Ensuring a Safe and Stable Food Supply Using ICP-OES for Elemental Monitoring NICK SPIVEY, PerkinElmer Inc., Kenneth Neubauer, Stan Smith, Laura Thompson
9:30	(2160-4)	Automated Solid Phase Extraction and Quantitative UHPLC Analysis of Cannabis Compounds in Food Matrices CHRIS SHEVLIN, Horizon Technology, Robert E Buco

ORAL SESSIONS

Session 2170

Liquid Chromatography Column Chemistry

Thursday Morning, Room B406

A Carl Sanchez, Phenomenex, Presiding

8:30	(2170-1)	Functionalized Octatetrayne as Novel Carbon Media for Capillary Liquid Chromatography JIAYI LIU, The Ohio State University, Susan Olesik
8:50	(2170-2)	Stationary Phases Based on the Thiol-ene Reaction on Mercaptopropylsilane-Modified Nonporous Silica ERIN SHIELDS, University of Pittsburgh, Kayla Thomas, Stephen Weber
9:10	(2170-3)	Using 5 Micron Superficially Porous Particles in Capillary and Microfluidic LC Columns JAMES P GRINIANS, University of Michigan, Robert T Kennedy
9:30	(2170-4)	Selectivity in Reversed-Phase Liquid Chromatography: Impact of Stationary Phase Chemistry DAVID S BELL, Supelco/Sigma-Aldrich
9:50		Recess
10:05	(2170-5)	A Specialty Column for High Resolution Separation of Aminoglycoside Antibiotics by HPLC XUEFEI SUN, Thermo Fisher Scientific, Xiao Cui, Yoginder Singh, Xiaodong Liu
10:25	(2170-6)	Liquid Chromatography, Hydrophilic Interaction Chromatography, HILIC DAVID S BELL, Supelco/Sigma-Aldrich
10:45	(2170-7)	The Benefits of 1mm ID UHPLC Columns Made Real STEPHEN LUKE, Agilent Technologies, Norwin Von Doehren, William Long, Jason Link
11:05	(2170-8)	Comparison of the Practical Kinetic Performance Limits of Core-Shell and Fully Porous (U)HPLC Sorbents Using Commercially Available Column Formats A CARL SANCHEZ, Phenomenex, Gareth Friedlander, Jason Anspach, Tivadar Farkas

ORAL SESSIONS

Session 2180

Microfluidics/Lab-on-a-Chip - Bioanalytical I

Thursday Morning, Room B403

Hubert MacDonald, The Pittsburgh Conference, Presiding

8:30	(2180-1)	A Method for Measurement of Temporally Resolved Insulin Secretion from Islets of Langerhans in Response to Fatty Acid Hydroxy Fatty Acids BASEL BANDAK, Florida State University, Lian Yi, Nikita Mukhitov, Michael G Roper
8:50	(2180-2)	Macro-to-Microfluidic Interfacing for Primary Endocrine Cell Culture and Sampling Using 3D Printed Device Templates and Fluidic Manifolds JESSICA C BROOKS, Auburn University, Mark D Holtan, Katarena Ford, Dylan Holder, Christopher J Easley
9:10	(2180-3)	A Simple Droplet Microfluidic Capillary Viscometer Based on Droplet Frequency for Rheological Measurements of Proteins MICHAEL F DELAMARRE, University of Illinois at Chicago, Scott A Shippy
9:30	(2180-4)	Improving Detection Sensitivity in Microchip Electrophoresis-Laser Induced Fluorescence Assays by Target-Induced Exonuclease Assisted Strand Circle Signal Amplification SHULIN ZHAO, Guangxi Normal University, Yingfeng Qin, Liangliang Zhang, Yong Huang, Yi-Ming Liu

TECHNICAL PROGRAM

9:50		Recess
10:05	(2180-5)	A Complementary Method to CD4 Counting: Measurement of CD4+/CD8+ T Lymphocytes Ratio in a Serial Microfluidic System WENJIE LI, Texas Tech University, Dimitri Pappas
10:25	(2180-6)	PDMS-Based Injection Valves for SPE-MS Analysis of Biomolecules JAMES P GRINIAS, University of Michigan, Colleen E Dugan, Robert T Kennedy
10:45	(2180-7)	Development of an Online Microchip Electrophoresis with LED-Induced Fluorescence System for In Vivo Detection of Excitatory Amino Acid Neurotransmitters Following a Traumatic Brain Injury MICHAEL L HOGARD, University of Kansas, Nathan Oborny, Elton E Melo Costa, Susan M Lunte, Craig E Lunte
11:05	(2180-8)	Determination of Amplification of Cellular Effects by Hormones Derived from Different Tissues KESHA VARZ HAMIDEH, Michigan State University, Dana Spence

ORAL SESSIONS Session 2190

Novel Applications with Gas Chromatography Mass Spectrometry

Thursday Morning, Room B315

Rudolf Addink, Toxic Report, Presiding

8:30	(2190-1)	How GC-MS with Cold EI Improves NIST Library Identification AVIV AMIRAV, Tel Aviv University, Uri Keshet, Tal Alon
8:50	(2190-2)	Use of Automated Column Chromatography Clean Up with Reduced Solvent Volume in POPs Analysis RUDOLF ADDINK, Toxic Report, Philip Bassignani
9:10	(2190-3)	Effective QuEChERS Cleanup and Quantitation of Planar Pesticides from Spinach and Other Food Matrices Using a Novel Graphitized Carbon Black and a Zirconia-Based Adsorbent PATRICK MYERS, Supelco/Sigma-Aldrich, William Betz, Bill Ozanich, Jennifer Claus, Michael Ye
9:30	(2190-4)	Use of Micro Scale Solid Phase Extraction and Automated Clean Up in POPs Analysis of Human Milk and Serum RUDOLF ADDINK, Toxic Report
9:50		Recess
10:05	(2190-5)	Multidimensional Comprehensive Gas Chromatography Multireflection High Resolution Time-of-Flight Mass Spectrometry: Combining Accurate Mass Information with Ultra-High Chromatographic Resolution RALF ZIMMERMANN, University Rostock/HMGU, Thomas Groeger, Benedikt Weggler, Juergen Wendt
10:25	(2190-6)	Rapid, New Methods for the Analysis of 3-MCPD and 1,3 DCP in Soy Sauce SUSAN GENUALDI, US FDA, Lowri DeJager, Patsy Nyman
10:45	(2190-7)	A Method Development Software Tool for Comprehensive Two-Dimensional Gas Chromatography Evaluated for GCxGC-TOFMS MARK F MERRICK, LECO Corporation, Viatcheslav Artaev, Leonid M Blumberg
11:05	(2190-8)	Innovative TG-GC-MS Methods for Thermal Degradation Studies of Polymers KRISTINA LILOVA, Setaram Inc., Link Brown

ORAL SESSIONS Session 2200

Novel Synthesis and Applications of Nanomaterials

Thursday Morning, Room B316

David Pensenstadler, The Pittsburgh Conference, Presiding

8:30	(2200-1)	Nanofibers from Hydrothermal Treatment of Cellulose Nanocrystals YIMEI WEN, Clemson University
8:50	(2200-2)	Graphene Nanoribbons: Engineering, Characterization of Edge Defects and Sensor Applications PANKAJ RAMNANI, University of California, Riverside, Ashok Mulchandani
9:10	(2200-3)	Modeling of Seed-Mediated Nanoparticle Growth HANS MUSGRAVE, University of North Dakota, Julia Xiaojun Zhao
9:30	(2200-4)	Single-Molecule Tracking Studies of the Effects of Solvent Swelling on the Properties of Cylindrical Block Copolymer Microdomains TAKASHI ITO, Kansas State University, Dol R Sapkota, Khanh-Hoa Tran-Ba, Daniel A Higgins
9:50		Recess
10:05	(2200-5)	Characterization of Single and Multi-Walled Carbon Theranostic Nanovectors MARKUS MARTINCIC, Institut de Ciencia de Materials de Barcelona, Elzbieta Pach, Belen Ballesteros, Gerard Tobias

10:25	(2200-6)	Investigating 4-Wheeled Nanocar Diffusion Kinetics on Differently Modified Solid Surface with Single Molecule Fluorescence Microscopy (SMFM) FANG CHEN, North Carolina State University, Víctor García-López, James Tour, Gufeng Wang
10:45	(2200-7)	Sealing and Opening of Metallic Nanotubes with a Laser Beam: A Potential Drug Delivery Vehicle NATHALIA ORTIZ, North Carolina State University, Gufeng Wang
11:05	(2200-8)	Optically Transparent Carbon Nanotube Film Electrode for Thin Layer Spectroelectrochemistry TINGTING WANG, University of Cincinnati

ORAL SESSIONS Session 2210

Sampling and Sample Preparation - Bioanalytical, Neurochemistry, and Material Science

Thursday Morning, Room B404

Denise Wilkins, Bechtel Bettis Inc., Presiding

8:30	(2210-1)	Rapid Protein Purification and Digestion with Membrane-Containing Pipette Tips WENJING NING, Michigan State University, Merlin Bruening
8:50	(2210-2)	DNA Extraction and Analysis Using Magnetic Ionic Liquid Solvents KEVIN D CLARK, Iowa State University, Melissa Yamsek, Omprakash Nacham, Jared L Anderson
9:10	(2210-3)	Localized Laser Ablation Sample Transfer for Tissue Proteomics FABRIZIO DONNARUMMA, Louisiana State University, Michael E Pettit, Touradj Solouki, Kermit K Murray
9:30	(2210-4)	An Ultra Sensitive Sample Preparation Approach that Eliminates the Need to Dry Down and Reconstitute SHAHANA HUQ, Phenomenex, Matthew Brusius, Jessica Detsch, Zeshan Aqeel, Ramkumar Dhandapani
9:50		Recess
10:05	(2210-5)	Pulled Low Flow Push-Pull Perfusion Probe Tips for Sampling from Tissue Slices MARISSA R BECKER, University of Illinois at Chicago, Scott A Shippy, David E Featherstone
10:25	(2210-6)	Design of Protein-Binding Membranes through Adsorption of Star-Shaped Polyelectrolytes in Membrane Pores WEIJING LIU, Michigan State University, Salinda Wijeratne, Merlin Bruening
10:45	(2210-7)	Direct Coupling of Solid Phase Microextraction to Mass Spectrometry Via Nano-Electrospray Ionization: Development and Applications in Bioanalysis GERMAN A GOMEZ-RIOS, University of Waterloo, Nathaly Reyes-Garces, Ezel Boyaci, Barbara Bojko, Janusz Pawliszyn
11:05	(2210-8)	Molecularly Imprinted Polymer-Sol-Gel for Dispersive Micro-Solid Phase Extraction MOHAMED ABDEL-REHIM, Stockholm University, Aziza El-Beqqali

ORAL SESSIONS Session 2220

Sensors - Others

Thursday Morning, Room B401

Gufeng Wang, North Carolina State University, Presiding

8:30	(2220-1)	PANi Electrospun Fibers and Drop Cast Film Sensor Array for the Detection of Small Chained Alcohols KELVIN TRAN, University of California Riverside, Andrew J Burris, Quan Cheng
8:50	(2220-2)	Application of Thermo-Reversible Interpenetrating Poly(Vinyl Alcohol) Networks to Stabilize Mechanically Fragile Hydrogel Sensors ANDREW E COUKOUMA, University of Pittsburgh, Sanford A Asher
9:10	(2220-3)	Improving the Sustainability of Drinking Water Systems Using Nanostructured Biosensors for Escherichia Coli HEATHER A CRAPO, Binghamton University, Melissa McDonald, Idris Yazgan, Omowunmi Sadik
9:30	(2220-4)	An Innovative Biosensor to Assess Quickly the Biodegradable Organic Fraction SULLIVAN JOUANNEAU, University of Nantes, Marie-José Durand, Gerald Thouand, Ali Boukabache, Yves Primault
9:50		Recess
10:05	(2220-5)	Surface Plasmon Resonance Immunosensor Using Au Nanoparticle Modified Antibody DULAL C KABIRAZ, Hokkaido University, Kinichi Morita, Toshikazu Kawaguchi
10:25	(2220-6)	QCM Virtual Multisensor Array for Detection of Gasoline Adulterants NICHOLAS SPELLER, Louisiana State University, Noureen Siraj, Isiah M Warner, Stephanie Vaughan

10:45	(2220-7)	Development of an Aptamer Functionalized Electrode Array for Real-Time In Vivo Cocaine Detection Using Square Wave Voltammetry IAN MITCHELL TAYLOR, University of Pittsburgh, Emma Bigelow, Tracy Cui
11:05	(2220-8)	Optomechanical Switching by Plasmonic Nanoparticle Monolayers on Elastic Substrate Induced by Stretching MAHMOUD MAHMOUD, Georgia Institute of Technology

ORAL SESSIONS

Session 2230

Vibrational Spectroscopy Instrumentation and Applications

Thursday Morning, Room B402

Jane Chan, Bechtel Bettis Inc., Presiding

8:30	(2230-1)	Experimental Studies and Electromagnetic Modeling of Localized Plasmon Surface on a New SERS Platform MATHIEU EDELY, IMMM Institut des Molécules et Matériaux du Mans, Guy Louarn, Jean-François Bardeau, Nicolas Delorme, Ludovic Douillard
8:50	(2230-2)	The Effect of Molecular Polarity and Solubility on Adsorption Rates and Equilibrium Constants for Molecules on Noble Metal Surfaces Using Surface-Enhanced Raman Spectroscopy ERIK DAVID EMMONS, US Army, Ashish Tripathi, Neal D Kline, Jerry Cabalo, Jason A Guicheteau, Augustus W Fountain, Steven D Christesen
9:10	(2230-3)	Room Temperature Freezing and Orientation Control of Surface Immobilized Biomolecules in Air YAOXIN LI, University of Michigan, Zhang Xiaoxian, Somayesadat Badieyan, Zhan Chen
9:30	(2230-4)	Fiber Spectroscopy for Process Control and Medical Diagnostics VIACHESLAV ARTYUSHENKO, Art Photonics GmbH
9:50		Recess
10:05	(2230-5)	Characterization of Polymer/Epoxy Buried Interfaces with Silane Adhesion Promoters Before and after Hygrothermal Aging for the Elucidation of Molecular Level Details Relevant to Adhesion NATHAN W ULRICH, The University of Michigan, John Myers, Zhan Chen
10:25	(2230-6)	Surface Interaction of Nitrogen Containing Aromatic Molecules with Gold Investigated with Surface Enhanced Raman Spectroscopy (SERS) ASHISH TRIPATHI, Leidos, Inc., Erik David Emons, Augustus W Fountain, Jason A Guicheteau, Steven D Christesen, Martin Moskovits
10:45	(2230-7)	Transmission Raman Spectroscopy as a Regulatory-Approved Method for Content Uniformity Analysis – Replacing HPLC DARREN ANDREWS, Cobalt Light Systems, Julia Griffen, Matthew Bloomfield, Andrew Owen, Mark Mabry, Pavel Matousek
11:05	(2230-8)	A New Microscope for FT-IR Microspectrometry DAVID W SCHIERING, Czitek, Gregg Ressler

POSTER SESSION

Session 2240

All posters are to be mounted by 10:00 AM and remain on display until 2:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Application of Mass Spectrometry

Thursday Morning, Exposition Floor, 400 Aisle

(2240-1 P)	Variations on a Theme: The Detection of NBOMe Designer Drugs on Blotter Paper by High Resolution Time-of-flight Mass Spectrometry (TOFMS) with and without Chromatography DAVID BARAJAS, Boston University School of Medicine, Frank A Kero, Noelle Elliot, Bogdan Bogdanov, Craig Young, Jason Weisenfeld, Sabra Botch
(2240-2 P)	Proton Transfer Reaction – Mass Spectrometry: Automated Measurement and Evaluation JENS HERBIG, IONICON Analytik, Klaus Winkler, Johann Seehauser, Lukas Maerck, Christian Lindinger, Alfons Jordan
(2240-3 P)	Functionalized Gold Surface for SPR-MS Determination of Enzymatic Activities and Specificity of Lectins HYOJIK YANG, University of California, Riverside, Quan Cheng
(2240-4 P)	High-Resolution Atmospheric Pressure Drift Tube Ion Mobility Spectrometry Coupled with High-Resolution Accurate Mass Orbitrap Mass Spectrometry JOEL D KEELOR, Georgia Institute of Technology, Facundo M Fernandez, Brian Clowers
(2240-5 P)	Real-Time Metabolome Analysis by Probe Electrospray Ionization-Tandem Mass Spectrometry (PESI-MS/MS): Preliminary Challenge to Real-Time Metabolomics ZAITSU KEI, Nagoya University, Hayashi Yumi, Murata Tasuku, Nakajima Hiroki, Nakajima Tamie, Kusano Maiko, Tsuchihashi Hitoshi, Ishikawa Tetsuya, Ishii Akira

(2240-6 P)	Use of High Speed/High Resolution Size Based Chromatographic Separation of Surfactants and Oligomeric Materials with Single Quadrupole Mass Spectrometry Detection MICHAEL OLEARY, Waters Corporation
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(2240-7 P)	Coupling Surface Acoustic Wave Nebulization (SAWN) with Vacuum-Assisted Plasma Ionization (VaPI) Mass Spectrometry for Enhanced Ionization and Transmission Efficiency STEPHEN C ZAMBRZYCKI, Georgia Institute of Technology, Matthew C Bernier, Joel D Keelor, Fernandez M Facundo, Sung H Yoon, David Goodlett
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(2240-8 P)	Withdrawn
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(2240-9 P)	Withdrawn
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(2240-10 P)	Visualizing the Distribution of Volatile and Semi-Volatile Compounds by Low Temperature Plasma Mass Imaging (LTP-MSI) ROBERT WINKLER, CINVESTAV Unidad Irapuato, Sandra Martinez Jarquin, Abigail Moreno Pedraza
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POSTER SESSION

Session 2250

All posters are to be mounted by 10:00 AM and remain on display until 2:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Fluorescence and Luminescence

Thursday Morning, Exposition Floor, 400 Aisle

(2250-1 P)	Determination of Thiamine by Flow Analysis System Based on the Chemiluminescence Inhibition Using Multicommotation DEBORAH AZZI, Federal University of São Carlos, Marina Batistão, Bruno C Janegitz, Marina Baccarin, Geiser Oliveira, Orlando Fatibello-Filho
(2250-2 P)	Selection of Aptamers Targeting B-Cell Receptor (BCR) Using Antibody Guided Cell-Selextion Method - A Novel Approach SHOMI CHAKRABARTI, City University of New York, The Graduate Center, Hasan E Zumur, George Maio, Prabodhika Mallikaratchy, Mst Naznin Ara
(2250-3 P)	Spectral Encoders: Detecting Position-Dependent Luminescent Spectra Through Tissue MELISSA M ROGALSKI, Clemson University, Bobby Smith, Hunter Pelham, Nakul Ravikumar, John D DesJardins, Jeffrey N Anker
(2250-4 P)	Photoluminescence of Novel Osmium and Ruthenium Complexes in the Presence of Polyanions MEHRUN UDDIN, St. John's University, Cody Piotrowski, Besiana Kurti, Armando Seitllari, Elise Megehee, Enju Wang
(2250-5 P)	Quantifying Free Fatty Acid Uptake Dynamics in Primary Adipocytes Using Customized Micro-Wells Made with 3D-Printed Templates TESHAGEBRIEL M HAGOS, Auburn University, Jessica C Brooks, Christopher J Easley
(2250-6 P)	Toward Non-Invasively Detecting Radiolabeled Analytes Near Implanted Medical Devices Coated in Radioluminescent Phosphors GRETCHEN B SCHOBBER, Clemson University, Jeffrey N Anker
(2250-7 P)	Development of Silicone Filled Optical Module for Laser Fluorescence Trace Molecular Detection HIROKAZU HIGUCHI, Kyushu University, Hiroaki Nomada, Hiroaki Yoshioka, Kinichi Morita, Yuji Oki
(2250-8 P)	Recombinant Tobacco Peroxidase: A 100-Fold More Effective Luminescent Label Than Horseradish Peroxidase IRINA GAZARYAN, Pace University, Galina Zakharova, Andrey Poloznikov, Dmitry Hushpulian, Vladimir Tishkov
(2250-9 P)	Using Diffusional Motion to Gauge Fluidity and Interfacial Adhesion Strength of Supported Octadecylphosphonic Acid (ODPA) Monolayers STEPHEN BAUMLER, Michigan State University
(2250-10 P)	Improving Selectivity of Fluorimetric Water Sensing in Aprotic Solvents KATARZYNA KLUCIŃSKA, University of Warsaw, Patryk Rzepiński, Michał Cyrański, Krzysztof Maksymiuk, Agata Michalska
(2250-11 P)	Irradiation of Gold Nanodots by Ultraviolet Light: Modulation of Ligand Density and Photoluminescence YU-TING TSENG, National Taiwan University
(2250-12 P)	A Preliminary Study of Factors Affecting Quenching or Enhancement of Fluorescence of 1,10-Phenanthroline Toward Quantitative Determination of Selected Metals in mine Drainage and Related Samples MARK T STAUFFER, University of Pittsburgh - Greensburg, Tell M Lovelace
(2250-13 P)	Traceable Mercury Gas Phase Calibrations Based Upon Gravimetry ANNARITA BALDAN, VSL, Janneke van Wijk, Hugo Ent
(2250-14 P)	Detection of Caffeine Using a Field-Portable Fluorescence Device HALEY CURTIS, Tennessee Technological University, Andrew Callender
(2250-15 P)	The Quenching of Riboflavin Fluorescence by Nicotine in Bicontinuous Microemulsion MAURICE O IWUNZE, Morgan State University
(2250-16 P)	Optimizing Fluorescence Tagging Strategy to Study Single Molecule Diffusion on Air-Solid Surface TAO JIN, North Carolina State University, Fang Chen, James Tour, Victor Lopez, Gufeng Wang

TECHNICAL PROGRAM

POSTER SESSION

Session 2260

All posters are to be mounted by 10:00 AM and remain on display until 2:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Fuels, Energy and Petrochemical

Thursday Morning, Exposition Floor, 400 Aisle

- (2260-1 P) **Increasing Resolution of Propylene Glycol Impurities with High-Efficiency GC Columns** RAMKUMAR DHANDAPANI, Phenomenex, Tim Anderson, Kristen Parnell
- (2260-2 P) **Analysis of Impurities in Propane/Propylene Streams Using a Pulsed Flame Photometric Detector (PFPD)** CYNTHIA ELMORE, OI Analytical, Michael Duffy, Brian Mistovich, J Garrett Slaton
- (2260-3 P) **High C6+ Analysis** MATTHEW MONAGLE, AIC LLC
- (2260-4 P) **High Performance Chromatographic Diatomaceous Earth (DE)** KATARINA ODEN, Restek, Jaap de zeeuw, Barry Burger, Linx Wacłaski, Rebecca Stevens
- (2260-5 P) **Methanizer – A Simple Solution for CO/CO₂ Gas Analysis by Gas Chromatography (GC)** KATARINA ODEN, Restek, Jaap de zeeuw, Barry Burger, Linx Wacłaski, Rebecca Stevens
- (2260-6 P) **Analysis of A Sulfur Mixture in Hydrocarbon Standard Cylinder in ppb Level** YANG QIN, Air Liquide Specialty Gases
- (2260-7 P) **Reactive Pyrolysis-GC/MS of Polymers in a Steam Environment Used to Study Potential Bio-oil** KAREN SAM, CDS Analytical, Gary Deger, Steve Wesson
- (2260-8 P) **Extended Lower Detection Range for Hydrogen Sulfide and Carbonyl Sulfide with Metal Surface Deactivated Sample Inlet for Micro Gas Chromatography** REMKO VAN LOON, Agilent Technologies, Thomas Szakas, Coen Duvekot
- (2260-9 P) **The Improvement of ASTM D3612 TOGA Analysis** MAX WANG, Shimadzu Scientific Instrument Inc., Clifford M Taylor, Marty Smith
- (2260-10 P) **Accurate and Reproducible Determination of Halogens in Coal Using Combustion Ion Chromatography** CARL FISHER, Thermo Fisher Scientific, Daniel Khor, Mark Manahan, Adelon Augustin, Kirk Chassaniol
- (2260-11 P) **Nitrogen Determination in Lubricant by Elemental Analyzer** GUIDO GIAZZI, Thermo Fisher Scientific, Liliana Krotz, Francesco Leone
- (2260-12 P) **New Methodology for the Analysis of Silicon in Petrochemical Samples by ICP-MS** ANTHONY PALERMO, PerkinElmer, Kenneth Neubauer, Stan Smith
- (2260-13 P) **Artificial Photosynthesis** MINGMING WANG, Auburn University, Wei Zhan, Chao Li
- (2260-14 P) **Rapid Measurement of Xylose and Glucose for Monitoring Corn Stover Fermentation in Bioethanol Production** WILLIAM MILLER, YSI, Inc, June Klingensmith
- (2260-15 P) **Safety and Performance Testing of Li-ion Cells Using Thermal Analysis** PETER RALBOVSKY, Netzsch Instruments, Bob Fidler
- (2260-16 P) **The Determination of Mercury in Liquefied Petroleum Gas – A Comparison of Sampling Techniques** MATTHEW A DEXTER, P S Analytical, C A Rogers, Warren T Corns
- (2260-17 P) **Salen Quinoxalinol Ligands for Selective Coordination and Sensors** ANNE E GORDEN, Auburn University
- (2260-18 P) **A New Hydroxide Selective Anion Exchange Phase for Ion Chromatography** CHARANJIT SAINI, Thermo Fisher Scientific, Christopher Pohl, Yan Liu
- (2260-19 P) **Physicochemical Characterization of Microalgal Biodiesel** KIZGEL DAVIS-DESOUZA, Oglethorpe University, Grace Djokoto, Md H Kabir
- (2260-20 P) **Graphene Quantum Dots Immobilized Nanoporous N-TiO₂ Thin Films for Efficient Photocatalytic Water Splitting** NAMAL WANNINAYAKE, University of Kentucky, Syed Z Islam, Allen Reed, Stephen E Rankin, Doo Young Kim
- (2260-21 P) **Techniques for Polysaccharide Research at the Complex Carbohydrate Research Center** ROBERTO SONON, Complex Carbohydrate Research Center, Stephanie A Archer-Hartmann, Zhirui Wang, Ian Black, Radnaa Naran, Mayumi Ishihara, Christian Heiss, Dandan Zhou, Artur Muszynski, Scott Forsberg, Asif Shajahn, Justyna Dobruchowska, Parastoo Azadi
- (2260-22 P) **Application of Laser Induced Breakdown Spectroscopy (LIBS) in Analysis of Out Crop Samples from the Marcellus Shale** JINESH JAIN, AECOM, Alexander Bol'shakov, Herve Sanghavi, Christina Lopano, Dustin McIntyre, Richard Russo
- (2260-23 P) **Direct Detection of Hydrocarbons from Microalgae Using Low Temperature Plasma – Mass Spectrometry (LTP-MS)** ABIGAIL MORENO PEDRAZA, Cinvestav, Robert Winkler
- (2260-24 P) **Comprehensive Online Real-Time Analysis of Natural Gas Using VUV Absorption Spectroscopy** JAMES ANTHONY DIEKMANN III, VUV Analytics, Jonathan Smuts, Michael Roecker

- (2260-25 P) **IR-Spectroscopic Analyses of Chemical Adaptation Dynamics of Live Microalgal Biomass to Shifting Nutrient Conditions** FRANK VOGT, University of Tennessee
- (2260-26 P) **Inorganic Salt Doped with Nanoparticulate Additives for Thermal Energy Storage with Improved Radiative Heat Transfer** PHILIP D MYERS, University of South Florida Clean Energy Research Center, D Yogi Goswami
- (2260-27 P) **Transformer Oil Gas Analysis Using Gas Chromatography – Vacuum Ultraviolet Absorbance Spectroscopy** JONATHAN SMUTS, VUV Analytics, Lindsey Nichole Shear, James Anthony Diekmann III, Jeff Tenney, Andy Shkolnik
- (2260-28 P) **Ionic Liquids as Electrolytes for Electrochemical Double-Layer Capacitors: Structures that Optimize Specific Energy** MARAL PS MOUSAVI, University of Minnesota, Benjamin E Wilson, Sadra Kashefolgheta, Evan Anderson, Andreas Stein, Philippe Buhlmann
- (2260-29 P) **Using Time Resolved FT-IR-ATR Spectroscopy to Study Biodiesel Fuel Diffusion in Flexible Elastomer Materials** JAMES M SLOAN, U.S. Army Research Laboratory
- (2260-30 P) **Engine State Monitoring Technology based on Engine Exhaust Test** WEIKUI WANG, Beijing Research Institute of Telemetry, Xiantao Yang, Yi Zheng

POSTER SESSION

Session 2270

All posters are to be mounted by 10:00 AM and remain on display until 2:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

New Developments in GC

Thursday Morning, Exposition Floor, 400 Aisle

- (2270-1 P) **Introduction of a New, High-Quality, Cost Efficient Headspace GC Autosampler** MAX WANG, Shimadzu Scientific Instrument Inc., Clifford M Taylor, Marty Smith
- (2270-2 P) **Unique Selectivity: The Power of Ionic Liquid GC Columns** LEONARD M SIDISKY, Supelco/Sigma-Aldrich, Greg A Baney, James L Desorcie, Gustavo Serrano, Daniel Shollenberger, Michael D Buchanan
- (2270-3 P) **Use of Traditional/Apex Track Integration in Commercially Available Software for GC Data Generated for EPA Methods 8082 and 8015** TOM KWOKA, PerkinElmer, Bill Hahn, Sharanya Reddy
- (2270-4 P) **Evaluation of GC Conditions Using Inert Nano Stationary Phase GC Columns** ALLEN BRITTEN, Cape Breton University, Krishnat Naikwadi, Amy Clemens, Robyn Novorolsky, Allison Clarke
- (2270-5 P) **Evaluation of Gas Chromatographic Liner Deactivation when Exposed to Various Solvents and Extracts** LINX WACLASKI, Restek, Jack Cochran, Scott Adams, Rebecca Stevens, Dan Li
- (2270-6 P) **Development of an Innovative New Thermal Modulator for Comprehensive Multidimensional Gas Chromatography** MATTHEW S KLEE, DANI Instruments, Roberta Lariccia, Vincenzo Casilli
- (2270-7 P) **Modification of a GC for High Level Tritium Exposure** WILLIAM SPENCER, SRNL, Jose Cortes Concepcion, Jacob Schauler, Robert Lascola
- (2270-8 P) **Micro-Scale Vapor Extractor for Micro-GC Analysis of VOCs in Biofluids** JUNQI WANG, University of Michigan, Joseph A Potkay, Edward T Zellers

POSTER SESSION

Session 2280

All posters are to be mounted by 10:00 AM and remain on display until 2:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

UV/VIS

Thursday Morning, Exposition Floor, 400 Aisle

- (2280-1 P) **Qualitative Colorimetric and Quantitative Flow Injection Determination of Alkyl Nitrite** ABD AL-KARIM ALI, Miami University, Neil D Danielson
- (2280-2 P) **Multi-order Visible Absorption and Reflectance Spectrometry: Parallels to Atomic Emission Line Interferences** ALEXANDER SCHEELINE, SpectroClick, Mark D Ginsberg
- (2280-3 P) **Nano-Embedded Optochemical Sensors for In-Vivo Photo-acoustic Chemical Imaging of Potassium Ions** WULIANG ZHANG, University of Michigan, Chang Lee, Jeffery Folz, Xueding Wang, Raoul Kopelman
- (2280-4 P) **Colorimetric Determination of Sulfate Using Barium Ion and the Chromate/Dichromate Equilibrium: Preliminary Results and Comparison with the Classical Gravimetric Method** MARK T STAUFFER, University of Pittsburgh - Greensburg, Jarrod W Qualk, Jeremiah C Jamrom

- (2280-5 P) **Derivatives of 4,5-Diazafluorene for Chelation and Colorimetric Determination of Fe(II) and Cu(I): Better Fe(II) and Cu(I) Chelators Than 1,10-Phenanthroline?** MARK T STAUFFER, University of Pittsburgh - Greensburg, Luke J Metzler, Matthew R Luderer
- (2280-6 P) **Simultaneous Determination of Iron and Aluminum by Spectrophotometry and Partial Least Squares Regression: Comparison of Two Potential Ligands and Application to Mine Drainage and Related Water Samples** MARK T STAUFFER, University of Pittsburgh - Greensburg
- (2280-7 P) **A Highly Selective Naked Eye Anion Detector Based on Chromone Derivatives and their Electroanalytical Studies** NEHA GUPTA, IIT Roorkee, Ashok K Singh
- (2280-8 P) **TBAF and It's Spectral Interference** IAN ADAMS, The University of Alabama

POSTER SESSION

Session 2290

All posters are to be mounted by 10:00 AM and remain on display until 2:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Various Applications of GCMS

Thursday Morning, Exposition Floor, 400 Aisle

- (2290-1 P) **Evaluation of Methylisothiazolinone (MI) Extraction from Sunscreen Using Supported Liquid Extraction prior to GC/MS Analysis** RHYS JONES, Biotage GB Limited, Lee Williams, Victor Vandell
- (2290-2 P) **Extending the Range of GC-MS Applications with Cold EI** AVIV AMIRAV, Tel Aviv University, Alexander Fialkov, Uri Keshet, Tal Alon
- (2290-3 P) **New Sampling Device for Early Cancer Screening by Non-Invasive Detection of VOCs Biomarkers in Exhaled Breath** PAOLO BENEDETTI, IIA - CNR, Ettore Guerriero, Federico Marini, Mark Ragusa, Maria Cristina Zappa, Carlo Crescenzi
- (2290-4 P) **Quantitative and Qualitative Multi-Residue Analysis of Chemical Contaminants in Food and Feed by GC-HRTOFMS** JONATHAN D BYER, Leco Corporation, Joseph E Binkley, David E Alonso
- (2290-5 P) **Chemical Warfare Agents (CWAVX) by Large Volume Injection/Programmable Temperature Vaporization (LVI/PTV) - Gas Chromatography/Quadrupole Mass Spectrometry** TOM FOWLER, CSS-Dynamac, Kelly Head, Julia Capri
- (2290-6 P) **Quantification of Persistent Organic Pollutants in Dietary Supplements Using Stir-bar Sorptive Extraction- Thermal Desorption- GC/MS and Isotope Dilution Mass Spectrometry** WEIER HAO, Duquesne University, Andrew Boggess, Skip Kingston
- (2290-7 P) **Automated Sampling of Methanol Extractions** ANNE JUREK, EST Analytical, Lindsey Pyron, Kelly Cravenor, Justin Murphy
- (2290-8 P) **Complex Sample Characterization by GCxGC-TOF** ROBERTA LARICCIA, DANI Instruments, Vincenzo Casilli, Matthew S Klee
- (2290-9 P) **Pesticide Analysis in Drinking Water and Beverages Using Multiple Techniques** XIAOPING LI, Georgia Gwinnett College, Zoe Goldstein, Hongxia Guan, Michelle Huang, Rashad Simmons, Simon Mwangela
- (2290-10 P) **Identification of Contaminants in Powdered Foods by Direct Extraction Thermal Desorption GC/MS** RONALD SHOMO, Scientific Instrument Services, Christopher Baker, John Manura
- (2290-11 P) **Methods Development for Sampling and Analysis of Biogenic Volatile Organic Compounds Released from Plants** PRITHVIRAJ SRIPATHI, Middle Tennessee State University, Christopher Moore, Kathleen Kuklewicz, James G Milstead, Beng Guat Ooi, Ngee Sing Chong
- (2290-12 P) **Pyrolysis-GC/MS as a Screening Tool for Phthalate Esters and Brominated Flame Retardants in the RoHS Directive** NICOLE M LOCK, Shimadzu Scientific Instruments, Shilpi Chopra, Di Wang, Laura Chambers, Mark Janeczko
- (2290-13 P) **Withdrawn**
- (2290-14 P) **Improved Flavor Profile of Italian Wine and Scotch Whiskey Using an Aqueous-Stable Polyethylene Glycol Stationary Phase** RAMKUMAR DHANDAPANI, Phenomenex, Tim Anderson, Kristen Parnell
- (2290-15 P) **Separation Solutions for Triglycerides in Food Fat and Oil by High Temperature GC** RAMKUMAR DHANDAPANI, Phenomenex, Kristen Parnell, Tim Anderson
- (2290-16 P) **Volatile Organic Compounds in Energy Drinks as Determined by GC/MS with Purge and Trap Sample Concentration** CYNTHIA ELMORE, OI Analytical, J Garrett Slaton
- (2290-17 P) **What's in Your Morning Drink? Comprehensive Characterization of Coffee and Tea Extracts by GCxGC-TOF MS** LAURA MCGREGOR, Markes International Ltd, Nicola Watson, Massimo Santoro, Chris Hall, Ken Umbarger

- (2290-18 P) **Research of Polychlorinated Biphenyls (PCBs) in Vegetables by GC-MS/MS** XIZHI WANG, Shimadzu, Shiheng Luo, Feifei Tian, Jun Fan, Guixiang Yang, Taohong Huang, Shin-ichi Kawano, Yuki Hashi
- (2290-19 P) **Analysis of FAMES Using Cold EI GC/MS for Improved Molecular Ion Information** ADAM J PATKIN, PerkinElmer, Sharanya Reddy
- (2290-20 P) **Basmati or Not Basmati? That is the Question** KENNETH ROSNACK, Waters Corporation, Gareth Cleland, Adam Ladak, Jennifer Burgess, Steven Lai

POSTER SESSION

Session 2300

All posters are to be mounted by 10:00 AM and remain on display until 2:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor, 400 Aisle. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Vibrational Spectroscopy Advances

Thursday Morning, Exposition Floor, 400 Aisle

- (2300-1 P) **Development of a Non-Invasive Probing Method for Pharmaceutical Analysis Using Spatially Offset Raman Spectroscopy** HYUNG MIN KIM, Kookmin University
- (2300-2 P) **Spatial Heterodyne Raman Spectrometer with LED Sources** WILLIAM HUNTINGTON, University of South Carolina, S Michael Angel
- (2300-3 P) **Silver-Coated Self-Assembled Polystyrene Nanospheres for Surface-enhanced Raman Spectroscopy** LARA MIKAC, Rudjer Boskovic Institute, Mile Ivanda, Marijan Gotic, Vesna Janicki, Hrvoje Zorc, Tibor Janci, Sanja Vidacek
- (2300-4 P) **Second Harmonic Generation of Gold Nanorods Coupled with Atomic Force Microscopy** DARBY NELSON, University of Notre Dame, Zachary D Schultz
- (2300-5 P) **Chemical Detection and Tracking of c-RGD Peptide-Conjugated Gold Nanoparticles Interacting with α V β 3 Integrins in Living Cells** HAO WANG, University of Notre Dame, Lifu Xiao, Zachary D Schultz
- (2300-6 P) **Molecular Interactions between Nanoparticles and Model Cell Membranes Determined via Combined Vibrational Spectroscopic Studies** PEIPEI HU, The University of Michigan at Ann Arbor
- (2300-7 P) **A Stable, Disposable Nanostructured Substrate for Surface Enhanced Raman Scattering (SERS) Detection of Drugs with Environmental Applications** HONEY MADUPALLI, Central Michigan University, Brandon Russell, Mary M Tecklenburg
- (2300-8 P) **A New Diamond ATR Video Microscopy Accessory** DAVID W SCHIERING, Czitec
- (2300-9 P) **From Mars to Mission Critical Process Control** DAN WOOD, Keit Ltd
- (2300-10 P) **Measurement of Component Distribution in "Soft Chew" Formulations by ATR FTIR Imaging** RONALD RUBINOVITZ, Thermo Fisher Scientific, William Wihlborg

TECHNICAL PROGRAM

THURSDAY, MARCH 10, 2016 AFTERNOON

SYMPOSIUM Session 2310

ACS-ANLY - Ultrasensitive Bioanalysis on the Pico-to Femtoliter Scales

arranged by Yong Zeng, University of Kansas

Thursday Afternoon, Room B308

Yong Zeng, University of Kansas, Presiding

1:30		Introductory Remarks - Yong Zeng
1:35	(2310-1)	Bioanalysis in Ultrasmall Volumes DANIEL T CHIU, University of Washington
2:10	(2310-2)	Engineering Hydrogels for Sensitive miRNA Assays PATRICK DOYLE, Massachusetts Institute of Technology
2:45	(2310-3)	Microfluidic Devices with Integrated Nanochannel Arrays to Study Development and Aging of Individual Bacteria STEPHEN C JACOBSON, Indiana University, Joshua D Baker, David T Kysela, Yves V Brun
3:20		Recess
3:35	(2310-4)	Single Cell Genomic and Proteomic Analysis ANUP K SINGH, Sandia National Laboratories
4:10	(2310-5)	Ultrasensitive and Broad-Range Microfluidic Immunoassays YONG ZENG, University of Kansas

SYMPOSIUM Session 2320

Analytical Techniques in Neuroscience

arranged by Hang Lu, Georgia Tech and Andriana San Miguel, North Carolina State University

Thursday Afternoon, Room B309

Hang Lu, Georgia Tech, Presiding

1:30		Introductory Remarks - Hang Lu
1:35	(2320-1)	The Chemical Characterization of the Brain: From New MS-Based Measurement Tools to New Insights JONATHAN V SWEEDLER, University of Illinois
2:10	(2320-2)	Scalable Proteomic Imaging of Intact Biological Systems KWANGHUN CHUNG, MIT
2:45	(2320-3)	In Situ RNA Profiling by FISH SCALYS (Sequential Coding aNALYSis) LONG CAI, Caltech
3:20		Recess
3:35	(2320-4)	Expansion Sequencing (ExSEQ): Comprehensive In Situ Transcriptome Characterization Throughout Intact Brain Circuits SHAHAR ALON, Massachusetts Institute of Technology
4:10	(2320-5)	Genetic Approaches to Brain Circuit Mapping and Cell Type Characterization HONGKUI ZENG, Allen Institute for Brain Science

SYMPOSIUM Session 2330

Bioanalytical Chemistry Using the Next Generation of Nanomaterials

arranged by Isiah M Warner, Louisiana State University and Chieu D Tran, Marquette University

Thursday Afternoon, Room B310

Isiah M Warner, Louisiana State University, Presiding

1:30		Introductory Remarks - Isiah M Warner and Chieu D Tran
1:35	(2330-1)	GUMBOS at the Nanoscale: Size Control, Characterization, and Applications ISIAH M WARNER, Louisiana State University, Suzana Hamden
2:10	(2330-2)	Discovering "Genetic Codes" for Nanomaterials Morphologies and Employing the DNA-Encoded Nanomaterials for Sensing and Imaging YI LU, University of Illinois at Urbana-Champaign, Li Huey Tan, Peiwen Wu, Nitya Sai Reddy Satyavolu
2:45	(2330-3)	Free-Standing Gold and Silver Nanoparticles Films as Flexible Sensing Platforms JENNIFER S SHUMAKER-PARRY, University of Utah
3:20		Recess
3:35	(2330-4)	Ultrafast and Nonlinear Spectroscopy of Plasmonic Nanoparticles for Drug Delivery and Photothermal Applications LOUIS H HABER, Louisiana State University, Raju R Kumal, Tony E Karam, Holden T Smith, Corey R Landry, Mohammad Abu-Laban, Daniel J Hayes
4:10	(2330-5)	Biocompatible Nanoparticle Composite Materials: Green Synthesis and Applications CHIEU D TRAN, Marquette University

SYMPOSIUM Session 2340

Bioinformatics: Metabolite Identification and Quantification

arranged by Xiang Zhang, University of Louisville

Thursday Afternoon, Room B311

Xiang Zhang, University of Louisville, Presiding

1:30		Introductory Remarks - Xiang Zhang
1:35	(2340-1)	New Methods for Improved NMR Quantitation and Reliable MS Coverage in Metabolomics DANIEL RAFTERY, University of Washington
2:10	(2340-2)	Point Matching Global Peak Alignment Algorithms for Comprehensive Two-Dimensional Gas Chromatography Coupled with Mass Spectrometry (GCxGC-MS) KIM SEONGHO, Wayne State University/Karmanos Cancer Institute
2:45	(2340-3)	Computational and Database Assisted Structure Identification Tools for Untargeted Metabolomics DAVID GRANT, University of Connecticut
3:20		Recess
3:35	(2340-4)	Mass Informatics of Quantitative Metabolomics by Integrating LCxLC-MS and GCxGC-MS Data XIANG ZHANG, University of Louisville, Xiaoli Wei, Imhoi Koo, Pawel Lorkiewicz
4:10	(2340-5)	Translating Big Data from HR Imaging MS Data into Molecular Knowledge THEODORE ALEXANDROV, EMBL

SYMPOSIUM Session 2350

Micro and Nano-Scale Optofluidic Lasers for Biological Applications

arranged by Xudong Fan, University of Michigan and Seok-Hyun Yun, Harvard Medical School

Thursday Afternoon, Room B312

Xudong Fan, University of Michigan, Presiding

1:30		Introductory Remarks - Xudong Fan and Seok-Hyun Yun
1:35	(2350-1)	Optofluidic Laser as a New Bioanalytical Tool XUDONG FAN, University of Michigan
2:10	(2350-2)	Latest Progress in Spasers MARK I STOCKMAN, Georgia State University
2:45	(2350-3)	Recent Advances in Biolasers: Stimulated Emission from Solid-State Fluorescent Protein and Lasing Inside Live Cells MALTE C GATHER, University of St Andrews
3:20		Recess
3:35	(2350-4)	Speckle-Free Lasers HUI CAO, Yale University
4:10	(2350-5)	Bio-Lasers S H ANDY YUN, Harvard University

SYMPOSIUM Session 2360

Nanofiber Materials Overcome Enduring (Bio) Analytical Challenges

arranged by Margaret W Frey, Cornell University and Antje J Baeumner, University of Regensburg

Thursday Afternoon, Room B313

Margaret W Frey, Cornell University, Presiding

1:30		Introductory Remarks - Margaret W Frey and Antje J Baeumner
1:35	(2360-1)	Nanofiber Chemistry and Synthesis and the Impact on Analytical Systems MARGARET W FREY, Cornell University, Larissa M Shepherd, Edurne Gonzalez, Nidia Trejo
2:10	(2360-2)	Electrospun Fibers for Electrochemical Analysis GREGORY RUTLEDGE, Massachusetts Institute of Technology, Xianwen Mao, Yuxi Zhang, T Alan Hatton, Harry Tuller
2:45	(2360-3)	Carbon Nanotube–Nanocrystalline Diamond Hybrid Electrodes: A Route for Development of a Highly Sensitive Neurochemical Microsensor PRABHU ARUMUGAM, Louisiana Tech University
3:20		Recess
3:35	(2360-4)	Piezoelectric Nanofiber Platform for Cell Monitoring CAROLINE L SCHAUER, Drexel University
4:10	(2360-5)	New Concepts for Lab-on-a-Chip Systems Using Electrospun Nanofibers ANTJE J BAEUMNER, University of Regensburg

SYMPOSIUM Session 2370

SEAC - Nanoengineered Biosensors

arranged by Adrian C Michael, University of Pittsburgh

Thursday Afternoon, Room B314

Reginald M Penner, University of California Irvine, Presiding

1:30		Introductory Remarks - Reginald M Penner
1:35	(2370-1)	Biosensors for Early Cancer Detection Based Upon an Electrical Interface to Virus Particles REGINALD M PENNER, University of California Irvine
2:10	(2370-2)	Organic Electronics Biosensors for Label-Free Femtomolar Protein Detection LUISA TORSI, Università degli Studi di Bari "A. Moro", Maria Magliulo, Gerdo Palazzo
2:45	(2370-3)	Single Nanoparticle SPR Imaging and Plasmonic Nanocone Arrays: Smart Materials and Smart Chemistries for Advanced Optical Biosensors and Biomimetic Devices ROBERT M CORN, University of California Irvine, Adam M Maley, H W Millie Fung
3:20		Recess
3:35	(2370-4)	Ultrasensitive Biomolecular Detection Using Nanostructured Microelectrodes SHANA KELLEY, University of Toronto
4:10	(2370-5)	DNA Nanostructures and Networks WEIHONG TAN, University of Florida

ORGANIZED CONTRIBUTED SESSIONS Session 2380

Biosensing Devices for Neuron Mapping

arranged by Chenzhong Li, Florida International University

Thursday Afternoon, Room B315

Chenzhong Li, Florida International University, Presiding

1:30	(2380-1)	Integration of CNS and PNS Components with Silicon Devices via Surface Microengineering for Neuronal Mapping Applications JAMES J HICKMAN, University of Central Florida
1:50	(2380-2)	Biomimetic Strategies for Seamless Integration of Neural Interface Technology TRACY CUI, University of Pittsburgh
2:10	(2380-3)	Automated Micro- and Nanoscale Systems for Single Neuronal Activity JIT MUTHUSWAMY, Arizona State University, Swathy Sampath Kumar, Sindhu Anand
2:30	(2380-4)	Electronic Biosensing Devices for Recording Neuron Transmitter Expression at Single Cell and 3D Tissue Level CHENZHONG LI, Florida International University
2:50		Recess
3:05	(2380-5)	Visualization of Nanoscale Neuron Surface Topography and Detection of Neurotransmitter Release Using Nano Electrochemical Microscopy YASUFUMI TAKAHASHI, Tohoku University, Hitoshi Shiku, Tomokazu Matsue

3:25	(2380-6)	Trans-Synaptic In Vitro Mapping Using Microfluidic Approaches for Neuroscience Discovery ANNE MARION TAYLOR, University of North Carolina at Chapel Hill and North Carolina State
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3:45	(2380-7)	CMOS Technology Enabled Brain Machine Interface (BMI) For Chronic Neuronal Mapping MUHAMMAD MUSTAFA HUSSAIN, King Abdullah University of Science and Technology (KAUST), Aftab M Hussain, Amir N Hanna
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4:05	(2380-8)	Wireless Stimulation and Recording for In-Vivo Electrophysiology JAMES MORIZIO, Triangle BioSystems Inc.
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ORAL SESSIONS Session 2390

Bioanalytical: Electrochemical Techniques

Thursday Afternoon, Room B305

Leslie Wilson, North Carolina State University, Presiding

1:30	(2390-1)	Compatibility of Nitric Oxide Release Coatings with Implantable Enzymatic Glucose Sensors Based on Osmium(III/II) Mediated Electrochemistry KYOUNG HA CHA, University of Michigan
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1:50	(2390-2)	Application of Nanopipette Electrodes for Real-Time Measurement of Thyroid Hormones to Evaluate Thyrotoxic Storm CELESTE A MORRIS, Northern Kentucky University, Barbara Cata, Theresa M Ruwe, Edward A Dobrzykowski, Teri Rae Armstrong
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2:10	(2390-3)	Neurochemical and Behavioral Analysis of Post-Chemotherapy Cognitive Impairment MICHAEL A JOHNSON, University of Kansas, Sam V Kaplan, David P Jarmolowicz, Rachel C Gehringer, Michael J Sofis, Ryan Limbocker, Mimi Shin, Meng Sun
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2:30	(2390-4)	In-Vitro Amperometric Sensing of Dynamic Changes of Endogenous NO and CO Gases for Co-cultured Endothelial and Neuronal Cells HA YEJIN, Ewha Womans University, Heo Chaejeong, Woo Juhyun, Suh Minah, Lee Youngmi
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2:50		Recess
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3:05	(2390-5)	Real-Time Measurements of Oxidative Stress During Chronic L-DOPA Treatment For Parkinson's Disease LESLIE WILSON, North Carolina State University, Christie Lee, Catherine F Mason, Leslie A Sombers
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3:25	(2390-6)	Dual Function Ion Selective Microelectrodes for Scanning Electrochemical Microscopy GANESH UMMADI, Oregon State University, Corey Downs, Dipankar Koley
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3:45	(2390-7)	Label-Free Electrochemical microRNA Detection based on Different Modifier: Conducting Polymer and Graphene on the Surface of Pencil Graphite Electrode MEHMET OZSOZ, Gediz University, Merve Kaplan
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4:05	(2390-8)	Quantitative Measurement of Transmitters in Individual Vesicles with Microelectrodes XIANCHAN LI, University of Gothenburg, Soodabeh Majidi, Andrew Ewing
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ORAL SESSIONS Session 2400

Bioanalytical: Sampling and Sample Preparation - Half Session

Thursday Afternoon, Room B304

Jinesh Jain, NETL, Presiding

1:30	(2400-1)	Aptamer Functionalized Solid Phase Microextraction for Selective Enrichment of Thrombin MD NAZMUL ALAM, University of Waterloo, Fuyou Du, Janusz Pawliszyn
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1:50	(2400-2)	New Generation of Solid SPME Coatings for Complementary Gas- and Liquid- Phase Separation: A Step Toward Integration of Metabolomics Platforms EMANUELA GIONFRIDDO, University of Waterloo, Ezel Boyaci, Janusz Pawliszyn
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2:10	(2400-3)	Solid Phase Microextraction as Sample Preparation Tool in Brain Tumors Analysis NATHALY REYES-GARCES, University of Waterloo, Barbara Bojko, Janusz Pawliszyn
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2:30	(2400-4)	MEMS Based Pre-Concentrator GC-Ion Mobility Spectrometry for Trace Gas Analysis WOLFGANG VAUTZ, ISAS, Sascha Liedtke, Stefano Zampolli, Chandrasekhara Hariharan
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TECHNICAL PROGRAM

ORAL SESSIONS

Session 2410

Bioanalytical: Techniques Using Sensors

Thursday Afternoon, Room B302

Ke Li, Missouri University of Science and Technology, Presiding

1:30	(2410-1)	Core-Shell Nanoparticle Scintillator Probes for Low-Energy Radionuclide Quantification in Aqueous Media COLLEEN JANCZAK, University of Arizona, Isen Andrew C Calderon, Zeinab Mokhtari, Craig A Aspinwall
1:50	(2410-2)	Use of Silicon Photonic Microring Resonators for the High-Throughput Analysis of Multi-Protein Complex Formation in the Blood Coagulation Cascade ELLEN MUEHL, University of Illinois at Urbana-Champaign, Josh M Gajsiewicz, Ivan Lenov, Jim H Morrissey, Ryan C Bailey
2:10	(2410-3)	Label-Free RNA Probes for Live Cell Dual-Color Imaging of EGFR XIAOHONG TAN, Carnegie Mellon University
2:30	(2410-4)	Integration of Whispering Gallery Mode Detectors into Fluidic Platforms for Clinical Diagnostics DANIEL KIM, University of Kansas, Robert C Dunn
2:50		Recess
3:05	(2410-5)	Ultra-High Spatial Resolution Detection of Localized pH within a Single Live Cell QINGBO YANG, Missouri University of Science and Technology, Hai Xiao, Honglan Shi, Xiaobei Zhang, Yinfa Ma
3:25	(2410-6)	Real Time Analysis of Hepatitis B Virus Assembly with Multi-Pore Nanofluidic Devices for Enhanced Resolution of Particle Size and Electrophoretic Mobility PANAGIOTIS KONDYLIIS, Indiana University, Jinsheng Zhou, Zachary D Harms, Lisa Selzer, Adam Zlotnick, Stephen C Jacobson
3:45	(2410-7)	Graphene-Based Chemiresistive Nanobiosensors for Detection of Citrus Greening Disease THIEN-TOAN H TRAN, University of California, Riverside, Clark Kelley, Jinxia Shi, Wenbo Ma, Ashok Mulchandani
4:05	(2410-8)	A Quantum Dot Based Fiber-Optic Micro-Sensor for Niche-Environment Temperature Monitoring KE LI, Missouri University of Science and Technology, Qingbo Yang, Honglan Shi, Yinfa Ma, Hai Xiao, Qi Zhang

ORAL SESSIONS

Session 2420

Computers in Chemistry - Half Session

Thursday Afternoon, Room B301

Dean Tzeng, The Pittsburgh Conference, Presiding

1:30	(2420-1)	An Inexpensive, Programmable System for Prototyping Instruments, Making Short Run Specialty Measurement Systems, and Computerizing Outdated Hardware SCOT D ABBOTT, Phoenix Frist Response
1:50	(2420-2)	Is SAP the Only System You Need to Operate Your QC Lab? GEOFF R TURNBULL, CSols, Inc.
2:10	(2420-3)	Maximizing the Information from the Infrared Spectra of Mixtures Using Advanced Software Algorithms IAN ROBERTSON, PerkinElmer Limited, Jerry Sellors, Justin Lang
2:30	(2420-4)	Driving Governance and Organizational Change in Large and Complex Informatics Projects ADAM S BORENSTEIN, LabAnswer, Brian Brunner, Terryl Kibodeaux

ORAL SESSIONS

Session 2430

Glycan Analysis - Half Session

Thursday Afternoon, Room B303

Christa M Snyder, Indiana University, Presiding

1:30	(2430-1)	Identification of Serum N-Glycans as Cancer-Specific Biomarkers by Microchip Electrophoresis and Mass Spectrometry CHRISTA SNYDER, Indiana University, Xiaomei Zhou, Margit I Campos, Milos V Novotny, Stephen C Jacobson
1:50	(2430-2)	Improved Separation of Saccharide Standards by EFL-HILIC RAFFAEL BENNETT, The Ohio State University, Susan Olesik

2:10	(2430-3)	Receptor for Advanced Glycation End Products Diffusion and Ligand-Binding Events Studied by Fluorescence Recovery after Photobleaching and Surface Plasmon Resonance QIAOCHU ZHU, Iowa State University, Aleem Syed, Chamari S Wijesooriya, Emily A Smith
2:30	(2430-4)	Comprehensive Quantitative and Structural Analysis of Permethylated N-glycan Using PGC-LC-MS/MS SHIYUE ZHOU, Texas Tech University, Yehia Mechref

ORAL SESSIONS

Session 2440

LC and Sample Matrix Solutions - Half Session

Thursday Afternoon, Room B304

Jinesh Jain, NETL, Presiding

3:05	(2440-1)	Analysis of Biofluids Using Solid Phase Microextraction Devices Made on Plastic Support NATHALY REYES-GARCES, University of Waterloo, Barbara Bojko, Janusz Pawliszyn
3:25	(2440-2)	Studies of Matrix Effects on the Determination of Hydrogen Peroxide by Using High Performance Anion Exchange Chromatography with Pulsed Amperometric Detection JUN CHENG, Thermo Fisher Scientific, Yan Liu, Kannan Srinivasan, Christopher Pohl
3:45	(2440-3)	HPLC Purity Method Development Using Low pH Mobile Phase and Ion-Pairing Reagent: Application to GMP Tert-Leucine Analysis JOHN VINCI, AbbVie, Inc., Clifford Mitchell
4:05	(2440-4)	Combining Orthogonal Separation Modes for Analysis of Multiple Sample Components THOMAS E WHEAT, Waters Corporation, Amanda B Dlugasch, Patricia R McConville

ORAL SESSIONS

Session 2450

Microfluidics/Lab-on-a-Chip - Bioanalytical II

Thursday Afternoon, Room B316

Michael Woodman, Agilent Technologies, Presiding

1:30	(2450-1)	Separation of Preterm Birth Biomarkers Using Capillary and Microchip Electrophoresis ANNA V NIELSEN, Brigham Young University, Radim Knob, Adam T Woolley
1:50	(2450-2)	Analysis of Nitrosative Stress in Macrophage Cells Using Microchip Electrophoresis with Electrochemical Detection JOSEPH M SIEGEL, University of Kansas, Manjula B Wijeshinghe, Kelci M Schilly, Susan M Lunte
2:10	(2450-3)	Ultrasensitive Electrochemical Microfluidic Immunoarray for Assessment of Aggressive vs Indolent forms of Prostate Cancer Biomarkers BRUNAH A OTIENO, University of Connecticut, Colleen E Krause, Abby Jones, Amit Joshi, Mohammed Sherafeldin, James F Rusling
2:30	(2450-4)	Microfluidic and 3-D Printed Devices for Near-Real-Time and Simultaneous Detection of Neurotransmitters ALEXANDRA D TOWNSEND, Saint Louis University, R Scott Martin
2:50		Recess
3:05	(2450-5)	Electrokinetically Operated Integrated Microfluidic Platform for Preterm Birth Biomarker Analysis MUKUL SONKER, Brigham Young University, Radim Knob, Vishal Sahore, Adam T Woolley
3:25	(2450-6)	Discrete Stimulation of Lymph Node Slices on Chip ASHLEY E ROSS, University of Virginia, Jacob F Woodroof, Rebecca R Pompano
3:45	(2450-7)	Ultrasensitive ELISA for Detection of Infectious Diseases on Surface Modified PMMA Microfluidic Microplates SANJAY SHARMA TIMILSINA, University of Texas at El Paso, Maowei Dou, Xiujun James Li
4:05	(2450-8)	Optical Formulation of 3D Printer Resin for Minimum Microfluidic Flow Channel Size GREG NORDIN, Brigham Young University, Hua Gong, Michael Beauchamp, Steven Perry, Adam T Woolley

EXHIBITOR SEMINAR LISTING

PITTCON 2016 EXPOSITION HOURS

MONDAY, MARCH 7, 2016	9:00 am - 5:00 pm
TUESDAY, MARCH 8, 2016	9:00 am - 5:00 pm
WEDNESDAY, MARCH 9, 2016	9:00 am - 5:00 pm
THURSDAY, MARCH 10, 2016	9:00 am - 3:00 pm

EXHIBITOR SEMINAR LISTING

This listing has been compiled from information provided by the exhibitors well in advance of the Conference. Last minute changes are possible. Some of the presentations and consultations require a prior invitation or appointment.

Please contact the exhibiting company at their regular booth for the date, time and topic of any exhibitor seminar you wish to attend.

EXHIBITOR NAME	ROOM #	DESCRIPTION
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Thermo Scientific	SR17B and Booth 2239	MONDAY, MARCH 7, 2016
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STOP BY BOOTH 2239 TO SIGN IN FOR ALL SEMINARS

9:30 a.m.

New GC-MS/MS Pesticide Analyzer for Start-to-Finish Measurement of 1001 Pesticide Residues

This comprehensive presentation is ideal for analysts who are seeking new, enhanced capabilities for pesticide residue analysis using GC-MS/MS. Gain productivity enhancements with expert tips on how to reduce start-up times and cost per analysis while optimizing entire workflows for routine quantitation as well as targeted and non-targeted screening of pesticides in food.

10:30 a.m.

Upgrade your MAPS

Challenged by protracted protein digestion protocols, difficult peptide separations and tedious data interpretation in your MAPS analysis? Learn how rapid, reproducible protein digestion and flexible UHPLC with high retention time precision eliminate bottlenecks. Completing the workflow with high-resolution accurate-mass (HRAM) mass spectrometry and useful, functional software delivers high throughput, high confidence, in-depth analysis of biotherapeutics for the routine environment.

11:30 a.m.

Complete Materials Characterization

New Raman innovations enable more complete materials understanding including sample morphology and dynamic behavior, rapidly and without the need for technical expertise. The new Thermo Scientific™ DXR2™ family of Raman instruments provides morphological as well as chemical information. A new interface enables hyphenation of Raman with other analytical techniques and manufacturing equipment, providing correlation between physical and chemical traits, better prediction of performance, and optimization of quality.

12:30 p.m.

Peak Performance in Biopharmaceuticals

Discover how reproducible UHPLC separations using a new quaternary pump and sample pre-compression delivers strong retention time precision and sensitivity to accurately quantitate complex biomolecules, all within a platform that provides maximum uptime, robustness and reliability.

1:30 p.m.

Overcoming Challenges of Manually Tracking the Performance of Your IC Consumables

Continual monitoring of consumable performance is an arduous task that many analysts neglect, despite the valuable feedback it can offer. Learn how to take the guesswork out of consumables tracking, maximize up-time, and discover a new way to simplify monitoring consumables performance on your IC system.

EXHIBITOR SEMINAR LISTING

EXHIBITOR NAME ROOM # DESCRIPTION

Thermo Scientific SR17B and Booth 2239 **TUESDAY, MARCH 8, 2016**

STOP BY BOOTH 2239 TO SIGN IN FOR ALL SEMINARS

9:30 a.m.

Fast, Cost-Effective IC Methods for Compliance Testing of Environmental Waters

Ion chromatography (IC) is now a well-established and accepted technique for compliance monitoring of inorganic anions in surface, ground and drinking waters around the world. Learn about the advantages of faster and more cost-effective methods using high-pressure capable IC systems to separate and quantify common ionic pollutants.

10:30 p.m.

Global Regulatory Compliance for Environmental Contaminant Monitoring: Challenges and Solutions

The presence of new environmental contaminants, lower detection limits and advances in analytical technology require that current analytical methodologies be updated. Both regulatory and method updates can create daunting challenges to environmental scientists attempting to meet stringent criteria. Learn about compliance with the U.S. EPA's recently released Unregulated Contaminant Monitoring Rule 4 (UCMR 4) and the European Water Framework Directive. To demonstrate some of the challenges we will highlight the analysis of haloacetic acids, metals, pesticides, microcystins and new methods for hormones.

11:30 p.m.

Infrared Spectroscopy: From Foundations to Futures

FTIR is a ubiquitous analytical technique, finding broad applicability from material science research to quality assurance. Beyond basic sample identification, FTIR can provide much more information by extending the spectral range from far to near IR and hyphenating with other techniques. Further, it can be deployed both in the lab and on the production line. This talk will cover the foundations of FTIR and show how the technique can be extended to tackle complex analytical challenges.

12:30 p.m.

Challenges in Untargeted Metabolomics

Unknown compound analysis and identification represents a major challenge in small molecule mass spectrometry analysis, which applies to many areas including untargeted metabolomics. Join us to review enhancements offered by a complete untargeted metabolomics workflow using RP-UHPLC/benchtop quadrupole Orbitrap™ MS and a new software suite for processing data, visualizing results and automating compound identification for metabolite profiling.

1:30 p.m.

Deliver Quality ICP-MS Results with Advanced Simplicity and Unmatched Productivity

Reliable assessments of environmental pollution, pharmaceutical compliance and food quality require accurate elemental analysis at ultra-trace levels in a variety of matrices. Experience the ease with which these application demands are met when using the universal interference removal, advanced automation, simple method development and complete data management features of the Thermo Scientific™ iCAP™ RQ ICP-MS.

WEDNESDAY, MARCH 9, 2016

9:30 a.m.

Derivatization-Free Analysis of Simple Sugars Using HPAE-PAD

High-performance anion-exchange chromatography with pulsed amperometric detection (HPAE-PAD) is a well-established technique for determining a wide variety of carbohydrates without the need to perform sample derivatization. Learn about fast separations of mono- and disaccharides in various food and biofuel samples using Thermo Scientific™ Dionex™ CarboPac™ columns.

10:30 a.m.

Workflow Innovations in Food Analysis: 'Food for Thought'

Food and beverage testing for safety, quality, and authenticity is constantly evolving, with ever increasing interest in innovative, start-to-finish workflows based on screening and profiling approaches. The high resolving power, excellent mass accuracy and wide linear dynamic range of Orbitrap™ technology accurately analyzes chemical components at high and low concentrations. This is necessary to identify counterfeit products and for quality control. Learn how high-resolution, accurate mass (HRAM) GC-MS and LC-MS applications enable analyses not previously possible.

EXHIBITOR SEMINAR LISTING

EXHIBITOR NAME ROOM # DESCRIPTION

Thermo Scientific SR17B and Booth 2239 **WEDNESDAY, MARCH 9, 2016** *(continued)*

STOP BY BOOTH 2239 TO SIGN IN FOR ALL SEMINARS

11:30 a.m.

Elemental Analysis of Advanced Materials

Advanced materials present ever increasing challenges to the analytical scientist. Composites, nanostructures, ultra-thin films, and complex chemistries are required in a broad range of applications, and from development to production, scientists must understand how the various components interact or change over use. We will illustrate how using an array of analytical techniques (such as Raman, surface analysis and microanalysis) ensures that a full analysis can be completed.

12:30 p.m.

Innovation through Laboratory Informatics

Many of the ever-increasing demands in the laboratory environment can be addressed via integrated Informatics solutions. See how you can leverage Informatics throughout your laboratory workflows to do things faster, improve efficiency, collaborate, reduce costs and integrate to the enterprise.

1:30 p.m.

Streamline your Laboratory with Chromatography Data System Software

From the desktop to the enterprise, there is one Chromatography Data System (CDS) for all chromatography laboratories. Routine, development or research, regulated or not, CDS is vital to efficiently and reliably manage instrument control, raw data storage and processing, and generating final results. Learn more about a CDS that delivers a superior user experience for the entire laboratory analysis system and fits with existing chromatography workflows, giving better results, faster.

THURSDAY, MARCH 10, 2016

9:30 a.m.

Stretch Your ICP-OES: Enhance Speed, Cost Per Sample and Uptime

ICP-OES instruments are viewed as the routine solution for the measurement of dirty samples, particularly in the fields of environmental and oil analysis. Find out how improvements in ICP-OES hardware and software have transformed the modern instrument into a reliable workhorse that ensures simple and accurate data collection with the lowest cost of analysis.

10:30 a.m.

Simple Solutions for Complex Biological Samples

Most forensic toxicology and clinical research laboratories work with complex biological samples, which requires a multi-variable approach to method optimization. Discover how multi-channel LC systems and integrated Thermo Scientific™ TurboFlow™ technology can reproducibly separate analytes from complex, dirty matrices such as plasma and serum. Learn how to efficiently remove interferences that can cause ion suppression in mass spectrometry while automatically coordinating injections for up to four times the efficiency of your single mass spectrometer.

11:30 a.m.

Transform Your GC Analyses with High-Resolution Accurate-Mass (HRAM) Data

Smart innovations and a new-generation system can enrich your analytical workflows and provide your laboratory with improved productivity. Discover how the Thermo Scientific™ Q Exactive™ GC Orbitrap™ GC-MS/MS can unlock answers to questions about the very nature of each sample you inject that other GC-MS technologies cannot accomplish. This first-ever high-resolution accurate-mass (HRAM) Orbitrap™ mass spectrometer for GC is a game changer for laboratories seeking the highest confidence in compound discovery, identification and quantitation.

12:30 p.m.

Separate Yourself from the Status Quo

Are you ready for your next scientific breakthrough? The combination of the innovative Thermo Scientific™ Vanquish™ UHPLC system, novel detectors, method transfer tools and a dedicated column portfolio will help you solve your toughest scientific challenges through better separations, more results and easier interaction.

1:30 p.m.

Easy Enhancements Via Column Chemistry and Simplified Sample Prep

Discover how innovations in column chemistry offer improvements for biosimilar, mAb, oligonucleotide, and antibiotic characterization. Learn how to improve sample prep for biosimilars and maintain sample integrity throughout the testing process.

EXHIBITOR SEMINAR LISTING

EXHIBITOR NAME	ROOM #	DESCRIPTION
Waters Corporation	SR13 and Booth 3538	Waters will be hosting educational seminars from Monday through Thursday which are designed for chemists and lab managers who are eager to learn about the latest technologies and data management tools. These seminars will provide application-specific techniques and industry-related information to help you be successful.

SEATING IS LIMITED AND AVAILABLE TO INTERESTED ATTENDEES BY ARRIVING 10 MINUTES PRIOR TO THE START OF A SEMINAR.

MONDAY, MARCH 7, 2016

10:15 a.m. – 11:00 a.m.

ICH Impurity Processing with Empower 3 Software

Learn how to use the impurity calculation features introduced in Empower 3 FR2 and how to calculate and evaluate impurity levels in your samples according to ICH guidelines. We will cover the required entries in the processing method and review the results once the data has been processed.

11:15 a.m. – 12:00 p.m.

Rapid Method Development for High Resolution Aqueous SEC Measurements

Traditionally, size exclusion or gel permeation chromatography (SEC/GPC) is used for the characterization of polymeric material, specifically their molecular weight distribution. In this presentation the benefits of a comprehensive systematic approach for polymer molecular weight characterization will be presented. Waters® ACQUITY® Advanced Polymer Chromatography® (APC™) System, with its innovative and robust ACQUITY APC™ column technology, allows for improved resolution of polymer distributions with significantly shorter chromatographic total analysis cycle times. Additionally, we will describe some of the tools that are available to develop stable and impactful test methods for aqueous polymers that result in richer data sets based on more stable operating conditions, and replicate analyses that are easily obtained within minutes and not hours.

12:15 p.m. – 1:00 p.m.

Adopting Best Practices for Enterprise Deployments with Waters Professional Services

Hear how Waters Professional Services team has helped scientific centered businesses deploy laboratory solutions. Best practices and positive customer experiences will be shared to help you envision an optimized future state with a partner focused on your laboratory's success. Topics include project planning, project execution, communication strategies and escalation procedures.

1:15 p.m. – 2:00 p.m.

Simplified Solid Phase Extraction for Bioanalysis

While scientists recognize that solid phase extraction (SPE) provides many benefits, such as matrix removal and sample concentration, it has also been regarded as tedious and time consuming. In this seminar, we will discuss new technologies that easily implement solid phase extraction into routine laboratory use, without requiring SPE expertise.

2:15 p.m. – 3:00 p.m.

Making Sense of Glycosylation: Answering What and Where Questions with Novel HILIC Techniques

Despite the fact that more than two thirds of recombinant biopharmaceutical products are glycoproteins, few advances in glycan analytics have been developed that have made meaningful improvements to how therapeutic protein glycosylation is studied. This seminar will describe innovative sample preparation and LC-based separation techniques for the qualitative and quantitative characterization of protein glycosylation at varying levels of analysis, including intact protein, protein subunits, glycopeptides, and released glycans.

3:15 p.m. – 4:00 p.m.

Analyzing PDA and MS Data in Empower 3 Software

Learn how to work with PDA and MS data in Review. Explore Mass Analysis window which allows the user an easy way to view and analyze UV spectra and MS spectra from a chromatographic result.

4:15 p.m. – 5:00 p.m.

Maximizing Separation Efficiency: Improving UHPLC Column Performance

Separation conditions, instrumentation, and column configuration can have a significant impact on the quality of the separation. This presentation provides practical information that can be used to understand the effect of instrument dispersion and its influence on chromatographic resolution, efficiency and sensitivity. The attendees will gain sufficient background information and chromatographic theory so that they can choose the most appropriate UHPLC column for their specific application.

EXHIBITOR SEMINAR LISTING

EXHIBITOR NAME ROOM # DESCRIPTION

Waters Corporation **SR13 and Booth 3538** **TUESDAY, MARCH 8, 2016**

SEATING IS LIMITED AND AVAILABLE TO INTERESTED ATTENDEES BY ARRIVING 10 MINUTES PRIOR TO THE START OF A SEMINAR.

9:15 a.m. – 10:00 a.m.

Managing Data Integrity, Mitigating Your Compliance Risk

Assuring data integrity requires appropriate quality and risk management systems and tools. Waters' Informatics solutions are designed to collect and analyze chromatography data. We will present analytics integrated into Empower and EDS365 to protect your data. These capabilities enable your organization to meet regulatory expectations for data integrity with documented evidence of compliance.

10:15 a.m. – 11:00 a.m.

Ultimate Efficiency Unleashed: An UltraPerformance LC Column Technology for Maximizing Resolution and Throughput

Separation scientists continue to search for new ways to improve efficiency in the quest for higher resolution and increased sensitivity. In this presentation we separate fact from fiction and accurately describe the science behind higher efficiencies and the impact of combining optimized particle substrate design with state-of-the-art column packing technology.

11:15 a.m. – 12:00 p.m.

Advances in Scaling up Achiral SFC Separations using UltraPerformance Convergence Chromatography (ACQUITY UPC²) for SFC Purification

Scaling analytical SFC separations to SFC purification methods can prove to be challenging and time-consuming. In this seminar, we will discuss managing compressible CO₂ mobile phases and the technical tips and advances that can be used to implement SFC scale up for routine laboratory purifications.

12:15 p.m. – 1:00 p.m.

Stability Studies Managed with NuGenesis and Empower

Does your lab process Stability samples on a regular basis? Are you responsible for creating stability studies capturing the chromatography results and results from other techniques, generating the statistical reports that your company relies upon for the safety of its products? Do you use excel spreadsheets or Outlook to schedule your sample pulls? Is it a challenge to get your study reviewed and approved? This workshop will provide an overview about the new integrated NuGenesis stability module beginning with the definition of stability study matrices, study review and sign off, managing inventory, performing pulls and testing to the final statistical evaluation of results to determine retest periods or shelf life of a product.

1:15 p.m. – 2:00 p.m.

Solid Phase Extraction: Sorbent Selection and Method Development

Solid phase extraction (SPE) improves method reproducibility by removing matrix interferences and increasing analyte concentration. We will outline different approaches to sample cleanup using a variety of SPE tools. These approaches encompass a wide range of analytical needs, from routine analysis to highly selective analyte selection and concentration.

2:15 p.m. – 3:00 p.m.

Simplifying Methods Transfer: Novel Tools for Replicating your Established Methods on an ACQUITY Arc System

Learn how the ACQUITY Arc System enables the transfer of legacy HPLC methods with its novel Arc Multi-flow Path Technology.

3:15 p.m. – 4:00 p.m.

Maximize Uptime with Waters Services and Support Best Practices

Renowned service and technical support means more than fixing instruments. In today's integrated laboratory, it requires an understanding of 'system' issues and the impact on laboratory work processes. Waters Services include on-line support for speedy response and convenience, flexible training options, certified engineers, compliance and validation options, Waters Quality Parts®.

4:15 p.m. – 5:00 p.m.

Benchmarking and Troubleshooting LC System Performance

Regardless of industry, chromatographic system performance and data reliability are of the utmost importance. This seminar will showcase the benefits of using reference standards on a regular basis which include reducing system downtime, preventing erroneous data collection, and improving laboratory productivity.

EXHIBITOR SEMINAR LISTING

EXHIBITOR NAME ROOM # DESCRIPTION

Waters Corporation SR13 and **WEDNESDAY, MARCH 9, 2016**
Booth 3538

SEATING IS LIMITED AND AVAILABLE TO INTERESTED ATTENDEES BY ARRIVING 10 MINUTES PRIOR TO THE START OF A SEMINAR.

9:15 a.m. – 10:00 a.m.

Food Matrix Removal: A Simple and Fast Approach to Sample Cleanup

Food matrices present a challenging obstacle for scientists attempting to identify and/or quantify analytes of interest. Fats and phospholipids can cause matrix effects and increase chromatographic complexity. In this seminar, we discuss simple and fast approaches to remove these matrix interference's utilizing different techniques with a single sorbent.

10:15 a.m. – 11:00 a.m.

Homogeneous or Not-homogeneous? Applications in Determining Specificity and Peak Purity

In this seminar, the current regulatory perspectives and scientific guidances are reviewed regarding the concepts of peak purity. Insights regarding proper use these data collection tools, their caveats and approaches to achieving enhanced data collection will be recommended. The role of employing complimentary and confirmatory tools such as mass detection will be introduced to address the current wording within the regulatory guidances.

11:15 a.m. – 12:00 p.m.

Connect Empower to SAP with "NuGenesis Connectors"

Companies using SAP to feed samples to the Laboratories supporting manufacturing and product release receive and process thousands of samples at regular intervals. The time required for sample submission and analysis can have significant economic impact for the science-based organization. Transferring sample results data often involves manual intervention by analysts which may result in transcription errors. Mitigating these errors requires careful data review and verification- a time consuming endeavor that may delay product shipment, reduce shelf life and ultimately decrease profitability. Come and see NuGenesis Connectors tool resolve the problem of connecting SAP to Empower.

12:15 p.m. – 1:00 p.m.

Hemp Oil Extraction, Purification and Analysis

Active compounds from botanical matrices are more and more in the spotlight due to changes in the legislation and mounting evidence of therapeutic effects. This seminar will highlight state of the art technology and intelligent workflow for supercritical fluid extraction and chromatography, purification and convergence chromatography.

1:15 p.m. – 2:00 p.m.

Managing, Manipulating and Complying to Regulatory Changes in Science

The United States Pharmacopeia (USP) has recently implemented changes to chapter <621> pertaining to allowable changes to compendia methods. In this seminar, we discuss these changes in USP <621> and highlight strategies to take advantage of these allowable changes to increase productivity, while reducing costs. These strategies discuss options that utilize new technologies ranging from new column chemistries to instrumentation approaches.

2:15 p.m. – 3:00 p.m.

Instantaneous Food Characterization by Ambient Mass Spectrometry

Mass spectrometry has traditionally been one of the 'last resorts' for food analysis, both for establishing authenticity and detecting trace components. Although MS (GC, LC, ICP, etc) is widely used for food and agricultural product analysis, their methods are generally considered to be slow, expensive and delicate for routine field applications, mostly due to laborious sample preparation procedures. The advent of ambient ionization mass spectrometric methods raised most of the constraints associated with sample preparation and opened new opportunities for in-situ analysis. The spectral profiles obtained are highly characteristic for the type, origin, age, etc. of the sample, which makes these approaches excellent for profiling analysis.

Rapid Evaporative Ionization Mass Spectrometry (REIMS™) is an emerging technique that allows rapid characterization of samples using iKnife™ technology. Here we apply it to provide direct analysis of meat for adulteration (horse meat scandal), fish authenticity, botanical origin of honey, and GMO grain analysis. Direct Analysis in Real Time (DART®) is another highly useful ambient ionization technique that also provides benefits from the need for little to no sample preparation and no chromatography. The current study demonstrates the utility of DART-QDa® in the authentication of whiskeys whereby it could be used to rapidly screen bottles of whiskeys to determine the need for further analysis of suspect samples.

EXHIBITOR SEMINAR LISTING

EXHIBITOR NAME ROOM # DESCRIPTION

Waters Corporation **SR13 and Booth 3538** **WEDNESDAY, MARCH 9, 2016** *(continued)*

SEATING IS LIMITED AND AVAILABLE TO INTERESTED ATTENDEES BY ARRIVING 10 MINUTES PRIOR TO THE START OF A SEMINAR.

3:15 p.m. – 4:00 p.m.

Empower 3 FR3 – New Features

Explore the new features of Empower 3 FR3 in this lively session. Topics covered will include MS Peak Tracking, new Peak Labeling Options, new Component Summary reporting options, Location Fields, new Custom Field capabilities, third-party licenses, Waters Data Manager, qualification and performance enhancements.

4:15 p.m. – 5:00 p.m.

Managing Data Integrity, Mitigating Your Compliance Risk

Assuring data integrity requires appropriate quality and risk management systems and tools. Waters' Informatics solutions are designed to collect and analyze chromatography data. We will present analytics integrated into Empower and EDS365 to protect your data. These capabilities enable your organization to meet regulatory expectations for data integrity with documented evidence of compliance.

THURSDAY, MARCH 10, 2016

9:15 a.m. – 10:00 a.m.

Retaining and Separating Polar Compounds using Reversed-Phase and Hydrophilic Interaction Chromatography

This seminar is intended to give the chromatographer tips and tricks for retaining and separating polar compounds using both RPLC and HILIC. This presentation will focus on HILIC, with the intention of explaining a logical, rapid method development strategy and how to ensure methods are robust and reproducible.

10:15 a.m. – 11:00 a.m.

Pathway to Chromatographic Enlightenment: LC Tips and Tricks

Transferring methods from one lab to another can pose a variety of challenges for the analytical scientist. This tips and tricks seminar is aimed to help scientists easily identify the differences between LC related contributions, sample preparation related contributions, and method related contributions to challenging method transfer issues. Additionally, a unique customer collaboration test case will be reviewed based on the challenges associated with transferring a HILIC release test for metformin.

11:15 a.m. – 12:00 p.m.

Practical Considerations for LC/MS Bioanalysis of Proteins via the Surrogate Peptide Approach

LC/MS for protein quantification is growing, though implementation in traditional small molecule labs is often challenging. This workshop provides practical method development guidance and comparative data for the choice of surrogate peptide, protein-level pre-fractionation, pellet digestion, peptide-level clean-up, internal standard (IS) selection, and digestion conditions. Data for adalimumab, infliximab, bevacizumab, trastuzumab and the ADCT-DM1 are presented.

EXHIBITORS

1

1st Detect Corporation
555 Forge River Road, Suite 100
Webster, TX 77598 / 713-558-5000
Home Page www.1stDetect.com
Booth 2224 (20x10)

We offer the next generation of chemical analyzers, including the iONTRAC process analyzer and the MMS-1000 desktop analyzer, that combine the speed and sensitivity of an ion trap mass spectrometer with ruggedized packaging and ease of operation. The unique architecture allows all the data to be measured all the time, which means AMC events, fugitive emissions, and unknown chemicals in a stream are not missed. The versatile instruments bring high performance analysis to detection, environmental monitoring, and PAC/PAT applications.

2

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Home Page www.2mag.de
Booth 1729 (10x10)

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Booth 1725 (10x10)

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A2LA - American Association for Laboratory Accreditation
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Frederick, MD 21703 / 301-644-3248
Home Page www.A2LA.org
Booth 1942 (10x10)

We are a non-profit, multi-discipline accreditation body with over 35 years of experience providing internationally recognized accreditation services and quality training. A2LA's world-class accreditation services encompass testing and calibration laboratories, clinical testing laboratories, inspection bodies, proficiency testing providers, reference material producers and product certifiers. Organizations are accredited to international standards (ISO/IEC 17025, ISO/IEC 17020, ISO/IEC 17043, ISO/IEC Guide 34, ISO/IEC Guide 65, ISO 15189 and CLIA requirements) and field-specific requirements developed with government and industry collaboration.

ABB Measurement & Analytics
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Booth 4023 (30x10)

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Home Page www.abbottinformatics.com/us/home
Booth 4261 (30x10)

For over 27 years, we've helped hundreds of laboratories around the world achieve their analytical, regulatory and business objectives with our informatics solutions. Our STARLIMS Laboratory Information Management Systems solution lets you seamlessly integrate and analyze data across instruments, sites and systems. Fully web-based and customizable our solutions put powerful data management a click away. As your partner, Abbott Informatics helps your lab from sample intake to delivery of accurate results, driving smarter decision making for your business and customers.

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Booth 3064 (10x10)

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Booth 649 (10x10)

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Home Page www.jaima.or.jp

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We are the inventor of Field Flow Fractionation (FFF) for nanoparticle, protein and bio/polymer separation, fractionation and characterization. Postnova offers a complete FFF product range for applications in Biopharmaceutical, Nanotechnology, Environmental, Food, Cosmetics and Polymers. Field-Flow Fractionation coupled to Multi-Angle Light Scattering (MALS), Dynamic Light Scattering (DLS) and ICP-MS detection offers access to high resolution size and molar mass separation, characterization and element speciation. Products are Centrifugal FFF for Nanoparticles, Flow FFF for Biopharmaceuticals and Thermal FFF for Polymers.

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Wyatt Technology is the recognized leader in light scattering instrumentation and software for determining absolute molar mass, size, charge and interactions of macromolecules and nanoparticles in solution. Wyatt provides in-line multi-angle static light scattering - SEC-MALS; field flow fractionation (separation with no stationary phase) - FFF-MALS; composition gradients for interaction analysis - CG-MALS; high-throughput dynamic light scattering-DLS; high-sensitivity electrophoretic mobility-MP-PALS; differential refractometry, and differential viscosity. Wyatt's training, service and support are widely considered the industry benchmark of excellence.

X

Xenosep Technologies
508 Main St
Boonton, NJ 07005 / 973-239-0247
Home Page www.xenosep.com
Booth 3559 (10x10)

We manufacture a wide range of environmental sample prep products including: Xenomax® SPE filters for EPA method 1664A and 1664B and sodium sulfate sample drying devices. Xenosep® and Valusep® SPE filters and prefilters for use in automated solid phase extraction disk equipment. Xenomax® pre-washed, prewashed and pre-weighed and standard TSS filters for SM 2450. We also supply glassware and other related consumable to optimize method performance.

Xergy, Inc.
105 Park Avenue
Seaford, DE 19973 / 302-629-5768
Home Page www.xeriyinc.com
Booth 1028 (10x10)

We are a leading supplier of Ion Exchange Membranes. Our XION® Ion Exchange Membranes & XICAT® Catalyst Coated Membranes are produced in our commercial production facility. This capability supports our internal manufacture of X-CELL® Electrochemical Compressors and our XI-DH® Micro-Dehumidifiers. In addition, we manufacture membranes and membrane electrode assemblies for clientele for their applications with fuel cells, sensors, electrolyzers, etc.

XOS
15 Tech Valley Drive
East Greenbush, NY 12061 / 518-880-1500
Home Page www.xos.com
Booth 4018 (20x10)

We are a leading manufacturer of application-specific X-ray analyzers, offering elemental analysis solutions that improve public safety and customer efficiency in industries like petroleum, consumer products, and environmental compliance. For petroleum applications, XOS offers portable, lab, and process analyzers with unrivaled precision at the push of a button. XOS also offers analyzers for the detection of toxic elements in consumer products and in the environment. XOS's advanced optics and OEM sub-systems can increase precision, speed, and spatial resolution, while decreasing size, complexity, and cost of the instrument. XOS: Better Analysis Counts.

XRF Scientific Americas Inc.
259- 620 Cathcart
Montreal, PQ Canada H3B 1M1 / 514-871-8755
Home Page www.xrfscientific.com
Booth 538 (10x10)

Part of the XRF Scientific Company group, we supply the platinum ware for all the X-Ray fluorescence machines, the XrFuse electrical instrument, the Phoenix gaz instruments plus a full range of Li Tetraborate and Li Metaborate granular fluxes. Cylindrical basket platinum electrodes and zirconium crucibles are also available. Complete product line for the temperature measurements and evaporation materials. We offer the refining services to reclaim value from the used precious metals. Our Sales Team can assist you in English, Spanish and French. Visit our website for more information.

Xylem Analytics
100 Cummings Center, 535-N
Beverly, MA 01915 / 978-778-1010
Home Page www.xylemanalytics.com
Booth 1449 (20x20), 1549 (20x10)

Our analytics businesses are leading manufacturers of premium field, portable, laboratory and online analytical instruments used in water and wastewater, environmental, food and beverage, pharmaceutical and life science applications. The company's meters, sensors, analyzers and related consumables are used every day by thousands of end-users worldwide to analyze and control quality in countless industrial applications where precise measurement is required.

Y

Yabegawa Electric Industries Ltd.
65 Yatsue-machi, Omuta-shi
Fukuoka, Japan 836-0847 / +81-944-53-0743
Home Page www.yabegawa.co.jp
Our Company commercialized the "flow controller" in 2007, and we developed the SPR immunoassay and chemiluminescence immunoassay. This will be our eighth time exhibiting at Pittcon. We have produced a compact pump and touch screen (PRO-6000Ver2.00). Our exhibition at Pittcon 2016 will demonstrate our new product, a hydrogen fuel CO concentration measuring device.

Booth 738 (70x10), 739 (70x10)

Yancheng Huida Imp. & Exp. Co. Ltd
A-13-201 Guofei Shangcheng 14 Middle Qingnian Road
Yancheng, Jiangsu, China 224005 / 0086-13851045300
Home Page www.chinahuida.cn
We're manufacturer in glass and plastic labwares, with three factories in our HUIDA GROUP: HUIDA GLASS FACTORY producing beaker, flask, measuring cylinder, volumetric flask, reagent bottle, culture dish, test tube, we have big furnace blowing different size glasses. HUIDA PLASTIC FACTORY producing embedding cassette, petri dish, urine and fecal container, pasteur pipette, tip, freezing tube, centrifuge tube, test tube, identification band, uring bag and etc; HUIDA MEDICAL especially for slides and coverglass, together with sutures, blades. All our goods are with ISO/ CE! For further message, please check our website.

Booth 4022 (10x10)

YMC America, Inc.
941 Marcon Blvd, Suite 201
Allentown, PA 18109 / 610-266-8650
Home Page www.ymcamerica.com
YMC America is a provider HPLC, UHPLC, and SFC columns, bulk stationary phases and equipment for HPLC separations. Known for its variety of stationary phases, the company provides unmatched reproducibility for difficult analytical and preparative separations. Please visit us at our booth.

Booth 449 (20x20)

YSI Incorporated
1700/1725 Brannum Lane
Yellow Springs, OH 45387-1107 / 800-659-8895
Home Page www.ysi.com
A Xylem brand, YSI designs and manufactures innovative water quality, water velocity, and flow measurement sensors and instrumentation for sampling and long term monitoring applications in the field and laboratory. Our Life Sciences division offers clinical applications, bioanalytical instruments, trusted in critical bioprocess monitoring, as well as biofuel production and research.

Booth 1449 (20x20), 1549 (20x10)

YY Labs, Inc.
3257 Whipple Rd
Union City, CA 94587 / 510-739-6049
Home Page www.yylabs.com

Booth 1129 (10x10)

Z

Zaber Technologies Inc.
#2 605 West Kent Ave. N.
Vancouver, BC Canada V6P 6T7 / 604-569-3780
Home Page www.zaber.com
We manufacture precision positioning devices that are designed to be low-cost, integrated, and easy to use. Our product line includes microscope stages, micro-manipulators, joysticks, motorized linear stages, rotary stages, vertical stages, linear actuators, multi-axis systems, stepper motor controllers, and gantries.

Booth 3226 (20x10)

Zarbeco, LLC
1240 Sussex Turnpike, Suite 5
Randolph, NJ 07869 / 973-933-2043
Home Page www.zarbeco.com
Zarbeco, LLC manufactures portable digital microscopes, including our newest line of MiScope handheld digital microscopes with extended field of view of 4 inches, 5-140x magnification, resolution below 2 microns and optional IR/UV lighting (for fluorescence imaging). Introducing our patent-pending CalWedge – automatic calibration for MiScopes and any other imaging systems. Also see our new Video ToolBox Premier software displaying live images for digital and HDMI cameras.

Booth 945 (10x10)

Zenith Lab Inc.
3333 S Brea Canyon Rd. Suite 100
Diamond Bar, CA 91765 / 909-869-8958
Home Page www.zenithlabo.com

Booth 3660 (10x10)

Zhejiang Aijiren Technology Co., Ltd
No.3, Qusheng Rd, Niamli Town, Quzhou City
Quzhou, Zhejiang, China 324000 / 0086-0570-8067801
Home Page www.aijirenvial.com/aijiren.cn
Aijiren Vials are manufactured to conform to a strict range of criteria and set new standards for quality and reproducibility. With Aijiren Vials you will achieve consistent and reliable results, time after time.

Booth 3847 (10x10), 3928 (10x10)

Zhejiang Value Mechanical & Electrical Products Co., Ltd
Jiulong Ave, Western Industrial District
Wenling City, Zhejiang Province, China 317500 / 0086-576-86191959
Home Page www.valuevacuum.ca
With the annual production capacity of 500,000 pieces of vacuum pumps, we achieved the turnover of 250 million RMB in 2014, with 130 million from abroad markets. We commit continuous investments to R&D to develop better products. We invest 15 million in research every year, and have got over 100 patents in China. We have sound sales network which covers more than 90 countries and regions, such as US, Japan, France, Italy, Spain, Germany, North Europe, Korea, Taiwan, Brazil, etc. We have also built our own brand distribution network in over 80 countries. We provide products and service for over 10 Fortune 500 enterprises as well.

Booth 1759 (10x10)

Zinsser Analytic
19145 Parthenia Street, Suite C
Northridge, CA 91324 / 818-341-2906
Home Page www.zinsserna.com
Our company supplies a range of sophisticated systems and solutions for applications in biotechnology, modern drug discovery, combinatorial chemistry, screening and synthesis, and standard laboratory automation. As a customer you get reliable hardware and excellent software and premium support backed by 30 years accumulated experience in automation and liquid handling. Zinsser NA offers products for liquid handling, microplate evaporation, parallel and preparative HPLC systems, and microplate volume measurement, as well as precision glass syringes, plastic vials, and glass vials.

Booth 3031 (10x10)

ZIRCAR Ceramics, Inc.
100 North Main Street
Florida, NY 10921 / 845-651-6600
Home Page www.zircar.com
ZIRCAR Ceramics, Inc. manufactures ceramic fiber based high temperature thermal insulation and insulated heating element products for scientific instruments including TGA, Mass Spec, GC, FTIR, XRD, Microwave ashing and many more. Compositions for 4000C to 18250C. Includes rigid boards and cylinders, flexible blankets, die-cut papers, textiles, coatings and adhesives with a special emphasis on precision custom CNC machined components and OEM heater modules. Legendary Heritage in High Performance Materials and Customer Service. Visit our website or email sales@zircarceramics.com.

Booth 724 (10x10)

Zolix Instruments Co., Ltd
No. 68B, LDUV, Tongzhou District
Beijing, China 101102 / +86-10-56370168
Home Page www.zolix.com.cn
Zolix is manufacturer of Measurement & Analytical & Opto-mechanics enables researchers around the world to perform through excellence in spectroscopy & Instruments & Opto-mechanics. Its portfolios of high performance laboratory, and opto-mechanics parts are extensive used to analytical instruments companies and take many OEM chances for analytical & measurement instruments suppliers. Zolix designs, manufactures and markets reliable opto-mechanics, spectrometer, turnkey solutions for physics, chemical, semiconductor, academic, OEM industries and for almost analytical market.

Booth 728 (10x10)

Zwick USA
2125 Barrett Park Dr., Ste. 107
Kennesaw, GA 30144 / 770-420-6555
Home Page www.zwickusa.com
Our company provides solutions that enable intelligent testing of materials and components in the automotive industry. Leveraging Zwick/Roell AG's 160-year legacy, our systems have supported product development and quality assurance for OEMs and their suppliers in North America for over 30 years. Zwick offers a complete line of static testing systems, hardness testing systems, and solutions for non-ambient characterization of plastics for automotive applications. In addition to standard products, Zwick also develops specialized automated testing platforms that enhance test throughput without sacrificing accuracy in measurement.

Booth 820 (10x10)

Zygo, a unit of AMETEK
Laurel Brook Road
Middlefield, CT 06455-1291 / 860-347-8506
Home Page www.zygo.com
We are a supplier of optical metrology instruments, high-precision optical components, and complex electro-optical systems. The Metrology Solutions Division is comprised of three business units: Precision Positioning Systems, Vision Systems, and Instruments. Its products employ various optical phase analysis techniques for measuring displacement, surface shape and texture, and film thickness. Electro-Optics and Optical Components businesses leverage ZYGO's expertise in optical design and assembly, and high-volume manufacturing of precision optical components and systems, for the medical/ life sciences, defense, and industrial markets.

Booth 2057 (50x20)



PITTCON[®] 2017

CONFERENCE & EXPO

Plans for the Pittcon 2017 Technical Program have already begun. As Chair of the 2017 Technical Program Committee, I invite you to start planning now for next year's Conference in Chicago, Illinois. We are currently accepting proposals for Symposia, Workshops, and Organized Contributed Sessions. All submissions are to be submitted electronically on the Pittcon website at www.pittcon.org and selecting 2017 Proposal Suggestions under the Technical Program tab.

In addition, during Conference Week in Atlanta, I will be available:

Monday, 1:30-2:30 PM

Wednesday, 3:00-4:00 PM

Thursday, 9:00 AM – 11:00 AM

in the Program Office (Room B306) to discuss your ideas. I look forward to the opportunity to discuss your suggestions so please feel free to stop in.

The timeline for review of the submitted proposals is rather tight, so in order for the organizers to have enough time to arrange the sessions, the Program Committee will review all suggestions in late April 2016. Therefore, the deadline for proposal submission will be April 15, 2016 – please note the deadline – it's not far away!

Proposals for symposia are being sought in all areas of analytical chemistry and applied spectroscopy. In addition to the classical analytical and spectroscopic topics, areas such as agriculture, bioanalytical chemistry, nanotechnology, environmental analysis, food analysis, forensics, art conservation, education, energy research and pharmaceutical analysis are welcomed. Pittcon has developed an extensive program in the life sciences and is seeking contributions in genomics, proteomics, metabolomics, bioinformatics, high throughput screening, and drug discovery. Proposals for sessions discussing chemical applications on art objects, energy research and education are also solicited.

In 2017 there will be a continued emphasis on program quality particularly in the area of poster presentations which continue to grow, and there will be fewer oral contributed sessions. We have been working for the past several years to make the whole program experience – the Technical Program, Short Courses, and Conferee Networking – as streamlined as possible in order to give conferees their best educational and networking experience. Suggestions are always welcome; drop us a line if there is a way we can better serve you as a conferee.

The general Call for Papers will be sent out in June, and the deadline for contributed oral and poster abstracts will be in mid-August. As always, abstracts must be submitted electronically via the Pittcon website in order to be considered for the 2017 Technical Program. Please feel free to contact the Technical Program Committee if you have any comments or questions about the 2017 Technical Program. Our Technical Program Coordinator, Ms. Becky Hackley, can be reached by e-mail at program@pittcon.org; or by telephone at (800) 825-3221 or (412) 825-3220, Ext.219.

Thank you in advance for your suggestions and contributions to Pittcon 2017.

Fu-Tyan Lin, Ph.D.

Pittcon 2017 Technical Program Chairman

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