DOWNLOAD THE ENHANCED PITTCON 2017 MOBILE APP

The Pittcon 2017 app has everything that you need to know about the conference and exposition... all conveniently located on your mobile device!

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- Interactive floor maps
- In-app purchase of short courses
- and more...

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SEE SCIENCE IN A NEW LIGHT

PRELIMINARY PROGRAM

Exposition | Technical Program | Conferee Networking | Short Courses

McCormick Place | Chicago, IL | March 5-9, 2017

pittcon.org
**LIVE DEMOS ON THE EXPO FLOOR**

Participate in this once-a-year opportunity to interact with technical experts, get valuable "how to" information and learn from the Q&A session. These dynamic 20-minute live demos will be happening on the expo floor. Please check the website for the most recent information.

---

**MONDAY, MARCH 6**

<table>
<thead>
<tr>
<th>Company</th>
<th>Title</th>
<th>Start Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wayco</td>
<td>Working Smarter: Improving Throughput and Outcomes</td>
<td>10:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>Medigloft, Inc.</td>
<td>Biomedical Illumination System</td>
<td>10:30 AM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Anton Paar USA</td>
<td>Particle Analysis - At the Touch of a Button</td>
<td>11:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>Ibarra Photonics</td>
<td>How to Select the Right Spectrometer</td>
<td>11:30 AM</td>
<td>Demo Area 2 - Booth 2931</td>
</tr>
<tr>
<td>Mettler Toledo USA</td>
<td>Accurate ID and Verification Through Better Sampling (ORS)</td>
<td>12:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>HORIBA Instruments, Inc.</td>
<td>Laser Diffraction: Fast, Easy &amp; Precise</td>
<td>12:30 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Brookfield AMETEK</td>
<td>Viscosity Test vs. Texture Analysis - Which Method Works Best?</td>
<td>1:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>RheoSense, Inc.</td>
<td>Automatic, High-Throughput Viscometer, VROC instrument</td>
<td>1:30 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Lith Technologies</td>
<td>Innovations in Liquid Handling</td>
<td>2:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>Teledyne Leeman Labs</td>
<td>Theory, Method Development and Maintenance for the Teledyne Leeman Lab</td>
<td>2:30 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Teledyne CETAC Technologies</td>
<td>High Performance Liquid Dilation for Atomic Spectroscopy</td>
<td>3:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>BioTools, Inc.</td>
<td>High Sensitivity &amp; Fast Results with RunTest Handheld Raman!</td>
<td>3:30 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>SW Safety Solutions, Inc.</td>
<td>Redefining Hand Protection</td>
<td>4:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
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</tbody>
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**TUESDAY, MARCH 7**

<table>
<thead>
<tr>
<th>Company</th>
<th>Title</th>
<th>Start Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bel-Art - SP Sciencecare</td>
<td>Lab Life with Bel &amp; Art</td>
<td>10:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>Ariel</td>
<td>TBD</td>
<td>10:30 AM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Beckman Coulter</td>
<td>Unveiling of Beckman Coulter’s New LS 13 320</td>
<td>11:30 AM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>BNR Tech</td>
<td>i-Raman Pro: Portable Real-time Monitoring</td>
<td>12:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>HORIBA Instruments, Inc.</td>
<td>Dynamic Image Analysis: Size &amp; Shape</td>
<td>12:30 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>The McGraw Group</td>
<td>Microscopy-based Answers to Contaminant Problems</td>
<td>1:00 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Teledyne Telum</td>
<td>Purge and Trap Method Optimisation: Less is More</td>
<td>1:30 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Teledyne CETAC Technologies</td>
<td>Microanalyser Sample Handling in a Flexible Workstation</td>
<td>2:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>Anton Paar USA</td>
<td>The Power of Three - The Footprint of One</td>
<td>2:30 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Teledyne Leeman Labs</td>
<td>ICP-OES Interfering Element Correction Made Easy</td>
<td>3:00 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Hennar Corp.</td>
<td>TBD</td>
<td>3:30 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>SEAL Analytical</td>
<td>Live Demo of SEAL Analytical’s newest Discrete Chemistry Analyzer- AQ300</td>
<td>4:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
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**WEDNESDAY, MARCH 8**

<table>
<thead>
<tr>
<th>Company</th>
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<tbody>
<tr>
<td>SEAL Analytical</td>
<td>Live Demo of Automated Metals Digestion and Sample Preparation – DEEEA II</td>
<td>10:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>Shimadzu Scientific Instruments</td>
<td>ECD: Elemental Analyses Made Easy - Solving the Complex by Simplifying the Solution</td>
<td>10:30 AM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Elementar Americas</td>
<td>Elemental Analysis Through Combustion</td>
<td>11:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>Mettler Toledo USA</td>
<td>RAMAN</td>
<td>11:30 AM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Advanced Chemistry Development, Inc. (ACD/Labs)</td>
<td>Learn How to Better Manage Impurity Life Cycle Data in Pharmaceutical Development</td>
<td>12:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>Promemsa</td>
<td>Online Sample Submission - Eliminating Paper COCs</td>
<td>12:30 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Computrac</td>
<td>Chemical Free Moisture Analysis for Lubricating Oils and Greases</td>
<td>1:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>PurifyPlus</td>
<td>Learn How to Monitor Your Gas Levels Remotely &amp; Never Run Out of Gas Supply</td>
<td>1:30 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Milestone, Inc.</td>
<td>Setting the Standard for Direct Mercury Analysis with Milestone DMA-80</td>
<td>2:00 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Computrac</td>
<td>Chemical Free Moisture Analysis for Plastics</td>
<td>2:30 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Computrac</td>
<td>Chemical Free Moisture Analysis for Pharmaceuticals</td>
<td>3:00 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Malvern Instruments</td>
<td>Rapid, Accurate Particle Size Distributions for Dry and Wet Dispersions</td>
<td>3:30 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Daylight Solutions</td>
<td>Spars Real-time infrared Chemical Imaging</td>
<td>4:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
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**THURSDAY, MARCH 9**

<table>
<thead>
<tr>
<th>Company</th>
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</thead>
<tbody>
<tr>
<td>Ionicon</td>
<td>The Air We Breathe in &amp; Out at Picoms</td>
<td>10:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>Thermo Fisher Scientific</td>
<td>Speed and Flexibility for Food and Water Testing with Thermo Scientific,™ Gallery® Automated Discrete Photometric Analyzers</td>
<td>10:30 AM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
<tr>
<td>Kent US</td>
<td>Instant Handheld Moisture Measurement</td>
<td>11:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
</tr>
<tr>
<td>Shimadzu Scientific Instruments</td>
<td>LIGHTLABS: Real-time Brain Imaging Using Near Infrared Spectroscopy</td>
<td>12:00 PM</td>
<td>Demo Area 2 - Booth 3331</td>
</tr>
</tbody>
</table>
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</thead>
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<tr>
<td>Pittsburgh Analytical Chemistry Award</td>
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<tr>
<td>Pittsburgh Conference Achievement Award</td>
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PITTCON 2017 REGISTRATION INFORMATION

JOIN WITH THOUSANDS OF YOUR COLLEAGUES AND DISCOVER THE PITTCON EXPERIENCE

REGISTER NOW

ONLINE Registration for the Conference and Short Courses is HIGHLY RECOMMENDED.

Registering online is easy, reliable, and efficient. Simply visit www.pittcon.org for easy to follow instructions. Once you complete conference and short course registration online, you will immediately receive an email confirmation. You may also update or change your registration online.

Discounts

• Conferees save 42% on conferee registration if registered by February 18, 2017.
• Full-time students will receive a 50% reduction in Short Course Registration fees. Presentation of valid student identification (ID) is required for badge pickup on site.
• Register for Short Courses by February 18, 2017, and save up to 30%.
• Register for three paid (does not include free) Short Courses, and receive FREE Conferee registration.
• Purchase three (3) regular conferee registrations, and get one (1) registration FREE (see website for details).

Payment

Online registration requires a valid credit card (American Express, Discover Card, Master Card or VISA). However, during the online registration process, you may choose to receive an invoice via email to pay by check or money order (payable to The Pittsburgh Conference). International attendees may pay by check only if the check is drawn on a U.S. bank in U.S. funds. The following forms of payment will be accepted on site:

• Check or money order payable to The Pittsburgh Conference
• Credit card (American Express, Discover Card, Master Card or VISA)
• Cash

Badge Pickup

After you register, you will receive an email registration confirmation (includes your confirmation number and QR code). Registration badges will not be mailed, but will be available on site for pickup in the Conferee Registration area at McCormick Place West. Simply have your bar code scanned at one of the Badge Pickup stations, and get your badge in seconds. A $10 fee will be collected for badge reprint (see * note above).

Cancellation Policy

If you decide to cancel your conferee registration, the amount paid less $25 of cancellation fee will be refunded. In addition, Short Course cancellations made by February 18, 2017, will be issued a full refund less $25 processing fee for each course cancelled.

Short Course cancellation made between February 18, 2017 and March 4, 2017, will incur a $100 administrative charge per course, only if the short course NOTES WERE NOT DOWNLOADED.

If short course NOTES ARE DOWNLOADED between February 18, 2017 and March 4, 2017, course changes or refunds WILL NOT BE PROCESSED. Conference Registration and Short Course cancellations will not be refunded after March 4, 2017. All cancellations are subject to separate fees.

Pittcon 2017 On-site Registration Hours

<table>
<thead>
<tr>
<th>Day</th>
<th>Week</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Friday</td>
<td>March 3</td>
<td>8:00AM-5:00PM</td>
</tr>
<tr>
<td>Saturday</td>
<td>March 4</td>
<td>7:30AM-4:00PM</td>
</tr>
<tr>
<td>Sunday</td>
<td>March 5</td>
<td>7:30AM-7:30PM</td>
</tr>
<tr>
<td>Monday</td>
<td>March 6</td>
<td>7:30AM-5:00PM</td>
</tr>
<tr>
<td>Tuesday</td>
<td>March 7</td>
<td>7:30AM-5:00PM</td>
</tr>
<tr>
<td>Wednesday</td>
<td>March 8</td>
<td>7:30AM-5:00PM</td>
</tr>
<tr>
<td>Thursday</td>
<td>March 9</td>
<td>7:30AM-2:00PM</td>
</tr>
</tbody>
</table>

* If you lose your badge, a $10 fee will be charged for the first time replacement. Subsequent replacements will be $50. The actual person who has lost the badge must present a photo ID or a company ID/business card. There will no exceptions to this rule.

Please visit pittcon.org or the Pittcon2017 mobile app for complete details.
PITCON 2016 HOUSING AND TRANSPORTATION INFORMATION

HOTEL RESERVATIONS
Get exclusive low hotel rates by booking online at www.pitconhousing.com
The online reservation process is easy, and your room reservations will be confirmed immediately.

CHOOSE ONE OF THE FOLLOWING METHODS TO MAKE YOUR HOUSING RESERVATION

INTERNET: (Recommended): www.pitconhousing.com
PHONE: Toll free: 855-992-3353
International: 312-527-7300
E-Mail: Pittcon@onpeak.com

Reservation Cut-Off Date
Reservations must be received no later than February 8, 2017, for best selection.
Call-in reservations will be accepted, based on availability, up to the date of the show.

Deposits
All reservations must be guaranteed with a check or credit card deposit, according to special deposit policy for each hotel. Deposits by check require payment for one night’s room rate plus tax for each room reserved. For credit card deposit payments, a different credit card must be used for every ten (10) individuals in a group (unless individual hotel policy specifies otherwise). Checks received by January 2, 2017, will be accepted to guarantee room deposits. After January 2, 2017, only credit card guarantees will be accepted. Some hotels will charge credit cards on or about February 8, 2017. Please refer to the hotel confirmation you receive for details about your hotel’s specific procedures.

PITCON 2017 OFFICIAL HOTELS AND RATES

<table>
<thead>
<tr>
<th>Hotel Name</th>
<th>Address</th>
<th>Rates</th>
<th>Internet</th>
<th>Breakfast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aloft Chicago City Center</td>
<td>515 North Clark Street</td>
<td>$159.00</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Chicago Marriott Downtown Magnificent Mile</td>
<td>540 North Michigan Avenue</td>
<td>$199.00</td>
<td>$1.00 per night</td>
<td></td>
</tr>
<tr>
<td>Courtyard Chicago Downtown River North</td>
<td>30 E Hubbard St</td>
<td>$179.00</td>
<td>x</td>
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<tr>
<td>Courtyard Chicago Downtown/Magnificent Mile</td>
<td>165 E Ontario St</td>
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<tr>
<td>Doubletree By Hilton Chicago Magnificent Mile</td>
<td>300 E Ohio Street</td>
<td>$154.00</td>
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<tr>
<td>Drake Hotel</td>
<td>140 E Walton Place</td>
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<td>Embassy Suites By Hilton Chicago Downtown Magnificent Mile</td>
<td>511 N Columbus Dr</td>
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<tr>
<td>Embassy Suites Chicago Downtown</td>
<td>600 N State St</td>
<td>$179.00</td>
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<tr>
<td>Fairfield Inn &amp; Suites Chicago Downtown/River North</td>
<td>60 West Illinois Street</td>
<td>$154.00</td>
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<tr>
<td>Fairmont Chicago Millennium Park</td>
<td>200 N Columbus Dr</td>
<td>$159.00</td>
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<tr>
<td>Hampton Inn &amp; Suites Chicago Downtown</td>
<td>33 W Illinois St</td>
<td>$149.00</td>
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<tr>
<td>Hilton Chicago</td>
<td>720 South Michigan Avenue</td>
<td>$168 Book before Dec 1. $178 after Nov 30</td>
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<tr>
<td>Hilton Garden Inn - Chicago Magnificent Mile</td>
<td>10 East Grand Ave</td>
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<td>Holiday Inn Chicago-Mart Plaza</td>
<td>350 W Mart Center</td>
<td>$129.00</td>
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<tr>
<td>Hotel Caci, A Holiday Inn Express</td>
<td>640 N Wabash Ave</td>
<td>$154.00</td>
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<tr>
<td>Hotel Chicago, Marriott Autograph Collection</td>
<td>333 N Dearborn St</td>
<td>$159.00</td>
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<tr>
<td>Hotel Palomar Chicago</td>
<td>305 North State Street</td>
<td>$164 4-nt Minimum $184 Unrestricted</td>
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<td>633 N St Clair</td>
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<td>Hyatt Place Chicago/River North</td>
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<tr>
<td>Hyatt Regency McCormick Place</td>
<td>2233 S Martin Luther</td>
<td>$224.00</td>
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<tr>
<td>Inn Of Chicago Magnificent Mile</td>
<td>162 E Ohio St</td>
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<tr>
<td>Intercontinental Chicago</td>
<td>305 N Michigan Ave</td>
<td>$159 Grand Tower; $185 Deluxe Executive Tower</td>
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<td>Residence Inn By Marriott Chicago Downtown Magnificent Mile</td>
<td>201 E Walton Pl</td>
<td>$179.00</td>
<td>x</td>
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</tr>
<tr>
<td>Residence Inn Chicago Downtown/River North</td>
<td>410 North Dearborn Street</td>
<td>$159.00</td>
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<tr>
<td>Sheraton Grand Chicago</td>
<td>301 East North Water</td>
<td>$175 Book by Dec 1. $189 After Nov 30</td>
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<tr>
<td>Springhill Suites Chicago Downtown/River North</td>
<td>410 North Dearborn Street</td>
<td>$154.00</td>
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<tr>
<td>Swissotel Chicago</td>
<td>232 E Upper Wacker</td>
<td>$159 Book by Dec 1. $169 after Nov 30</td>
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<tr>
<td>The Gwen, A Luxury Collection Hotel</td>
<td>521 N Rush St</td>
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<td>The Palmer House Hilton</td>
<td>17 East Monroe Street</td>
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<td>Virgin Hotel Chicago</td>
<td>203 N Wabash Avenue</td>
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<tr>
<td>Westin Chicago River North</td>
<td>320 N Dearborn St</td>
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<tr>
<td>Westin Michigan Avenue Hotel</td>
<td>909 N Michigan Ave</td>
<td>$165 3 nt minimum, book by Dec 1. $175 No restrictions</td>
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<td></td>
</tr>
</tbody>
</table>

Please visit pitcon.org or the Pitcon2017 mobile app for complete details
Please visit pittcon.org or the Pittcon2017 mobile app for complete details.
ACTIVITIES

PITTCON STORE

Gifts and Souvenirs
The store will be located on the exposition floor by the entrance in the Attendee Services area. The store will be ideal for purchasing souvenirs and gifts for yourself or to bring back to your friends. There will be a new mascot, apparel, gifts, and business items available at affordable prices. Stop by and see what we will 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 conferers meet year after year. It will take place immediately following the Wallace H. Coulter Lecture.

Exposition Mixer
There will be a complimentary mixer on the exposition floor on Tuesday from 2:00 p.m. to 4:00 p.m. Take a break from your busy day to enjoy snacks and refreshments. It is a great chance to network, too!

Email and Internet Access
Complimentary wireless internet access will be available throughout all public areas of McCormick Place. This service will be intended for all conferees and exhibitors to have internet connectivity for email and web access from their portable PC or web enabled devices. An Internet Cafe, located in Magnificent Mile Park on the exhibit floor, will be equipped with computers available for email and web access for all registered conferees and exhibitors during published show hours.

CONFERENCE & EXPOSITION TOOLS

A well planned agenda is an excellent resource to demonstrate the value to management of attending Pittcon 2017.

Pittcon and Exhibitors at a Glance
Pittcon at a Glance is available on the website under the Technical Program tab. This application gives you the ability to find technical sessions, short courses, Conferee Networking sessions, and exhibitors using various search criteria. Create your customized agenda which will sync across all devices.

Mobile App
The Pittcon 2017 Mobile App provides everything you need to know about the conference and exposition in the palm of your hand. Download the app for immediate access to important information that will help you make the most of your trip to Pittcon in Chicago, IL. App users can:

- Browse and search the Technical Program, Short Courses, exhibitors, events and more
- Log-in to sync among all your devices
- Create your personal agenda
- Interactive expo floor maps
- Connect with your fellow attendees using the new networking features
- Access to your registration Information (Express Badge Printing)
- and more…

Download today to start planning your Pittcon 2017.

Product Locator
During conference week, computers with searchable access to all aspects of the event will be located adjacent to the program rooms and on the expo floor in Magnificent Mile Park. Printers will be available to print individual agendas that will sync whether created in the mobile app, the website or during the registration process.

FUNCTIONS-TECHNICAL SOCIETY

Many of the hotels can provide the ideal setting for your organization’s meetings, reunions and other social functions. If you would like to hold your event in one of the fine hotels in Chicago, please contact:

Pittcon Meeting Coordination Desk
381 Park Avenue South, 3rd Floor
New York, NY 10016
Phone: (800) 248-7488 FAX: (212) 532-1340

PITTCON EXHIBITOR/DISTRIBUTOR NETWORK

Pittcon Exhibitor/Distributor Networking, a free service, provides an efficient and easy way for exhibitors and distributors to connect at Pittcon 2017. A database of contact information will provide networking information for Pittcon exhibitors seeking distributors. In addition, distributors can search for products to license, sell and/or distribute. The Exhibitor/Distributor Networking office will be located in the main lobby area near the entrance to the exposition floor on Level 3 of the West Building in the Services Area.

HOURS OF OPERATION

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

PROGRAM

The following pages present the program as of publication in October, 2016. For updated information, please visit www.pittcon.org or the mobile app to design a personalized conference week schedule. Program kiosks and Final Programs will also be available on site.

The Program Office will be in Room W180 of McCormick Place, Chicago, Illinois.

HOURS OF OPERATION

Sunday, March 5, 2017 10:00 a.m. to 5:00 p.m.
Monday, March 6 through Thursday, March 9, 2017 7:30 a.m. to 5:00 p.m.

The Speaker Ready Room will be in Room W182. This room is available for authors to verify their presentations; not to practice their presentation. Hours of operation will be 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

Please visit pittcon.org or the Pittcon2017 mobile app for complete details
**PITCON 2017 GENERAL INFORMATION**

**CHILD CARE ON SITE AT CAMP PITCON**

High quality, convenient child care will be available at McCormick Place in the West Building during Pittcon. We will 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 experience family-friendly.

**HOURS OF OPERATION**

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<tr>
<th>Sunday, March 5, 2017</th>
<th>1:00 p.m. to 5:30 p.m.</th>
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<tr>
<td>Monday, March 6 through Thursday, March 9, 2017</td>
<td>7:30 a.m. to 5:30 p.m.</td>
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**Registration Costs** (Visa and MasterCard accepted)

Advance registration by February 1, 2017 (minimum 3 hours)

- 6 months to 35 months: $10.00 per hour
- 3 years and older: $9.00 per hour

After February 1, 2017 (minimum 3 hours)

Price increases by $1.00 per hour

Parent of participants must be registered as 2017 conferees or exhibitors.

**INTERNATIONAL VISITOR SERVICE**

The International Visitor Service will be located in the main lobby area near the entrance to the exposition floor, Level 3, West Building in the Services Area. When possible, Pittcon staff will be available to assist international attendees with any aspect of their attendance including language translation and currency conversion. Visitors can use this area to rest and rejuvenate and sign up to win a Pittcon 2018 registration.

**HOURS OF OPERATION**

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<th>Sunday – Wednesday</th>
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<td>Thursday</td>
<td>9:00 a.m. to 3:00 p.m.</td>
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**SPECIAL NEEDS**

If you need a wheelchair accessible vehicle to transport you from your hotel to/from 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, scooters, information booths, designated parking, TDD telephones and other services are available for visitors with disabilities. For wheelchair/electric scooter rental contact Scootaround, Inc. at 888-441-7575 or www.scootaround.com/rentals/mccormickplace to reserve in advance. Onsite rental may be available, depending on event schedules.

**PITCON 2017 EMPLOYMENT BUREAU**

Pittcon’s complimentary Employment Bureau is a premier on-site career exchange for laboratory scientists and related fields, featuring:

- Hundreds of positions
- Hundreds of job seekers
- On-site interviews
- Searchable web-based database of positions and job seeker profiles
- Opportunities for current students, new graduates to experienced Ph.D.s
- Wide range of positions ranging from bench scientists, technical sales to management

**New for 2017:**

- Two-week preview of job seeker profiles for employers (Fee-based services for employers)
- Drop-in career mentoring for resume review and interview preparation for job seekers
- “Preparing for a New Career in Chemistry” conference networking session on Sunday, March 5, starting at 1:30 PM
- Internship category for students

The Employment Bureau is a complementary service provided to individuals registered as conferees or exhibitors. Free online registration for the Employment Bureau begins in January and remains open during conference week at: [www.pittcon.org/employment](http://www.pittcon.org/employment)

Job seekers are encouraged to register by Friday, February 17 to have their profiles available to prospective employers during the two-week preview.

**ON-SITE EMPLOYMENT BUREAU**

**West Building of McCormick Place, Room 375d**

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<tr>
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<tr>
<td>Monday, March 6 through Wednesday, March 8, 2016</td>
<td>8:00 a.m. – 5:00 p.m.</td>
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<tr>
<td>Thursday, March 9, 2016</td>
<td>8:00 a.m. – 2:00 p.m.</td>
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Private interview rooms are available for employers during Employment Bureau hours. These include standard rooms (complimentary, reserved as needed with each interview), reserved room ($650, conference week access to the same interview room with one table and three chairs), and deluxe rooms ($950, conference week access to stand-alone room with electric outlets, two tables and several chairs). Employers can save 20% by booking a reserved or deluxe interview room by Friday, February 17.

**PRESS ROOM/MEDIA CENTER**

The Press Room will be located in room W 192 in McCormick Place. Complimentary registration is available for all members of the press, and advance registration through our website at www.pittcon.org is strongly recommended. 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:

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

Your badge is required for access to all Pittcon events and the exposition floor.

**POLICY STATEMENTS ON CHILDREN, PETS AND PHOTOGRAPHIC EQUIPMENT**

The following are the policies for children and pets on the exposition floor:

- All children under 16 years of age who want to access the exposition floor must register in the Registration Office and be accompanied at all times by a registered adult.
- No strollers, backpacks, carriages, or similar devices for transporting children will be allowed on the exposition floor.
- Children exhibiting disruptive behavior on the exposition floor will be asked to leave and will be accompanied off the floor by the registered adult.
- During set up and tear down, under no circumstances will anyone under 16 years of age be allowed on the exposition floor.

For liability reasons, please be advised that no pets, with the exception of service animals, will be permitted on the exposition floor at any time.

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

Please visit pittcon.org or the Pittcon 2017 mobile app for complete details.
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 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.**

- Enrollment must not exceed 5,000 full-time students.
- No more than 25% of the operating budget, which does not include student financial aid, 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.
- Requests for materials to be used only for research purposes will not be funded.
- 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.
- Schools are ineligible for the PCMNCG program for a three-year period following receipt of the PCMNCG grant (award recipients from 2015, 2016, and 2017 are not eligible for the 2018 program).

Faculty members are urged to participate in the 2018 Pittsburgh Conference Memorial National College Grants Program by obtaining an application form from our website at [www.pittcon.org/PCMNCG](http://www.pittcon.org/PCMNCG) and submitting it along with your proposal via email by **October 1, 2017** to: pcmncg@pittcon.org

**Award winners will be announced by February 2018.** Selected schools will join the list of over 300 institutions honored since the start of this program in 1974.
# Pittcon 2017 Short Courses by Date

Pittcon 2017 will feature a broad variety of high quality Short Courses that provide continuing education and professional development opportunities at a reasonable cost. Listed below are the Short Courses that will be offered along with their tentative dates.

Please visit www.pittcon.org or the mobile app 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 or mobile app to register online for the courses that interest you and for information on discounts. Take three or more Short Courses and your Pittcon 2017 registration will be waived!

## 2017 Short Course Prices

| 1/2 Day | $325 | Registration by 2/18/17 | $425 | Registration after 2/18/17 |
| 1 Day   | $575 | Registration by 2/18/17 | $775 | Registration after 2/18/17 |
| 1 1/2 Days | $850 | Registration by 2/18/17 | $1175 | Registration after 2/18/17 |
| 2 Days  | $1100 | Registration by 2/18/17 | $1500 | Registration after 2/18/17 |

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

## Saturday, March 4 (8:30 am - 5:00 pm)

| #12 | Advanced HPLC/UHPLC 1: Fundamentals (Michael Dong, MDW Consulting + Text $70.00) |
| #13 | Conducting Effective Investigations of Out of Specification and Atypical Laboratory Results (Greg Martin, Completors Consulting) |
| #14 | Introduction to Chromatography of Proteins, Peptides, and Related Molecules (Thomas Wheat, Gustavus Adolphus College) |
| #15 | Practical Liquid Chromatography (Dwight Stoll, Gustavus Adolphus College) |
| #16 | Introduction to Two-Dimensional Liquid Chromatography (Dwight Stoll, Gustavus Adolphus College) |
| #17 | Practical GC -MS Method Development for Small Molecules (Isaac Brenner, Brenner Scientific) |
| #18 | Technical Writing for Scientists (Rick Parmely, Polished and Professional) |

## Saturday, March 4 (1:00 p.m. - 5:00 p.m.)

| #158 | Analytical Pyrolysis – GC/MS; Theory and Applications (Thomas Wampler, CDS ANALYTICAL) |
| #111 | Assessing Risk and Selecting Hoods Using Case Studies (Brian Garrett, Labconco Corporation) |

## Saturday, March 4 / Sunday, March 5

### Two-Day Course (8:30 a.m. - 5:00 p.m.)

| #133 | Laboratory Asset and Facility Management Systems with IBM Maximo (Petur Stojadinovic, Automation Trainer LLC/William Herm, Automation Trainer LLC) |
| #105 | Analytical Excellence: Assuring Data Integrity and Laboratory Compliance (Chris Burgess, Burgess Analytical Consultancy Limited) |
| #21 | Chemistry Laboratory Techniques for the Chemist and Technician – A Comprehensive Review (Bryan Ham, Department of Homeland Security/Alhui Malham, US Customs + Text $150.00) |
| #17 | Getting Started with Excel and VBA in the Laboratory (Laptop Required) (William Neil, XLVBALAB) |
| #109 | Methods Development and Validation with a Scientific Approach and Risk Based Strategy (Shib Mookherjea, ValQual International, Inc.) |
| #101 | Practical Gas Chromatography (Eugene Barry, University of Massachusetts Lowell/Cedar Crest College/Thomas Brettell, Cedar Crest College + Text $160.00) |

## Sunday, March 5 (8:30 a.m. - 5:00 p.m.)

| #128 | Accessories and Techniques for FT-IR Sample Analysis (Richard Larsen, Spectral Consulting) |
| #13 | Advanced HPLC/UHPLC 2: Applications, UHPLC Benefits, Issues and Practices (Michael Dong, MDW Consulting + Text $70.00) |
| #116 | Analytical Forensic Metrology (Jerry Messman, Stranaska Scientific LLC) |
| #160 | Atomic Absorption Spectrometry - Current Status and New Analytical Perspectives (Isaac Brenner, Brenner Scientific) |
| #41 | HPLC Column and Mode Selection: Beyond C18 Columns (Richard A. Henry, Merlin Bicking, ACCRA) |
| #76 | Impurities in Pharmaceuticals - A Survey Course (Bernard Olsen, Olsen Pharmaceutical Consulting) |
| #162 | Language and Matter: Technical Writing for Analytical Scientists and Managers (Anthony Parker, A A Parker Consulting, LLC) |
| #6 | Powerful Public Speaking for Scientists (Rick Parmely, Polished and Professional) |
| #3 | Practical LC-MS Method Development for Small Molecules (Perry Wang, USFDA + Text $150.00) |
| #40 | Solid Phase Microextraction (SPME) and Other Sampling and Sample Preparation Technologies for Laboratory and On-site Applications (Nathaly Reyes-Garcia, University of Waterloo + Text $100.00) |
| #29 | Statistically Sound Calibration Studies, Detection Limits and Quantitation Limits (Lynn Vanatta, Volunteer Chemist/Statistician) |
| #156 | Two-Dimensional Liquid Chromatography for Pharmaceutical Analysis (Dwight Stoll, Gustavus Adolphus College) |

Please visit pittcon.org or the Pittcon2017 mobile app for complete details.
### PITTCON 2017 SHORT COURSES BY DATE

#### Sunday, March 5 (8:30 a.m. - 12:30 p.m.)

| #15 | LC-MS-MS Analysis of Emerging Contaminants (EDCs, PPCPs and PFCs) and Nanomaterials in the Environment | (Damia Barcelo, ICREA) |
| #70 | An Introduction to Scanning Electron Microscopy (SEM) and Associated Energy Dispersive X-ray Spectroscopy (EDS) | (Randy Vander Wal, Penn State University) |
| #102 | Chiral Separations | (Zachary Brettbach, AbbVie/Daniel Armstrong, The University of Texas at Arlington) |
| #117 | Data Integrity: Practical Steps to Identify and Avoid Data Integrity Issues in the Pharmaceutical Laboratory | (Gary Martin, Comptectors Consulting) |
| #77 | Light Scattering Uses in Water and Environmental Issues | (Anastasia Morfesis, Malvern Instruments Inc.) |
| #143 | Long-Term Archival of Laboratory Data | (Burkhard Schafer, BSSN Software-GmbH) |
| #83 | Multivariate Calibration as an Aid to Develop Atomic Spectroscopy Methods | (Jose Andrade, University of A Corunna, Dep. Analytical Chemistry) |

#### Monday, March 6 (8:30 a.m. - 12:30 p.m.)

| #28 | Examples of Analytical Data Treatment Using Microsoft® Excel™: Part 1 – Some Basics | (Mark Stauffer, University of Pittsburgh - Greensburg) |
| #14 | HPLC/UHPLC Method Development Made Easy | (Michael Dong, MWD Consulting) |
| #93 | Lab-on-a-Chip Devices I | (Castillo-Leon Jaime, Sol Voltaics AB/Winnie Svendsen, DTU Nanotech, Technical Univ. of Denmark + Text $135.00) |
| #50 | Light Scattering Techniques for Protein, Polymer, and Nanoparticle Characterization | (Sigrid Kuebler, Wyatt Technology) |
| #36 | Primer on XRF Spectrometry: Instrumentation | (Charles Wu, Western University/Alexander Seyfarth, Bruker Nano Analytics) |
| #79 | Size, Molecular Weight and Zeta Potential Characterization of Nanomaterials | (Anastasia Morfesis, Malvern Instruments Inc.) |
| #23 | TeXtalcence™ - Sales for the Technical Team. Scientists, Engineers & Techies Who Interact with Customers | (Dan Kirsch, Triton Consulting, LLC) |

#### Sunday, March 5 (1:00 p.m. - 5:00 p.m.)

| #78 | Analytical Ionic Liquids in GC and Mass Spectrometry | (Leonard Sidisky, MilliporeSigma) |
| #16 | Introduction to ICP Mass Spectrometry | (Robert Houk, Ames Laboratory USDOE) |
| #163 | Latest Advances in Laser Ablation Direct Solid Sampling for ICP-MS and ICP-OES | (Jhanis Gonzalez, Lawrence Berkeley National Laboratory/Applied Spectra, Inc.) |
| #119 | Lyophilization/Freeze Drying 101 | (Kelly Williams, Labconco Corporation) |
| #110 | Practical Introduction to Handheld Raman Instrumentation | (Bryan Ray/Jason Laisrey, Metrohm) |
| #115 | Practical Ion Chromatography: Successful Method Development | (Carlos Bazan/Jay Sheffer, Metrohm) |
| #131 | Practical Near-Infrared Measurements: Successful Method Development | (Kyle Hollister/Adam Hopkins, Metrohm) |

#### Monday, March 6 (1:00 p.m. - 5:00 p.m.)

| #96 | Automating the Lab: LEAN Lab Operations and Integrated Lab Informatics Systems | (Geoff Turnbull, CSols, Inc.) |
| #54 | Computer Systems Validation (CSV) Script Writing Course/Workshop | (Kurt Robak, CSols, Inc.) |
| #120 | Developing and Implementing Calibration Programs | (Andy Ferril, PCI) |
| #60 | Digital Imaging for Materials, Food, Pharmaceuticals and Derived Products Characterization: Lab Scale Applications | (Giuseppe Bonifazi, Sapienza Università di Roma/Silvia Serranti, Sapienza Università - Università di Roma) |
| #34 | Injection Techniques in Gas Chromatography | (Jaap de Zeeuw, Restek) |
| #118 | Karl Fischer Analysis for All Sample Types: Solids, Liquids and Gases | (Frederick Fiddler/Kyle Hollister, Metrohm) |
| #59 | Preparing Your Lab for Unexpected Downtime: Disaster Planning for Your LIMS, CDS, and Supporting Infrastructure | (Anthony Lisi, CSols Inc.) |

#### Monday, March 6 / Tuesday, March 7

One and a Half Day Course (8:30 a.m. - 5:00 p.m.) and 8:30 a.m. - 12:30 p.m.)

| #20 | Statistics for the Non-Statistician with Applications to Analytical Chemistry | (James De Muth, University of Wisconsin + Text $75.00) |

#### Monday, March 6 / Tuesday, March 7

Two-Day Course (8:30 a.m. - 5:00 p.m.)

| #10 | Internal Auditing | (Chris Gunning, A2LA) |
| #11 | Practical Comprehensive Multidimensional Gas Chromatography (GCxGC) | (Matthew Klee, XO ASSOCIATES LLC) |
| #19 | Scientific Publications and Oral Presentations Techniques | (Peramo Antonio, iPublishPapers.com) |

Please visit pitcon.org or the PITCON2017 mobile app for complete details.
### PITTCO N  2017 SH O RT CO U RSES B Y D ATE

**Tuesday, March 7 (8:30 a.m. - 5:00 p.m.)**

| #71 | Analytical Organic Mass Spectrometry (William Budde, Retired USEPA) |
| #146 | Auditing GMP Regulated Laboratories: Preparation and Execution (Bob McDowall, R D McDowall Ltd) |
| #86 | Coaching and Mentoring in R&D (Elizabeth Treher, The Learning Key) |
| #31 | Fundamentals of Particle Size Analysis with an Emphasis on Light Scattering Techniques (Alan Rawle, Malvern Instruments Inc./Ulf Nobbmann, Malvern Instruments Inc.) |
| #43 | Good Documentation Practices and Effective Analytical Documents in Pharmaceutical GMP Laboratories (Kim Huynh-Ba, PHARMALYTIK) |
| #66 | Highlights of Process Analytical Technology (PAT) & FDA Directives (Shib Mookherjea, ValQual International, Inc.) |
| #104 | Highly Successful Strategies for LC/MS Quantitation: Current Applications and Emerging Technologies (Rick King, PharmaCadence Analytical Services, LLC) |
| #35 | LIMS and ELN: How to Select, Plan and Implement the Right Software Solutions for Your Laboratory (Howard Rosenberg, CSols, Inc.) |
| #121 | Technical Writing at Work (Steven Schultz, Writing at Work, Inc.) |

**Tuesday, March 7 (8:30 a.m. - 12:30 p.m.)**

| #37 | A Practical Guide to the New Global Guidelines on Elemental Impurities and Analytical Procedures for Pharmaceutical Materials and Dietary Supplements (Robert Thomas, Scientific Solutions + Text $86.00) |
| #74 | Coaching as a Powerful Leadership Tool (Janice Sabatine, Avanti Strategies) |
| #72 | Elemental Analysis via Laser Induced Breakdown Spectroscopy and X-ray Fluorescence (Randy Vander Wal, Penn State University) |
| #61 | Imaging Based Morphology: Fundamentals (Giuseppe Bonifazi, Sapienza - Università di Roma) |
| #94 | Lab-on-a-Chip Devices II (Svensden Winnie, DTU Nanotech, Technical Univ. of Denmark + Text $135.00) |
| #47 | Measurement and Interpretation of pH in Aqueous and NonAqueous Solutions and a Host of Other Stuff (Bill Tindall, Analytical Science Solutions) |
| #46 | Pharmacokinetics and Pharmacodynamics for the Analytical Scientist (Marcel Musteata, Albany College of Pharmacy and Health Sciences) |
| #39 | Practical Maintenance and Troubleshooting in Gas Chromatography (Jaap de Zeeuw, Restek) |
| #132 | Practical Titrations: Successful Method Development (Kerri-Ann Blake/ Frederick Fiddler, Metrohm) |
| #27 | Problems with FT-IR Spectra and How to Avoid Them (Misao Ellen, Hamamatsu) |

**Tuesday, March 7 (1:00 p.m. - 5:00 p.m.)**

| #81 | Applications of Two-Dimensional X-ray Diffraction (Bob He, Bruker AXS + Text $120.00) |
| #56 | Basic HPLC Method Development (Fredric Rabel, ChromHELP LLC) |
| #30 | Examples of Analytical Data Treatment Using Microsoft® Excel™: Part 2 – More Advanced Topics (Mark Stauffer, University of Pittsburgh – Greensburg) |
| #108 | Faster, Better, Leaner! The High Performing Lab (Willelm Romanus, Arthur O. Little/ Kurt Baes, colleague at Arthur O. Little) |
| #73 | Hyperspectral Imaging Applied To The Food Sector: Fundamentals (Giuseppe Bonifazi, Sapienza - Università di Roma/Silvia Serranti, Sapienza - Università di Roma) |
| #151 | Immunoanalytical Methods for Environmental, Food and Clinical Analysis (Rudolf Schneider, BAM) |
| #1 | Introduction to Gas Chromatography/Infrared Spectrometry (John Schneider, Argonne National Laboratory) |
| #122 | Laboratory Equipment in the Modern Kitchen (Aaron Prater, Labconco Corporation) |
| #100 | Laboratory Workflow Reengineering for a LIMS or ELN Implementation (Kurt Robak, CSols, Inc.) |
| #75 | Managing Difficult Conversations (Janice Sabatine, Avanti Strategies) |

**Tuesday, March 7 / Wednesday, March 8**

One and a Half Day Course (8:30 a.m. - 5:00 p.m. and 8:30 a.m. - 12:30 p.m.)

| #144 | Analysis of Bioanalytical Data to Extract Relevant Information (Mikael Kubista/ Jose Andrade, University of A Corunna, Dep. Analytical Chemistry) |

**Tuesday, March 7 / Wednesday, March 8**

Two-Day Course (8:30 a.m. – 5:00 p.m.)

| #134 | Essential Writing Tools for the English as a Second Language (ESL) Scientific Writer (Rick Parmely, Polished and Professional) |
| #53 | Overview of Materials Characterization Techniques (Dalia Yablon/Greg Haugstad, University of Minnesota) |

**Wednesday, March 8 (8:30 a.m. - 5:00 p.m.)**

| #63 | Characterization of Coated Polymers (Bernhard Dringenberg, BJO-analytik) |
| #106 | Confidence in Analytical Results and Measurement Uncertainty (Chris Burgess, Burgess Analytical Consultancy Limited) |
| #67 | Designing and Maintaining a Robust Quality System for Regulated (Food, Pharma, Biotech...) Laboratories (Shib Mookherjea, ValQual International, Inc.) |
| #95 | Essentials of LC-MS (Subhra Bhattacharya/Stephen Roemer, Thermo Fisher Scientific) |
| #97 | Green Analytical Chemistry (Doug Raynie, South Dakota State University) |
| #9 | Intermediate GC (Harold McNair, Virginia Tech/Lee Polite, Aslan Labs) |
| #82 | ISO 17034 Reference Material Producer Accreditation (Robert Knake, A2LA) |
| #49 | Keeping Your Analytical Procedures in Compliance with the FDA: Validation, Documentation and Change Management (Kim Huynh-Ba, PHARMALYTIK) |
| #123 | Lifecycle Approach to Analytical Methods for Drug Products: Design, Qualification, Continuing Verification (Greg Martin, Completors Consulting) |
| #87 | Managing Conflict (Elizabeth Treher, The Learning Key) |
| #90 | Measurement Uncertainty - Intermediate Level (Bernard King, Consultant) |
| #99 | Multivariate Curve Resolution - Theory and Practice (Roma Tauer, IDAEA-CSIC) |

Please visit pitcon.org or the Pittcon2017 mobile app for complete details
PITTCO N 2017 SH ORT COURSES B Y DATE

Wednesday, March 8 (8:30 a.m. - 12:30 p.m.)

#38 How to Select an ICP-MS: The Most Important Analytical Considerations
(Robert Thomas, Scientific Solutions + Text $86.00)

#57 Hydrophilic Interaction Chromatography (HILIC) - Companion to Reversed Phase HPLC (Fredric Rabel, ChromHELP LLC)

#62 Imaging Based Morphology Applied to Nano-Structures Characterization
(Giuseppe Bonifazi, Sapienza - Università di Roma)

#137 LIMS Pre-Implementation Planning (Katherine Temple, CSols, Inc.)

#126 Maintaining the Validated State of Analytical Laboratory Instrumentation in GMP/GLP Environments (Freddie Maisonet, PCI)

#48 Selection and Preparation of Buffers for Aqueous and Partially Aqueous Solvents, for Example LC Mobile Phases and Reaction Mixtures (Bill Tindall, Analytical Science Solutions)

#141 X-Ray Analysis for Metallurgical Challenges (Scott Speaman, PAINalytical)

Wednesday, March 8 (1:00 p.m. - 5:00 p.m.)

#147 Frontiers in Atomic Spectrometry Using ICP/MS as Ionisation Source I: Speciation Analyses For Environmental, Nutrition and Industrial Applications (Olivier Donard, M·ARSS-IPREM)

#80 Gases and Gas Delivery Systems for Efficiencies and Repeatability and Costs for Analytical Application (Matthew Paradiso, Airgas USA, LLC)

#58 HPLC and TLC Analysis of Herbal Medicines/Supplements for Purity and Content (Fredric Rabel, ChromHELP LLC)

#92 Hyperspectral Imaging Applied To The Food Sector: Case Studies (Silvia Serranti, Sapienza University of Rome - DICMA)

#127 Optical Rheology: Get G’ and G” at Higher Frequency (Ulf Nobbmann, Malvern Instruments Inc.)

#24 Practical Pyrolysis-GC-MS for Polymer and Material Characterization (Terry Ramus)

Wednesday, March 8 / Thursday, March 9 Two-Day Course (8:30 a.m. - 5:00 p.m.)

#52 Basic Theory, Instrumentation and Applications of Vibrational Spectroscopy (Raman, Mid-/Near-/Far-Infrared) in Materials and Life Sciences (Heinz Siesler, University of Duisburg-Essen)

#112 Basics and Applications of Modern Methods of Particle Sizing and Characterization (Remi Trottier, Dow Chemical)

#154 Good Liquid Handling and Pipeting, Automated Sample Prep and Detection - Hands-on Workshop (Petar Stojadinovic, Automation Trainer LLC/William Herm, Automation Trainer LLC)

#45 ISO 17025 Preparing for Lab Accreditation (Siri Segalstad, Segalstad Consulting AS)

#25 Petroleum, Petrochemical and Gas Analysis by Gas Chromatography (Matthew Klee, X0 ASSOCIATES LLC)

Thursday, March 9 (8:30 a.m. - 5:00 p.m.)

#98 Analytical Sampling and Sample Preparation (Doug Raynie, South Dakota State University)

#68 Qualification and Validation of Laboratory Instruments and Equipment for Regulatory and QM Compliance (IQ, OQ, PQ) (Shib Mookherjea, ValQual International, Inc.)

#138 Residual Solvents: Take Advantage of the New Flexibility in Revised USP <467> (Greg Martin, Compectors Consulting)

#18 Scientific Writing and Publication Techniques (Peramo Antonio, iPublishPapers.com)

#140 Solventless Sample Preparation for Mass Spectrometric Analysis (Gyorgy Vas, Intertek/VasiAnalytical)

#8 “Mirror, Mirror on the Wall”: A Fairy Tale of Leadership (Rick Parmely, Polished and Professional)

Thursday, March 9 (8:30 a.m. - 12:30 p.m.)

#84 A Hands-on Example on How to Develop a PLS Regression Model (Jose Andrade, University of A Corunna, Dep. Analytical Chemistry)

#152 Dreaming Green – Maximizing Energy Efficiency in the Modern Laboratory (David Wasescha, Labconco Corporation)

#135 Executing High Value Process Improvements during Laboratory Informatics Implementation Planning (Michael Barkan, CSols, Inc.)

#129 Fast GC Analysis: How to Achieve Fast Separation to Increase Sample Throughput and Productivity (Yelena Sapozhnikova, USDA)

#148 Frontiers in Atomic Spectrometry using ICP/MS as Ionisation Source II: Isotopic Analysis of Heavy Elements for Environmental, Forensic, Biomedical and Industrial Applications (Olivier Donard, M·ARSS-IPREM)

#149 How to be Successful in Scientific Publishing (Philippe Garrigues, University of Bordeaux/CNRS)

#124 LIMS Project Implementation Topics (Andrew Vega, CSols, Inc.)

#125 Maintaining Calibration Programs – Compliance Perspective (483s, Warning Letters and Consent Decree) (Nick Jones, PCI)

#88 Managing Polarities: A Tool to Build Collaboration (Elizabeth Treher, The Learning Key)

#150 Safely Implement Customization to your LIMS (Christopher Pettry, CSols, Inc.)

#32 Sampling for Particle Size Analysis (Alan Rawle, Malvern Instruments Inc.)

#139 Separations: Fundamentals of Advanced Gel Permeation & Size Exclusion Chromatography Detection (Ulf Nobbmann, Malvern Instruments Inc.)

Thursday, March 9 (1:00 p.m. - 5:00 p.m.)

#136 Identifying High Value Process Improvements During Laboratory Informatics Implementation Planning (Katherine Temple, CSols, Inc.)
The winner will receive a cash award and travel costs to Pittcon 2018 in Orlando, Florida and will be included as a speaker in the Pittsburgh Analytical Chemistry Award Symposium in his/her honor.

To nominate a candidate for the 2018 Pittsburgh Analytical Chemistry Award, please email a nominating letter 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 should include at least two seconding letters.

**Nomination Deadline is April 30, 2017**

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**PITCON 2017 WALLACE H. COULTER LECTURE**

**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 — Karl Deisseroth, M.D., Ph.D.**

**Integrated Brainwide Structural and Functional Analysis**

**SUNDAY, MARCH 5, 2017 — McCormick Place, Skyline Ballroom, W375A**

(Mixer and poster session to immediately following the lecture)

Karl Deisseroth is the D.H. Chen Professor of Bioengineering and of Psychiatry and Behavioral Sciences at Stanford University, and Investigator of the Howard Hughes Medical Institute

He received his undergraduate degree from Harvard, his PhD from Stanford, and his MD from Stanford; he also completed postdoctoral training, medical internship, and adult psychiatry residency at Stanford, and he is board-certified by the American Board of Psychiatry and Neurology. He continues as a practicing psychiatrist at Stanford with specialisation in affective disorders and autism-spectrum disease, employing medications along with neural stimulation. In the engineering school he developed and launched the undergraduate degree in Bioengineering at Stanford, and continues to serve as Director of Undergraduate Education in Bioengineering, while also teaching yearly medical physiology and optics courses.

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**CALL FOR NOMINATIONS**

**2018 Pittsburgh Analytical Chemistry Award Call for Nominations**

The Society for Analytical Chemists of Pittsburgh is accepting nominations for the 41st Annual Pittsburgh Analytical Chemistry Award, which will be presented at Pittcon 2018. 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 2018 in Orlando, Florida and will be included as a speaker in the Pittsburgh Analytical Chemistry Award Symposium in his/her honor.

To nominate a candidate for the 2018 Pittsburgh Analytical Chemistry Award, please email a nominating letter and the candidate’s CV to sacpinfo@pittcon.org with “2018 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 should include at least two seconding letters.

**Nomination Deadline is April 30, 2017**

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**2018 Pittsburgh Conference Achievement Award Call for Nominations**

The Society for Analytical Chemists of Pittsburgh (SACP) solicits nominations for the 2018 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. 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 2018 award, nominees must have completed their Ph.D. no earlier than March 1, 2007.

A letter of nomination, curriculum vitae and at least one seconding letter should be emailed to: sacpinfo@pittcon.org with “2018 Pittsburgh Conference Achievement Award Nomination” in the subject line.

**Nomination Deadline is April 20, 2017**

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**2018 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**

2018 Pittsburgh Spectroscopy Award Chair

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, 2017**
The James L. Waters Annual Symposium is a unique component of Pittcon’s 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 key individuals and milestones in the development and application of instrumentation and to highlight the importance of cooperation between inventors, scientists, engineers, entrepreneurs, and marketing organizations.

The Twenty-Eighth Annual Waters Symposium will recognize the history, science, and applications of the technologies developed by Illumina, Inc., recently ranked 13th on Chemical and Engineering News’ list of top instrument firms in 2015.

The SACP is extremely pleased to welcome the following innovators to Pittcon 2017.

**Speakers:**

- David R. Walt, Tufts University
- Jay Flatley, Illumina
- Ramji Srinivasan, Counsyl
- Daniel S. Grosu, LabCorp
- Alex Aravanis, GRAIL

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**David R. Walt, Tufts University**

David R. Walt is University Professor at Tufts University and a Howard Hughes Medical Institute Professor. Dr. Walt is the scientific founder of both Illumina Inc. and Quanterix Corp and several other companies. He is a member of the National Academy of Engineering.

**Jay Flatley, Illumina**

Jay Flatley is executive chairman of Illumina. He served as president and CEO from 1999 to early 2016, and took the company from $1.3 million in sales in 2000 to over $2.2 billion in 2015. Jay also serves as chairman of the board of Helix and Grail.

**Ramji Srinivasan, Counsyl**

Ramji Srinivasan oversees operations and technological development at Counsyl. He’s played an integral role in the creation of Counsyl’s highly-automated lab, as well as the company’s platform for patient and doctor communications.

**Daniel S. Grosu, LabCorp**

Daniel S. Grosu has more than 15 years of experience in the diagnostics space. He was most recently the chief medical officer at Sequenom. Previously, Dr. Grosu served as Illumina’s first chief medical officer; he established the Clinical Development and Medical Affairs functions at Illumina, and led the team that performed the clinical studies supporting the first FDA clearance and first CE Marking of a next-generation sequencing IVD platform and clinical assay. Earlier in his career, Dr. Grosu held positions of increasing responsibility at Siemens Medical Solutions, Bayer Healthcare Pharmaceuticals, and Johnson & Johnson. Dr. Grosu holds an MD (with Distinction in Research) from Saint Louis University School of Medicine, Missouri, and an MBA from the University of Oxford, UK.

**Alex Aravanis, GRAIL**

Alex Aravanis heads the research and development group at GRAIL, an Illumina spin-out company based in the San Francisco Bay Area, United States. GRAIL is focused on the development of an early cancer detection test based on deep sequencing of cell-free nucleic acids. Prior to GRAIL, Alex developed multiple products at Illumina, including clinical assays for the analysis of RNA and DNA from fixed tissues, whole exome analysis, massively parallel single cell transcriptomics, and liquid biopsy using cell-free nucleic acids. He received his MD and PhD in electrical engineering from Stanford University.
AWARD PRESENTATIONS AT PITTCON 2017

An important function of Pittcon is to recognize and honor scientists who have made outstanding contributions to analytical chemistry and applied spectroscopy. More information is available on our website at www.pittcon.org – Under the Technical Program Tab.

The Pittsburgh Spectroscopy Award
- Edward I. Solomon, Stanford University
  - Tuesday, March 7, 2017, 1:30 PM, Room W183a

The Pittsburgh Analytical Chemistry Award
- Janusz Pawliszyn, University of Waterloo
  - Tuesday, March 7, 2017, 8:30 AM, Room W183b

The Pittsburgh Conference Achievement Award
- Paul J. Dauenhauer, University of Minnesota
  - Monday, March 6, 2017, 8:30 AM, Room W183b

The Royal Society of Chemistry Award
- Kirsty Penkman, University of York, United Kingdom
  - Tuesday, March 7, 2017, 1:30 PM, Room W183b

The Satinder Ahuja Award for Young Investigators in Separation Science
- Omar K. Farha, Northwestern University
  - Wednesday, March 8, 2017, 8:30 AM, Room W183a

The Chromatography Forum of the Delaware Valley Dal Nogare Award
- Andras Guttman, Sciei
  - Monday, March 6, 2017, 8:30 AM, Room W183a

The SEAC – Charles N Reilley Award and Royce W. Murray Award
- Juan Feliu, University of Alicante
  - Monday, March 6, 2017, 1:30 PM, Room W183b

The Ralph N. Adams Award
- Robert T. Kennedy, University of Michigan
  - Wednesday, March 8, 2017, 1:30 PM, Room W183b

The Coblentz Society/ABB – Bomem-Michelson Award
- Keith A. Nelson, Massachusetts Institute of Technology
  - Tuesday, March 7, 2017, 8:30 AM, Room W183a

The Coblentz Society – Williams-Wright Award
- Slobodan Sasic, SSCI/AMRI
  - Wednesday, March 8, 2017, 1:30 PM, Room W183a

The Pittcon Heritage Award
- Robert J. Warren, Leco Corporation
  - Sunday, March 5, 2017, 4:45 PM, Skyline Ballroom W375b

The Pittsburgh A nalytical Chem istry Aw ard
- Slobodan Sasic, SSCI/AMRI
  - Wednesday, March 8, 2017, 8:30 AM, Room W183a

The Satinder Ahuja Award for Young Investigators in Separation Science
- Kirsty Penkman, University of York, United Kingdom
  - Tuesday, March 7, 2017, 1:30 PM, Room W183b

The Ralph N. Adams Award
- Robert T. Kennedy, University of Michigan
  - Wednesday, March 8, 2017, 1:30 PM, Room W183b

The Royal Society of Chemistry Award
- Kirsty Penkman, University of York, United Kingdom
  - Tuesday, March 7, 2017, 1:30 PM, Room W183b

The Satinder Ahuja Award for Young Investigators in Separation Science
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The Ralph N. Adams Award
- Robert T. Kennedy, University of Michigan
  - Wednesday, March 8, 2017, 1:30 PM, Room W183b

The Royal Society of Chemistry Award
- Kirsty Penkman, University of York, United Kingdom
  - Tuesday, March 7, 2017, 1:30 PM, Room W183b

SEAC – Charles N Reilley Award and Royce W. Murray Award
- Juan Feliu, University of Alicante
  - Monday, March 6, 2017, 1:30 PM, Room W183b

Charles N. Reilley Award
- Juan Feliu, University of Alicante
  - Monday, March 6, 2017, 1:30 PM, Room W183b

Royce W. Murray Award
- Joaquin Rodriguez Lopez, University of Illinois at Urbana-Champaign
  - Monday, March 6, 2017, 3:45 PM, Room W183b

Please visit pittcon.org or the Pittcon2017 mobile app for complete details.
PITCON 2017 CONFEREE NETWORKING

Free unique networking opportunities for registered conferees. Come join the discussion on a variety of topics in an informal setting.

**Sunday, March 5, 2017, 1:30 PM - 3:00 PM**
- Analytical Chemistry in Developing Countries  
  Norman Fraley  
  W185a
- Getting the Most of Your Pittcon Experience  
  Pittcon Committee Members  
  W186c
- Laboratory Safety  
  James Kaufman  
  W185bc
- Patent Law and Considerations for the Researcher  
  Joshua Bishop  
  W185d
- Preparing for a New Career in Chemistry  
  Joseph Joslin  
  W186b

**Monday, March 6, 2017, 10:30 AM - 12:00 PM**
- Cannabis Testing Forum: New Opportunities for Enhancing Quality and Expanding Research  
  Joshua Crossney  
  W185a
- Cross Pharma Collaborations on New Analytical Instrumentation  
  Christopher Welch/Benjamin Mann  
  W185bc
- ISO and NIST Requirements for Volume Verification, Validation, and Calibration of Automated Liquid Handling and Pipetting Systems  
  Peter Stojadinovic/William Herm  
  W185d
- Nanoscience and Nanotechnology (NANT) Education  
  Julia Xiaojun Zhao/Jiao Chen  
  W186b
- Particle Analysis  
  Jeffrey Bodycomb/Kevin Swain  
  W186c

**Monday, March 6, 2017, 2:00 PM - 3:30 PM**
- Non-Invasive Biomedical Analysis - VOCs Are in the Air – From Cellular Metabolism to Crowd Monitoring  
  Wolfram Miekisch  
  W185a
- Social Media and Science: Building Relationships for Long-Term Value  
  Megan Cavanaugh/Luke Patterson  
  W185bc
- The Advantages of Accreditation  
  Natalia Larimer/Roger Muse  
  W185d
- The Startup/Small Company Analytical Laboratory  
  Amy Grano  
  W186b
- What is Really in my Food?  
  Sneh Bhandari/John Szpylka  
  W186c

**Tuesday, March 7, 2017, 10:30 AM - 12:00 PM**
- Choosing the Best Laboratory Improvement Project  
  Katherine Temple  
  W185a
- Hyperspectral Imaging: A New Multipurpose Analytical Tool  
  Giuseppe Bonifazi  
  W185bc
- Mobile Phase Selection for LC-MS Analysis  
  Subhra Bhattacharya/Stephen Roemer  
  W185d
- Student-Faculty-Industry Networking: Getting Students Prepared for their Careers  
  Erin Gross/Arinal Mousavi  
  W186b
- The Importance of Particle Shape Information in the Pharmaceutical Product Quality Control Process  
  Lily Zu/Peter Bouza  
  W186c

**Tuesday, March 7, 2017, 2:00 PM - 3:30 PM**
- Defining, Refining, and Advancing Chemical Measurement and Imaging  
  Lin He/Michelle Bushey  
  W185a
- Detection of Drug Consumption in Human Breath  
  Wolfgang Vautz/Maggie Tam  
  W185bc
- ICP-MS and Chromatography for Metals Speciation  
  Larry Ir  
  W185d
- Standard Methods for the Examination of Water and Wastewater Updates  
  William Lipps  
  W186b
- What is the True Meaning of FDA’s April 2016 Guidance Document on Data Integrity?  
  Michael Barkan  
  W186c

**Wednesday, March 8, 2017, 10:30 AM - 12:00 PM**
- Advances in MicroRNAs Non-Invasive Biomedical Analysis, Diagnosis and Its Clinical Application  
  Samy Abdel Azim/Abdel Moneim Alf  
  W185a
- Analytical Instrument Qualification for Systems Utilizing Multi-Vendor Components  
  Christopher Hahn  
  W185bc
- Detection Techniques for Chemical Contaminants and Pesticides  
  Monika Madhav  
  W185d
- Metal Sample Preparation  
  Satu Hyvarinen  
  W186b
- Steal My Strategy: Crowdsource Ideas to Improve Your Teaching!  
  Anna Donnell  
  W186c

**Wednesday, March 8, 2017, 2:00 PM - 3:30 PM**
- A Scientist as a Consultant  
  Dean Tzeng  
  W185bc
- COA Ch – On the Success and Impact of Priscilla Lewis  
  W185a
- Managing a Successful Graduate Experience  
  Logan Miller  
  W185a
- Teaching Strategies for Undergraduate Analytical Courses  
  Michelle Kovarik  
  W185d

No preregistration required. Check our website for the schedule, session descriptions, and more information.

[www.pittcon.org](http://www.pittcon.org)

Please visit pittcon.org or the Pittcon2017 mobile app for complete details.
AGENDA OF SESSIONS

SUNDAY AFTERNOON, MARCH 5, 2017

THE WALLACE H. COULTER LECTURE
Karl Deisseroth, Stanford University – Integrated Brainwide Structural and Functional Analysis

AWARDS AND SYMPOSIA
The Pittcon Heritage Award
Accurate Mass Analysis of Organic Contaminants in Food and Water
ACS-DAC - Analytical Advances in Sustainable and Safe Nanotechnology
Advances in All-Optical Laser Plasma Spectroscopy
Advances in Laser Induced Breakdown Spectroscopy
Analytical Surface Characterization of Nanomaterials
Carbon Nanomaterial-Enabled Microsensing Technologies
Food Analysis - Looking Beyond Mass Spectrometry
Translational Microfluidic Platforms for Clinical Diagnostics

WORKSHOP
CACA - How to be Successful in Your Career

ORGANIZED CONTRIBUTED SESSIONS
Advanced Concepts in Ion Chromatography and Recent Trends Ionophore-Based Chemical Sensors I

ORAL SESSIONS
Analysis of Pharmaceutical Ingredients by GC (Half Session)
Chromatography Stationary Phases (Half Session)
Environmental Separations
Fluorescence and Luminescence Advances
Forensic Separations (Half Session)
Measuring Dopamine and Serotonin In Vivo
Metabolomics, Proteomics, and Lipidomics
New Developments in GC
Petrochemical Analysis by GC (Half Session)

POSTER SESSIONS
Sunday Posters
ACS-DAC Posters

MONDAY MORNING, MARCH 6, 2017

AWARDS AND SYMPOSIA
The Chromatography Forum of Delaware Valley Dal Nogare Award
The Pittsburgh Conference Achievement Award (Dauenhauer)
The Pittsburgh Conference Achievement Award (Robinson)
Advances in Biological Mass Spectrometry
Advances in Nucleic Acid Ligand Screening Methods Against Extra-Cellular Targets
Clinical Biophotonics
Identification and High Throughput Analysis for Food Safety and Cosmetics
Ionic Liquids for Electrocatalysis and Gas Sensors
Label-Free Detection for Microfluidic Bioanalyses
Miniature Mass Spectrometers

ORGANIZED CONTRIBUTED SESSIONS
Drug Detection in the Field
Extractables and Leachables Analysis
Ionophore-Based Chemical Sensors II

ORAL SESSIONS
Advances in Mass Spectrometry
Biomedical - Novel Techniques
Environmental Analysis of Water Quality
Food Identification (Half Session)
Food Safety (Half Session)
Laboratory Informatics
LC/MS - Bioanalytical, Biomedical and Pharmaceutical Others - Chromatography and Sampling
Sampling and Sample Preparation - MS and IC
Sampling and Sample Preparation - SPME

POSTER SESSIONS
Bioanalytical - MS, MS/GC, and LC/MS
Electrochemistry
GC Methods and Developments
LC/MS
Magnetic Resonance in Biological and Nano Materials
Pharmaceuticals
Sampling and Sample Preparation: MS, SPE, and SPME
Separation Science

MONDAY AFTERNOON, MARCH 6, 2017

AWARDS AND SYMPOSIA
The LCGC Lifetime in Achievement and Emerging Leader in Chromatography Awards
The SEAC - Charles N Reilley Award and Royce W Murray Awards
ACS-DAC - Advances in Biomolecule Quantitation by Mass Spectrometry
Cellular Respiration (Breath-Based) Metabolomics: In Vitro Links to Living Systems for Toxicology, Food Safety, Infection, Pharmaceutical Production and Metabolism Diagnostics
Frontiers in Sensors: From Ultrasensitive to Single Molecule Devices
Integration of Liquid Chromatography and Mass Spectrometry in Proteomics
It’s Legal! Now What? The State of Sample Analysis in the Era of Legal Cannabis
Method Development Strategies for Two-Dimensional Liquid Chromatography Separations – Small and Large Molecules
Nanomedicine, From Diagnostics to Large Animal Therapy
Novel Approaches in Optical Biological Imaging and Bioanalytical Analysis
The Twenty-Eighth James L Waters Symposium on Genomic Analysis Technologies

WORKSHOP
The Current State of the Art in (U)HPLC Columns

ORGANIZED CONTRIBUTED SESSIONS
A Symphony of Neurochemical Tools
Field Spectroscopic Analysis: Environmental, Pharmaceutical and Security Applications

ORAL SESSIONS
Environmental Analysis of Metals and Nanomaterials
Environmental Analysis of Pesticides, Hydrocarbons, and Other Organics
GC/MS - Polymers, Plastics, and Environmental (Half Session)
Laboratory Management: Automation (Half Session)
LC/MS - General Interest and Others
Pharmaceutical Analysis and Stability
Pharmaceutical Characterization
Sampling and Sample Preparation - Liquid Extraction, SPE and Others
Sensors - Bioanalytical

POSTER SESSIONS
Atomic Spectroscopy - Environmental, Food, Fuels, Metals
Drug Discovery
Environmental Air Quality
LC - Pharmaceutical
Proteomics and Metabolomics
Quality/QA/QC
Sensors
UV/VIS Applications

Please visit pitcon.org or the Pittcon2017 mobile app for complete details
TUESDAY MORNING, MARCH 7, 2017

AWARDS AND SYMPOSA
- The Coblentz Society/ABB - Bomem-Michelson Award
- The Pittsburgh Analytical Chemistry Award
- How Did That Get in My Food? Determination of Process Induced Food Contaminants
- In Vivo Neurochemistry: Faster, Smaller, More Sensitive Methods for Real-Time Neuroanalysis
- JAIMA - Emerging Technologies for the Evaluation of Biotechtherapeutics
- Multimodal Chemical Imaging Approaches
- Single Nanoparticle Electrochemistry
- Terahertz Spectroscopy and Imaging for Biomedical and Pharmaceutical Applications

WORKSHOP
- Analytical Information Markup Language (AnIML) Data Standard in Action

ORGANIZED CONTRIBUTED SESSIONS
- Electrochemistry at Nanoscale Structures
- Quantum Cascade Lasers - A Different Approach to Infrared Spectroscopy

ORAL SESSIONS
- Advancements in Environmental Monitoring
- Analysis of Drugs for Forensics Applications (Half Session)
- Analytical Education (Half Session)
- Applications of Microspectroscopy for Materials Characterization
- Biomedical - Sensors, Nanotechnology and Microfluidics
- GC/MS - General Interest and Homeland Security
- LC - Environmental and Others
- LC - Pharmaceutical (Half Session)
- New Approaches to Understanding Brain Function
- Pharmaceutical Characterization with Spectroscopy and Spectrometry
- Process Analytical Chemistry / Monitoring (Half Session)
- Process Analytical Technologies and Methods

POSTER SESSIONS
- Bioanalytical - Electrochemistry
- Biomedical Analysis
- Environmental Analysis of Pesticides, PPCPs, VOCs and other Organics
- LC - Environmental and Others
- Others
- Pharmaceutical - LC, MS, GC, and LC/MS
- The Versatile Use of Portable Instruments

TUESDAY AFTERNOON, MARCH 7, 2017

AWARDS AND SYMPOSA
- The Pittsburgh Spectroscopy Award
- The Royal Society of Chemistry Award
- ACS-DAC - Ion Mobility: Adding New Dimensions
- Advances in Real-Time Detection of Metal Ions for Bioimaging and Environmental Monitoring
- Forensic Analysis in the Lab and Crime Scene
- IAEAC - Novel Sensor Strategies for the Quantification of Biogenic Amines
- JAIMA - Analytical Solutions for Biopharmaceutical Practice - Recent Trends
- Microanalytical Methods for Immunology
- Process Analytical Technologies for Pharmaceutical and Biopharmaceutical Continuous Manufacturing
- Recent Innovations in Nanosensing

ORGANIZED CONTRIBUTED SESSIONS
- Current Trends in Pharmaceutical Dissolution Testing
- From Discovery to Precision Medicine: Mass Spectrometry Through the Years and Beyond
- SEAC: The Student Session in Electroanalysis

ORAL SESSIONS
- Bioanalytical - Electrochemistry
- Bioanalytical - Fluorescence/Luminescence, and Capillary Electrophoresis
- Bioanalytical - MS, GC/MS, and LC/MS
- Bioanalytical Application of Mass Spectrometry
- Clinical Chemistry Aspects with Focus on Pathogens, Marijuana and Anti-Cancer Measurements (Half Session)
- Microfluidics Methods - Biomedical Applications
- Microfluidics Methods - Environmental Applications (Half Session)
- Recent Developments in Portable Instruments
- Sensors - Bioanalytical, Biomedical, Pharmaceutical, and Clinical/Toxicology

POSTER SESSIONS
- Bioanalytical - Sensors and Lab-on-a-Chip
- Environmental Analysis of Water Quality
- Food Identification
- Food Science
- GC/MS
- Sampling and Sample Preparation - Liquid Extraction, and Others
- Surface Analysis/Imaging

WEDNESDAY MORNING, MARCH 8, 2017

AWARDS AND SYMPOSA
- The Satinder Ahuja Award for Young Investigators in Separation Science
- ACS-DAC - Mid-Scale Instrumentation Programs in the Chemical Sciences
- Bioinformatics: Metabolite Identification and Quantification
- Innovations in the Analysis of Emerging Psychotropic and Synthetic Designer Drugs
- Measuring the Brain: From the Synapse to Thought
- Nanotechnology and Bioanalytical Chemistry
- Pharmaceutical Applications of Microfluidics
- Recent Developments in Mass Cytometry
- Scalable Neuro-Based Cell Culture Assays for Drug Discovery and Toxicity Testing
- Wearable and Point-of-Care Sensor Technologies for Biomonitoring

WORKSHOP
- Analytical Methods and Reference Materials for Dietary Supplements

ORGANIZED CONTRIBUTED SESSIONS
- Frontiers in Atomic Spectrometry: Isotopic Signatures for Novel Environmental Assessments of Non Conventional Isotopic Systems
- SFE/SFC: Current Trends for Pharmaceutical and Natural Products

ORAL SESSIONS
- Advances in Fuel and Petrochemical Analyses
- Analysis Methods for Polymers and Plastics (Half Session)
- Biomedical - Microfluidics/Lab-on-a-Chip
- Capillary Electrophoresis - New Technology
- Consumer Products (Half Session)
- Environmental Analysis for Air Quality and Atmospheric Conditions
- Food Science
- LC - Bioanalytical Sensors
- Environmental, Nanotechnology, and Food Safety Spectroscopic Applications in Materials Science

POSTER SESSIONS
- Analytical Education
- Applications of Mass Spectrometry
- Chemical Analysis of Art and Archaeological Objects
- Environmental Analysis of Metals
- Forensics and Homeland Security
- Fuels, Energy and Petrochemical Analyses
- Pharmaceutical - Vibrational, Raman, Microscopy, and Others
- SEAC Posters

Please visit pittcon.org or the Pittcon2017 mobile app for complete details
AGENDA OF SESSIONS

WEDNESDAY AFTERNOON, MARCH 8, 2017

AWARDS AND SYMPOSIA

The Coblentz Society - Williams-Wright Award
The Ralph N Adams Award
ACS-DAC - Analyzing Chemical Signals Across Biological Kingdoms
Advances in Raman Spectroscopy
Frontiers in Metabolomics: Analytical Challenges and Advances
Integrated Microscale Chemical Analyzers
Measurement at the Speed of Thought – New Analytical Approaches for Monitoring the Brain
Plasmonic Toolbox for Chemical Analysis
Sampling and Sample Preparation for Direct Introduction
Mass Spectrometry
Single Cell Analysis for Precision Medicine
The Power of Column Technology in Liquid Chromatography

WORKSHOP

Food Safety and Quality: Emerging Challenges

ORGANIZED CONTRIBUTED SESSIONS

Bioanalytical Methods to Study Neurological Disorders
PAI-NET - Highly Sensitive Detection of Biomolecules and Its Related Techniques

ORAL SESSIONS

Analysis of Explosives and Chemical Weapons for Forensics Applications (Half Session)
Developments in Forensics and Homeland Security Analyses (Half Session)
ICP-MS as an Universal Tool (Half Session)
LC - General Interest and Food Science
Molecular Spectroscopy Special Analytical Techniques
Nano-Electrochemistry
Novel Applications of Vibrational Spectroscopy (Half Session)
Pharmaceutical Analysis by Liquid Chromatography
SERS UVRR Applications
Solving Biomedical Issues with Mass Spectrometry (Half Session)

POSTER SESSIONS

Bioanalytical - Others
Bioanalytical - Sampling
Characterization of Polymers and Plastics
Consumer Products
Food Safety
High-Throughput Chemical Analysis
LC - General Interest
Material Science
Microscopy
Supercritical Fluid Chromatography
Thermal Analysis
Undergraduate Posters

THURSDAY MORNING, MARCH 9, 2017

SYMPOSIA

ACS-DAC - Unconventional Pipetting for Bio/Chem Analysis
Analytical Cannabis I
Analytical Techniques for Probing Neurochemistry
Evolving Spectroscopic Technologies for Point-of-Origin Detection of Diseases and Environmental Toxins
Impacts of Single Cell Analysis on Biology and Medicine
Recognizing Cutting-Edge Chemistry from the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE)
SAS - Metallomics
UHPLC Method Development in Pharmaceutical Analysis

WORKSHOP

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

ORGANIZED CONTRIBUTED SESSION

SFC Chromatography for Food Analysis

ORAL SESSIONS

Bioanalytical - Fluorescence/Luminescence Techniques
Bioanalytical - Microfluidics/Lab on-a-Chip and Others
Bioanalytical Electrochemistry
Bio/Pharma Electrochemistry
Capillary Electrophoresis of Proteins, Peptides, and Metabolites (Chemometrics (Half Session)
Drug Discovery (Half Session)
Electrochemical Characterization of Corrosion and Water Oxidation (Half Session)
Electrochemical Investigations of Energy Storage Materials (Half Session)
In-Vivo and Neuro Electrochemistry

POSTER SESSIONS

Chemical Methods
Fluorescence and Luminescence
Microfluidics Methods
Molecular Spectroscopy Advances Raman and Infrared
 Nanotechnology Applications
New Methods
Process Analytical Chemistry

THURSDAY AFTERNOON, MARCH 9, 2017

SYMPOSIA

Analytical Cannabis II
Atomic Spectroscopy Instrumentation Development: A Disconnect Between the Research Laboratories and the Pittcon Floor
In Vivo Neurochemistry: Applications from Single Cells to Behavior
Metabolomics: Breath as a Sample for Clinical Analysis
Native Analysis of Biomolecules by Mass Spectrometry
Pharmaceutical Applications of Electrochemistry
SAS - Molecular Spectroscopy for Disease Detection

ORGANIZED CONTRIBUTED SESSIONS

Chiral Method Development
Modified Carbon-Based Materials for Sensors, Arrays, and Catalysis

ORAL SESSIONS

Bioanalytical - LC, Sensors, and Microscopy
Chemical Methods (Half Session)
Data Analysis and Manipulation, Computer Modeling and Simulation
Nanotechnology Applications
New Methods
Novel Applications of Surface Analysis/Imaging
Surface Modification/Imaging Developments
**PITTCON 2017 TECHNICAL PROGRAM**

**SYMPOSIUM**

**Session 10**

**The Pittcon Heritage Award**

**Session 10**

arranged by Sarah Reisert, Chemical Heritage Foundation

**SYMPOSIUM**

**Session 30**

**Accurate Mass Analysis of Organic Contaminants in Food and Water**

arranged by Imma Ferrer, University of Colorado

**SYMPOSIUM**

**Session 40**

**ACS-DAC - Analytical Advances in Sustainable and Safe Nanotechnology**

arranged by Wenwan Zhong, University of California Riverside and Lisa A Holland, West Virginia University

**SYMPOSIUM**

**Session 60**

**Advances in Laser Induced Breakdown Spectroscopy**

arranged by Jagdish P Singh, JPS Advanced Technology R&D LLC and Richard E Russo, Lawrence Berkeley National Laboratory

**SYMPOSIUM**

**Session 70**

**Analytical Surface Characterization of Nanomaterials**

arranged by Jill Millstone, University of Pittsburgh

**HERITAGE AWARD**

**Session 10**

arranged by Sarah Reisert, Chemical Heritage Foundation

Sunday Afternoon, Skyline Ballroom, West 375b

Sarah Reisert, Chemical Heritage Foundation, Presiding

4:45 (10-1) Presentation of the 2017 Pittcon Heritage Award to Robert Warren, Leco, by Robert GW Anderson, Interim President, Chemical Heritage Foundation

**THE WALLACE H. COULTER LECTURE**

**Session 20**

**The Wallace H Coulter Lecture**

arranged by Wenwan Zhong, University of California Riverside

Sunday Afternoon, Skyline Ballroom, West 375b

5:00 (20-1) Integrated Brainwide Structural and Functional Analysis KARL DISSERTOTH, Stanford University

**SYMPOSIUM**

**Session 30**

**Accurate Mass Analysis of Organic Contaminants in Food and Water**

arranged by Imma Ferrer, University of Colorado

Sunday Afternoon, Room W178b

Imma Ferrer, University of Colorado, Presiding

1:30 Introductory Remarks - Imma Ferrer

1:35 (30-1) High Resolution Mass Spectrometry Profiling of Dissolved Organic Matter in Environmental and Processed Water MIRA PETROVIC, ICRA - Catalan Institute for Water Research, Yanoslar Verk, Mira Celc

2:10 (30-2) Organic Contaminants Analysis in Water - From Influent to Effluents During Treatment by UHPLC-HRAM DAI-HUI DOROTHY YANG, Agilent Technologies, Tarun Anumol, Angela Smith

2:45 (30-3) LC-MS as a Tool to Optimize Wastewater Treatment VIVIANE VARGEAU, McGill University

3:20 Recess

3:35 (30-4) Identification and Toxicity of Halogenated Nonylphenol Disinfection By-Products During Chlorination and Chloramination by High Resolution Mass Spectrometry CHRISTIANE HOPPE-JONES, University of Arizona

4:10 (30-5) Accurate Mass Analysis of Environmental Contaminants: A 15-Year Journey IMMA FERRER, University of Colorado, Michael Thurman

**SYMPOSIUM**

**Session 40**

**ACS-DAC - Analytical Advances in Sustainable and Safe Nanotechnology**

arranged by Wenwan Zhong, University of California Riverside and Lisa A Holland, West Virginia University

Sunday Afternoon, Room W179a

Wenwan Zhong, University of California Riverside, Presiding

LISA A HOLLAND, West Virginia University, Tyler Davis, Mariiah Ellington, Cassandra Criefffield

1:30 Introductory Remarks - Wenwan Zhong and Lisa A Holland

1:35 (40-1) Biomolecular Coronas on Nanoparticles CATHERINE MURPHY, University of Illinois at Urbana-Champaign

2:10 (40-2) Design and Redesign of Sustainable Engineered Nanomaterials CHRISTY L HAYNES, University of Minnesota

2:45 (40-3) Characterizing Nanoparticle Tissue Interaction via 3D Optical Imaging WARRIEN CHAN, University of Toronto

3:20 Recess

3:35 (40-4) Separation and Fluorescence: Tools to Characterize Biomolecular Affinity in Nanomaterials WENLIAN ZHONG, University of California Riverside

4:10 (40-5) Biological Targeting and Biocompatibility Scanning of Nanoparticles: Toward Safer Materials LISA A HOLLAND, West Virginia University, Tyler Davis, Mariiah Ellington, Cassandra Criefffield

**SYMPOSIUM**

**Session 50**

**Advances in All-Optical Laser Plasma Spectroscopy**

arranged by Vassilia Zorba, Lawrence Berkeley National Laboratory

Sunday Afternoon, Room W179b

Vassilia Zorba, Lawrence Berkeley National Laboratory, Presiding

1:30 Introductory Remarks - Vassilia Zorba

1:35 (50-1) Exploring Mars with Curiosity: New LIBS Applications Out of This World ROGER C WIENS, Los Alamos National Laboratory, Sylvestre Maurice, Sam Clegg

2:10 (50-2) The Use of Resonant Laser Pulses for Emission Enhancement in Laser-Induced Plasmas STEVEN JAMES REHSE, University of Windsor, Russell A Putnam, Dylan J Malenfant, Beau G Greaves

2:45 (50-3) Progress and Challenges for LIBS in the Deep Ocean and Other High Pressure Environments STEPHEN Muffer, University of North Carolina Columbia, Iden Pekozan, Joseph Bonvillar, Patrick Barnett, Sam Clegg, Roger C Wiens, Shw K Sharma

3:20 Recess

3:35 (50-4) Nanoparticle Enhancement in Laser Induced Plasma Emission ALESSANDRO DE GIACOMO, University of Bari, MarcelIA Dell’Aglio, Can Koral, Rosalba Gaudioso

4:10 (50-5) Femtosecond Filament-Laser Ablation Molecular Isotopic Spectrometry VASSILIA ZORBA, Lawrence Berkeley National Laboratory, George Chan, Ran Hai, Xiangli Mao, Richard E Russo

**SYMPOSIUM**

**Session 60**

**Advances in Laser Induced Breakdown Spectroscopy**

arranged by Jagdish P Singh, JPS Advanced Technology R&D LLC and Richard E Russo, Lawrence Berkeley National Laboratory

Sunday Afternoon, Room W181a

Jagdish P Singh, JPS Advanced Technology R&D LLC, Presiding

2:10 (60-2) Industrial Applications of the Laser-Induced Breakdown Spectroscopy Technique VINCENZO PALLESCHI, CNR

2:45 (60-3) Expanding Laser Ablation ICP-MS Capabilities with Simultaneous LIBS and LASIM RICHARD E RUSSO, Lawrence Berkeley National Laboratory

3:20 Recess

3:35 (60-4) Recent Advances and New Frontiers for the LIBS Technique MOHAMAD SABSABI, NRC, Paul Bouchard, Aissa Harhira, Josette El-Haddad, Andre Moreau, Alain Blouin

4:10 (60-5) Laser Induced Breakdown Spectroscopy: Application to Food Sciences JAGDISH P SINGH, JPS Advanced Technology R&D LLC, Chet R Bhatt, Charles Ghany, Bader Alfarraj, Fang Y Yueh

**SYMPOSIUM**

**Session 70**

**Analytical Surface Characterization of Nanomaterials**

arranged by Jill Millstone, University of Pittsburgh

Sunday Afternoon, Room W181b

Jill Millstone, University of Pittsburgh, Presiding

1:30 Introductory Remarks - Jill Millstone

1:35 (70-1) Gold and Silver in Nanoscale, Dispersed by Ligands to Molecular Precision HANIN HAKKINEN, University of Jyvaskyla

2:10 (70-2) Non-Traditional Methods for Surface Characterization of Semiconductor Nanocrystals EMILY WEISS, Northwestern University

2:45 (70-3) Single Atom Alloys for Efficient and Cost-Effective Catalysis CHARLES SYKES, Tufts University

3:20 Recess

3:35 (70-4) Catalytic Reactions on Optically Excited Plasmonic Metal Nanoparticles RODERICK JAMIESON, University of Minnesota

4:10 (70-5) Ultrafast Surface-Enhanced Raman Spectroscopic Studies of Molecule-Nanoparticle Surface Interactions RENEE FRONTIERA, University of Minnesota

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PITCON 2017 TECHNICAL PROGRAM

SYMPOSIUM  
Session 80  
**Carbon Nanomaterial-Enabled Microsensing Technologies**  
arranged by Prabhu Arumugam, Louisiana Tech University and Hongjun Zeng, Advanced Diamond Technologies, Inc  
Sunday Afternoon, Room W181C  
Prabhu Arumugam, Louisiana Tech University, Presiding  
1:30 Introductory Remarks - Prabhu Arumugam and Hongjun Zeng  
1:35 (80-1)  
Carbon Nanomaterial-Enabled Microelectrodes for Chronic Neurochemical Detection  
PRA BHU ARU MUG A M, Louisiana Tech University,  
Gaurab Dutta, An-Ti Chang, Shabnam Siddiqui, Hongjun Zeng  
2:10 (80-2)  
Electrochemical Protease Profiling Toward Cancer Analyses Using Peptides Functionalized at Carbon Nanofiber Nanoelectrode Arrays  
JUN LI, Kansasc State University  
2:45 (80-3)  
Nanocarbon Materials for Biosensing and Bioimaging: Graphene vs. Carbon Nanotubes  
YUEH ELIN, Washington State University  
3:20 Recess  
3:35 (80-4)  
Nitrogen-Incorporated Tetrahedral Amorphous Carbon Thin-Film Electrodes: Electrochemical Detection Coupled with FIA and HPLC  
GREG SWAIN, Michigan State University  
4:10 (80-5)  
In Vivo Carbon Nanotube Sensors  
NICOLE M IVERSON, University of Nebraska Lincoln, Eric M Hofferber, Joseph A Stapleton, Janelle J Adams, Victoria A Bart

SYMPOSIUM  
Session 90  
**Food Analysis - Looking Beyond Mass Spectrometry**  
arranged by Katherine Carlos and Lowri deJager, US FDA  
Sunday Afternoon, Room W183C  
Katherine Carlos, US FDA, Presiding  
1:30 Introductory Remarks - Katherine Carlos and Lowri deJager  
1:35 (90-1)  
Food Authenticity: DNA Barcoding and Genomics  
RACHEL GLOVER, FERA Science Ltd.  
2:10 (90-2)  
Multivariable RF Based Sensors for Food Quality and Safety  
CHERYL SURLMAN, CE Global Research, Nandini Nagraj, Radiislav Potyrailo, Yongjai Lee, Daniel Paik, Patrick Spooner, Zhezong Tang, Ruol Mihali, Anton Simunovic  
2:45 (90-3)  
Raman Microspectroscopy and Its Applicability to Food Industry Challenges  
STEVEN ZBYLIU, General Mills  
3:20 Recess  
3:35 (90-4)  
Applications of NMR in Food Analysis  
CLARK RIDGE, U.S. Food and Drug Administration  
4:10 (90-5)  
Traceability of Agricultural Produce via Multi-Isotopic Analysis: Advantages and Limitations  
ROSS STEVENSON, Sciences de la terre et de l’atmosphere; UQAM, David Wilkidy

SYMPOSIUM  
Session 95  
**Translational Microfluidic Platforms for Clinical Diagnostics**  
arranged by Ryan C Bailey, University of Michigan  
Sunday Afternoon, Room W183B  
Ryan C Bailey, University of Michigan, Presiding  
1:30 Introductory Remarks - Ryan C Bailey  
1:35 (95-1)  
Electrophoretic Cytometry: High Selectivity Measurement of Cell-to-Cell Variation in Protein Signaling  
AMY E HERR, University of California Berkeley  
2:10 (95-2)  
MS-INDx: Moving an In Vitro Diagnostic for Multiple Sclerosis from the Academic Lab to Market and Lessons Learned Along the Way  
DANA SPEINCE, Michigan State University  
2:45 (95-3)  
Microfluidic Trapping System for Cell Engineering and Phenotype Assay  
LIDONG QIN, Houston Methodist Research Institute  
3:20 Recess  
3:35 (95-4)  
Precision Medicine Using Circulating Markers: A New Paradigm for Managing Complex Diseases  
STEVEN SOBER, University of Kansas  
4:10 (95-5)  
Building a Droplet Microfluidic Toolbox for Low Input Epigenetics  
RYAN C BAILEY, University of Michigan

WORKSHOPS  
Session 100  
**CACA - How to be Successful in Your Career**  
arranged by Tao Jiang, Mallinckrodt Pharmaceuticals and Chuping Luo, Advanced Materials Technology  
Sunday Afternoon, Room W184a  
Tao Jiang, Mallinckrodt Pharmaceuticals, Presiding  
1:30 Introductory Remarks - Tao Jiang and Chuping Luo  
1:35 (100-1)  
What I Tried to Teach My Graduate Students About Success  
MILTON L LEE, Brigham Young University  
2:05 (100-2)  
The Importance of Choosing a Career Doing Something You Really Like  
CHRISTOPHER POHL, Thermo Fisher Scientific  
2:35 (100-3)  
Technical Skill and Knowledge is Necessary, But Far From Sufficient - Other Factors are Even More Important  
PETER T KISSINGER, Purdue University  
3:05 Recess  
3:20 (100-4)  
Career Journey from a Scientist to Business Executive  
LINDA DE JESUS, Thermo Fisher Scientific  
3:50 (100-5)  
Career Development Often Driven by the Opportunity and Persistence  
SHUANG (JAKE) YANG, Johns Hopkins University  
4:20 Panel Discussion

ORGANIZED CONTRIBUTED SESSIONS  
Session 110  
**Advanced Concepts in Ion Chromatography and Recent Trends**  
arranged by Kannan Srinivasan, Thermo Fisher Scientific  
Sunday Afternoon, Room W184d  
Kannan Srinivasan, Thermo Fisher Scientific, Presiding  
1:30 (110-1)  
Analysis of Disinfection By-Products by Ion Chromatography and Conductivity Detection  
HERB WAGNER, Independent Contractor  
1:50 (110-2)  
Recent Advances in Suppressed Ion Chromatography with Carbonate Eluents  
KANNAN SRINIVASAN, Thermo Fisher Scientific, Brittany Omphroy, Minial Sengupta  
2:10 (110-3)  
Applications of Ion Chromatography in Pharmaceuticals  
SHREIKANT KARMARKAR, Baxter Healthcare  
2:30 (110-4)  
Applications of Electrochemical Detection Following Ion Chromatography  
WILLIAM RICHARD LA COURSE, University of Maryland Baltimore County, Joshua A Willhide, Andrea R Gray, William M Cunning  
2:50 Recess  
3:05 (110-5)  
Suppressed Conductometric Open Tubular Ion Chromatography  
PURNENDU K DASGUPTA, University of Texas Arlington, Weixiong Huang  
3:25 (110-6)  
The Many Retention Modes of Ion Chromatography: What Do We Know?  
CHARLES A LUCE, University of Alberta  
3:45 (110-7)  
Faster Ion Chromatography for New and Existing Methods  
JEFFREY ROHRER, Thermo Fisher Scientific, Hua Yang, Teri Toyoik Christison, Angli Hu, Carl A Fisher

ORGANIZED CONTRIBUTED SESSIONS  
Session 120  
**Ionophore-Based Chemical Sensors I**  
arranged by Philippe Buhmann, University of Minnesota and Eric Bakker, University of Geneva  
Sunday Afternoon, Room W184bc  
Philippe Buhmann, University of Minnesota, Presiding  
1:30 (120-1)  
Novel Nanopore-Based Chemical Sensing Strategies  
ROBERT E GYURCSANYI, Budapest University of Technology and Economics, Gergely Lautner, Soma Papp, Gyula Jagerszki  
1:50 (120-2)  
Light Addressable Multianalyte Sensing of Ion Activity  
ERIC BAKKER, University of Geneva  
2:10 (120-3)  
Hydrophobic Barriers in Solid-State Potentiometric Ion-Selective Electrodes  
TOM LINDFORS, Åbo Akademi University, Ngo: Minh Nguyen Huyth, Zhanna A Bobev, Ning He  
2:30 (120-4)  
Simple Voltammetric Method for the Determination of the Partition and Diffusion Coefficients in Soft Polymeric Membranes  
ERIK LINDBERG, The University of Memphis, James B Sheppard, Bradley Hambly, Bradford Pendley  
2:50 Recess

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### ORAL SESSIONS

#### Analysis of Pharmaceutical Ingredients by GC (Half Session)
**Sunday Afternoon, Room W175a**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
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<tbody>
<tr>
<td>1:30</td>
<td>(130-1)</td>
<td>GC-FID Method for High-Throughput Analysis of Residual Solvents in Pharmaceutical Drugs and Intermediates <strong>ERIK L REGALADO</strong>, Merck Research Laboratories, Timothy Nowak, Gabriel Gabrielli, Christopher J Welch</td>
</tr>
<tr>
<td>2:10</td>
<td>(130-3)</td>
<td>From Sample Preparation to Analysis: An Exploration of Method Development Considerations for Headspace GC <strong>RAMKUMAR DHANDAPANI</strong>, Phenomenex, Kristen Parnell, Timothy Anderson</td>
</tr>
<tr>
<td>2:30</td>
<td>(130-4)</td>
<td>How to Identify and Measure What’s in Your Products: Material Characterization <strong>LEE MAROTTA</strong>, PerkinElmer, Alan Gallaspy, Timothy Ruppel</td>
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#### Chromatography Stationary Phases (Half Session)
**Sunday Afternoon, Room W175b**

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>1:30</td>
<td>(140-1)</td>
<td>GCxGC Stationary Phase Characterization <strong>ROMAN JARAMILLO</strong>, Penn State University, Chaim Schuck, Sharon Konik, Ali Moghaddam, Adrian C Michael</td>
</tr>
<tr>
<td>1:50</td>
<td>(140-2)</td>
<td>Silanol Activity of Core-SHELL Columns <strong>KARINA M TIRADO-GONZALEZ</strong>, University at Buffalo SUNY, Nahy A Lopez-Diaephun, Luis A Colon</td>
</tr>
<tr>
<td>2:10</td>
<td>(140-3)</td>
<td>A LC-MS/MS/MS Method for Vitamin B12 Analysis in Infant and Adult Nutrition Formulae and Its Comparison with the AOAC 2014.02 LC-UV Method <strong>SNEH D BHANDARI</strong>, Merieux Nutrisciences, Tiffany Gallegos-Perez</td>
</tr>
<tr>
<td>2:30</td>
<td>(140-4)</td>
<td>Comparing Ionic Liquid and Polyoxilane Stationary Phase Selectivity for the Analysis of Polycyclic Aromatic Hydrocarbons <strong>LEONARD M SODIKY</strong>, MilliporeSigma, James L Desorce, Tyler Young, Greg A Baney, Gustavo Serrano</td>
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### ORAL SESSIONS

#### Environmental Separations
**Sunday Afternoon, Room W175c**

<table>
<thead>
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<th>Time</th>
<th>Session</th>
<th>Title</th>
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<tbody>
<tr>
<td>1:30</td>
<td>(150-1)</td>
<td>Liquid and Gas Chromatographic Retention Behavior of Polycyclic Aromatic Sulfur Heterocycles on Shape Selective Stationary Phases <strong>WALTER BRENT WILSON</strong>, National Institute of Standards and Technology (NIST), Lane C Sander, Stephen A Wise</td>
</tr>
<tr>
<td>1:50</td>
<td>(150-2)</td>
<td>ASTM Method D8028 Determination of Dissolved Gases in Water <strong>ANNE JUREK</strong>, EST Analytical, Kelly Gravenor, Lindsey Pynor, Adam Guichard</td>
</tr>
<tr>
<td>2:10</td>
<td>(150-3)</td>
<td>Update on Improvements to Dissolved Hydrocarbon Gases in Water Analysis <strong>MARK L BRUCE</strong>, Restek America</td>
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<td>2:50</td>
<td></td>
<td>Recess</td>
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<tr>
<td>3:05</td>
<td>(150-5)</td>
<td>Linear and Equilibrating Response of Hydrocarbons, Oxygenates and Highly Functionalized Organic Compounds Over 7 Orders of Magnitude with Reaction-FID <strong>ANDREW JAMES JONES</strong>, Activated Research Company</td>
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PITTCON 2017 TECHNICAL PROGRAM

Sunday Afternoon, Room W175c

3:05 (180-3) Serotonin Neurotransmission in Different Brain Regions: A Combined Voltammetry, Microscopy and Mathematical Study AIA ABDALLA, University of South Carolina, Pavithra Pathiratna, Srimal A Samaranayake, Yunju Jin, Chris Atcherley, Michael L Heien, Michael Reed, Fred Nijhout, Janet Best, David Linden, Parastoo Hashemi

3:25 (180-6) Coregulation of Serotonin and Histamine in the Context of Neurodegeneration SRIMAL A SAMARANAYAKE, University of South Carolina, Robert F Roscoe, Aya Abdalla, Rhiannon Robke, Fred Nijhout, Michael Reed, Janet Best, Rosemane M Booze, Parastoo Hashemi

3:45 (180-7) Fast Scan Cyclic Voltammetry Analysis of Serotonin: Does Thiosemical Alter Neurotransmitters at a Fundamental Level? AYSSA WEST, University of South Carolina, Aya Abdalla, Parastoo Hashemi

4:05 (180-8) Carbon Composite Electrode Arrays for Monitoring Spatial Release of Serotonin From the Entire Murine Colon BHAVIK PATEL, University of Brighton, Nirav Patel, Aidan Fagan-Murphy, Derek Covill

ORSAL SESSIONS

Session 190

Metabolomics, Proteomics, and Lipidomics

Sunday Afternoon, Room W176c

1:30 (190-1) The Utilization of Increased Speed, Enhanced Chromatography and High Mass Spectral Resolution for Routine and Discovery Based Analysis of Human Plasma DAVID E ALONSO, LECO Corporation, Joseph E Bilinsky

1:50 (190-2) Discovery of Novel Metabollite Biomarkers for Chiarl Malformation HE HUANG, University of Akron, Oneoseela Aparai, Harold Rekate, Leah Shriner

2:10 (190-3) Mass Spectrometry Based Label-Free Quantitation of Peptides Related to Opioid-Induced Hyperalgesia (OIH) in Mice KRICHSAN ANAPAGI, University of Illinois at Urbana-Champaign, Ning Yang, Elena V Romanova, Stanislav S Rubakhin, Amymah Padhan, Jonathan M Swedler

2:30 (190-4) Metabolomic Profiling of Food Diets Using Ion Chromatography with High Resolution Mass Spectrometry TENNI TOYOKO CHRISTISON, Thermo Fisher Scientific, Reiko T Kiyonami, Ralf Tautenhahn, Tim J Stratton, Jeffrey Rohrer

2:50 Recess

3:05 (190-5) Capillary Microsampling CE-ESI-MS Enables Analysis of Metabolites in Single Embryonic Cells of the Developing Frog (Xenopus) Embryo ERIKA P PORTERO, George Washington University, Rosemary Masu Onijko, Sally A Moody, Peter Nemes


3:45 (190-7) Feasibility of Utilizing Untargeted Lipidomic Profiling for Detection of Clear Cell Renal Cell Carcinoma MARIA EUGENIA MONGE, Centro de Investigaciones en Bionanociencias, Maria E Knott, Lydia I Purielli

ORAL SESSIONS

Session 200

New Developments in GC

Sunday Afternoon, Room W177

1:30 (200-1) Nano Volume Injector Valve for Fast and Ultra Fast Gas Chromatography Analysis STANLEY D STEARNS, Valco Instruments Co. Inc., Martin Brisbon, Huamin Cai

1:50 (200-2) Optimization of GC Chromatography by Inlet Liner Selection TIMOTHY ANDERSON, Phenomenex

2:10 (200-3) “Woofy Mammoth”: A New Species of GC Inlet Liner Quells the Ancient Glass Wool Activity Problem RACHAEL SIMON, Agilent Technologies, Jonathan Zuck

2:30 (200-4) Simultaneous Multi-zone Fast Temperature Controls Optimized for Micro GC - Thinking Outside the AirrostBox DALE ASHWORTH, Valco Instruments, Stanley D Stearns, Huamin Cai

2:50 Recess


3:45 (200-7) Detailed Microstructure Analyses of Chlorinated Polymers VISHNUPIYA BHAKTHAVATSALEM, AAS, RRDC, Reliance Industries Ltd, Harshada Thakar, Chandra Goeche, Suryakant Bhose

4:05 (200-8) Use of a Computer Modelling and a GC Oven Insert to Reduce Analysis Times by Half CHRISTOPHER RATTRAY, Restek, Lima Wlakaci, Matt Lininger, Mark Badger

ORAL SESSIONS

Session 210

Petrochemical Analysis by GC (Half Session)

Sunday Afternoon, Room W175a

3:05 (210-1) Rapid Analyses Condition Monitoring for Fuel and Antifreeze in Used Engine Oil TIMOTHY RUPEL, PerkinElmer

3:25 (210-2) Water and Other Trace Compounds in Liquefied Petroleum Gas (LPG) Using Gas Chromatography Vacuum UV Detector (GC-VUV) DAN WISPIŃSKI, Alberta Innovates Technology Futures, Jodi Johnston, Chris Goss, Philip Walsh

3:45 (210-3) Temperature Control for Microchip Thermal Gradient Gas Chromatography ABHISIT GHOSH, Brigham Young University, Lloyd Tolley, Milton L Lee, Jacob E Johnson, Jonathan G Nuss, Aaron R Hawkins, Brian D Iverson, H Dennis Tolley

4:05 (210-4) Lipidic Ionic Liquid Stationary Phases for the Analysis of Hydrocarbons in Kerosene by Comprehensive Two-dimensional Gas Chromatography HE NIAN, Iowa State University, Cheng Zhang, Richard A O’Brien, James H Davis, Jared E Anderson

SUNDAY POSTER SESSION

Session 220

Sunday poster will be on display 3:30 PM to 7:30 PM with authors present from 5:30 PM to 7:30 PM. All posters must be mounted by 3:00 PM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

Sunday Poster Session

Sunday Afternoon, Skyline Ballroom, West 375a

(220-1 P) Use of Quadrupole GC/MS for Accurate Mass Identification and Fragment Elucidation of Unknown Compounds YONGXING WANG, Cerno Bioscience, Don Kuehl

(220-2 P) Cytotoxicity of Ionic Liquids – Liposome-ionic Liquid Interactions Investigated by DSC, DLS, and NMR SOLV-KATRINA RUKONKEN, University of Helsinki, Carina Samwald, Alexandre Robucl, Anton H Hietamaki, Joanna Witos, Almarin W King, Juhu M Holopainen, Michael Lammhehofer, Sami Hieta, Susanne K Wieder

(220-3 P) Interactions Between Biomass-Dissolving Ionic Liquids and Lipid Vesicles Studied by Localized Surface Plasmon Resonance SUSANNE K WEIMMER, University of Helsinki, Joanna Witos, Giacomo Russo, Sovi-Katrina Rukonken

(220-4 P) Centrifugal-Driven, Reduced-Dimension, Planar Chromatography RACHEL STRICKROUSER, University of Tennessee Knoxville, Nahtia Hatah, Nickolay Lavrik, Michael Segnaik

(220-5 P) Evaluation of C30 Phase Bonded on Superficially Porous Silica NORIKAZU NAGAE, Chromatik Technologies Inc., Tomoyasu Tsukamoto, Shun Kojima

(220-6 P) Modular Assembly Techniques to Synthesize Biofunctionalized Core-Shell Nanoparticle Probes for Multimodal Imaging and Therapeutics Delivery PRAKASH D NALLAMTHARY, University of Notre Dame, Ryan R Roeder, Karen Cowden-Dahl, Clodia Osipo, Alexander Robb, Tyler E Curtis, Lisa Irimata

(220-7 P) Noise Source Characterization of Inductively Coupled Plasma – Optical Emission Spectroscopy LAUREN GRABOWSKI, University of South Carolina, Scott Goode

(220-8 P) Detection of Endocrine Disrupters Using Male Blacknose Dace (Rhinechthys Artratus) WALTER BOWER, Hobart and William Smith Colleges, Nicolette E Andrezjeczy, Emily Knipper, Sydney Smilen, Susan Gushman
Please visit pittcon.org or the Pittcon2017 mobile app for complete details

PITTCRON 2017 TECHNCIAL PROGRAM

Sunday Afternoon

(220-9 P) Electrochemical Oxidation of Albendazole on Electrode Surface: Chromatographic Determination of Drug Metabolites
AMOS MOGUERU, Rowan University, Zahilis Mazzochette, Geoffrey Kamau

(220-10 P) Examination of Various Alkali as Biomarkers in Archaeological Artifacts Using LC/MS and GC/MS
TIMOTHY J WAY, Millipak College, Sara M Barker, Amanda R Kaminski, Co Quach, Arthid D Brear, Max F Harrill

(220-11 P) Micellar HPLC and UHPLC of Teraphentic Acid Impurities
ASHLEY E RICHTERSON, Miami University, Shakeela D McPherson, Jennifer M Fasciana, Richard E Pauls, Neil D Danielson

(220-12 P) Mass Spectrometry with Cold EI - GC-MS LC-MS and Real Time Analysis
AVI AMIRAV, Tel Aviv University, Alexander Falkov, Uri Keshtet, Tal Alon

THIANGU ZHOU, East China Normal University, Dingkun Lu, Wenting Shi

ACS POSTER Session 230

ACS posters will be on display 3:30 PM to 7:30 PM with authors present from 5:30 PM to 7:30 PM. All posters must be mounted by 3:00 PM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

ACS-DAC Poster Session

Sunday afternoon, Skyline Ballroom, West 735a

(230-1 P) An Automated Droplet-Based pCT Chip Resolves Small Fluorescence Differences and Enables Measurement of Single-Cell Fatty Acid Uptake
JEANT NEGOU Negoou, Auburn University, Adriana Avila Flores, Christopher J. Easley

(230-2 P) Toward Proximity-Effect Templated Fluorogenic Probes for Protein Quantification
XIANGPENG LI, Auburn University, Christopher J. Easley

(230-3 P) Evaluations of Toxicity in Artemia Franciscana
MELISSA A MORGAN, University of California Riverside, Cynthia X Larive, David C Volz

(230-4 P) DNA Linkers and Diluents for Stable and Specific Gold Nanoparticle Biocomjugates in Multiplexed SPR Imaging Assays
SAMUEL S HIRMAN, University of California Riverside, Kristy S McKeating, Chang Cheng

(230-5 P) Transport and Transformation by the Colonic Epithelium
MEREDITH DINGES, University of California Riverside, Cynthia K Larive, Christian Lytle

(230-6 P) Forensic Analysis of Lead Isotopes and Concentrations in Modern Humans Using Mass Spectrometry
SAMUEL J BROWN, Colorado College, Nathan W Bower, Gideon E Burton, Craig C Lundstrom, Laura A Regan

(230-7 P) An XRD and Metallographic Study of Ancient Minting Methods
NATHAN W BOWER, Colorado College, Stephen E Burt, David B Hendin

(230-8 P) Investigation of Topography and Surface Charge of Human Erythrocytes with Scanning Ion Conductance Microscopy
CHENG ZHU, Indiana University, Wenjing Shi, Daleke David, Lane A Baker

(230-9 P) Towards Mapping Nanoscale Transport with a Scanning Potentiometric Local Probe
LUISHAN ZHOU, Indiana University Bloomington, Lane A Baker

(230-10 P) Study of Transepithelial Transport with Coupled Patch-Clamp and Potentiometric Ion Conductance Microscopy
YUHAN ZENG, Indiana University, Lushan Zhou, Wenjing Shi, Jiungho Hsu, Lane A Baker

(230-11 P) Fundamental Studies of Scanning Electrochemistry Microscopy (SESM)
ELIZABETH M YULL, Indiana University, John Poehlman, Lane A Baker

(230-12 P) Role of Nanopipette Properties on Electrochemistry Process
GARGI S JAGDALE, Indiana University, Anumita Saha-Shah, Lane A Baker

(230-13 P) Dual-Barrel Ion Channel Probes for Sicm
ALICIA K FRIEDMAN, Indiana University, Anna E Weber, Yi Zhou, Leonard K Bright, Craig A Aspinwall, Lane A Baker

(230-14 P) Introducing Scanning Electrochemistry Microscopy to Desorption Electrochemistry Ionization for Simultaneous 4-D Topographical and Mass Spectrometry Imaging with Nanopipettes
TYLER J YANGER, Indiana University, Elizabeth M Yull, Lane A Baker

(230-15 P) Electrochemical Studies of Carbon Fibers in Room Temperature Ionic Liquids – Effect of IL Type, Temperature and Electrode Microstructure on Capacitance
KiRTI Bhardwaj, Michigan State University, Greg Swain

(230-16 P) Applications of Diamond Microelectrodes for the Detection of Nitric Oxide and Peroxynitrite
HANNAH CLAUSE, Michigan State University, Greg Swain

First Generation Amperometric Biosensing Platforms for Detection of Sarcosine
MICHAEL J FRANIELL, University of Richmond, Elizabeth E Doll, Najwa Labban, Julie A Pollock, Michael C Leopold

Layer-by-Layer Design of Xerogel-Based Amperometric First Generation Biosensors on Wire Electrodes
GRACE E CONWAY, University of Richmond, Michael C Leopold

Use of Raspberry Pi Technology for Colorimetric Detection for Microfluidics
KIMBERLEY FREDERICK, Skidmore College, Martin Beduski, Roxanna Martinez

Development of a Paper Microfluidic Test for D-Lactate
KIMBERLEY FREDERICK, Skidmore College, Emily O’Connor, Nathaniel Rhehmer, Roxanna Martinez

Detection of Hydorfracking Water Infiltration in Surface Waters
KIMBERLEY FREDERICK, Skidmore College, Laura Swenson, Tiffany Hena, Ahmed Ismail

Enhanced Sensitivity of Inkjet Printed Sensors by Electrochemical Metal Deposition
SENSON CHEN, Southern Illinois University

Protein Identification in Tetrahymena Thermophila Using Pressure Cycling Technology and LC-MS/MS
DOUGLAS BEUSSMAN, St. Olaf College, Zach J Turner, Mary Beth Dahl

Isotope Ratio Mass Spectrometry Analysis of Fibers and Effects of Chemical and Environmental Factors
DOUGLAS BEUSSMAN, St. Olaf College, Dat Le, Hannah Brown

Investigation of VOCs from Human Skin by GC-MS
DOUGLAS BEUSSMAN, St. Olaf College, Yuhi Chen

Analysis of IED Wires by Isotope Ratio Mass Spectrometry
DOUGLAS BEUSSMAN, St. Olaf College, Jane Veinza

Analysis of Decorative Candles for Volatile Organic Compounds
DOUGLAS BEUSSMAN, St. Olaf College, Caroline M Lee

Emission Measurements of Low Molecular Weight Compounds from Commercially-Used Polymeric Materials Induced by Heat and Sun-Light Treatment
AKIHIO YAMASAKI, Seikei University, Miyuki Noguchi

Measurements of Emissions of Nicotine as a Maker Component of Environmental Tobacco Smoke (ETS) and the Third Hand Smoke (THS)
MIYUKI NOGUCHI, Seikei University, Akihio Yamasaki

Development of Portable Fluorescence Detection System Using an Organic Photodiode Array Detector
KAZUHIRO MOROKA, Tokyo Metropolitan University, Hizuru Nakajima, Akihide Hemmi, Hui Zeng, Shungo Kato, Katsumi Uchiyama

Detection and Discrimination of Counterfeit Pharmaceuticals Using Direct Analysis in Real Time—Time of Flight Mass Spectrometry with Multivariate Statistical Analysis
JACQUELINE A KROMASH, Trinity College, Thomas H Naragon, Matthew J Lucas, Kristi A Wash, Robert B Gody, Janet F Morrison

Comparison of Multivariate Statistical Analysis Approaches Applied to DART-TOFMS Data for the Characterization of Counterfeit Pharmaceuticals
THOMAS H NARAGON, Trinity College, Jacqueline A Kromash, Robert B Gody, Janet F Morrison

Indirect Determination of Zinc by Thorl Complexation and Indocichrome Goulometric Titration with Photodiode Detection
JERALINE B PADILLA MERCADO, Miami University, Stacy L Breetz, Neil D Danielson

Development of Liquid Sampling-Ambient Atmospheric Pressure Glow Discharge as a Field-Deployable Source for Elemental Analysis via Optical Emission Spectroscopy
HALLI KATTA, Clemson University, R Kenneth Marcus

Parametric Dependence of Ambient Desorption Optical Emission Spectroscopy Utilizing a Liquid Sampling-Ambient Atmospheric Pressure Glow Discharge (AD-DESI-LS-APGD) Microplasma
HTO DO N PAINING, Clemson University, R Kenneth Marcus

Studying of Hydrodynamic and Loading Characteristics in Analytical Protein Separations on Polypropylene Capillary-Channeled Polymer (C-CP) Phases
LEI WANG, Clemson University, R Kenneth Marcus

A Capillary Electrophoresis Study of the Association of Graphene Quantum Dots with Small Molecule and ssDNA Targets
LEONA SIRKIS, Wake Forest University, Qian Liu, Honet Makamaka, Christa L Goyer

Monitoring Benzene at ppt Levels at Fencelines of Chemical Plants or Refineries
JENNIFER MACLAICHAN, PID Analyzers, LLC, John N Dittrick
**Monday, March 6, 2017**

### Morning

- **AWARDS**  
  **The Pittsburgh Conference Achievement Award** (Robinson)  
  arranged by Michelle Ward, University of Pittsburgh
  
  **AWARDS**  
  **Presentation of the 2017 Pittsburgh Conference Achievement Award** to Rena A S Robinson, University of Pittsburgh, by Michelle Ward, University of Pittsburgh

- **SYMPOSIUM**  
  **Advances in Nuclear Acid Ligand Screening Methods Against Extra-Cellular Targets**  
  arranged by Prabodhika Mallikaratc hy, City University of New York
  
  **SYMPOSIUM**  
  **Clinical Biophotonics**  
  arranged by Igor K Lednev, University at Albany, SUNY and Juergen Popp, Leibniz Institute of Photonic Technology

**Please visit pitcon.org or the Pittcon2017 mobile app for complete details**
9:10 (290-2) New Advances in Molecular Spectroscopic Imaging  JI-KIN CHENG, Purdue University
9:45 (290-3) Computational Imaging, Sensing and Diagnostics  AYDOGAN OZCAN, University of California at Los Angeles
10:20 Recess
10:35 (290-4) Raman Hyper-spectroscopy of Blood for Alzheimer’s Disease Diagnostics  IGOR KLEJNER, University at Albany; SUNY, Aleksandar Kazakov, Lenka Halamova
11:10 (290-5) Raman Point-of-Care Diagnosis of Infectious Diseases  JUERGEN POPP, Leibniz Institute of Photonic Technology

SYMPOSIUM Session 300
Identification and High Throughput Analysis for Food Safety and Cosmetics
arranged by Perry G Wang, US FDA and Xiaogang Chu, China Academy of Inspection and Quarantine
Monday Morning, Room W181a
Perry G Wang, US FDA, Presiding

8:30 Introductory Remarks – Perry G Wang and Xiaogang Chu
8:35 (300-1) The Application of Matrix Effect Factor (MEF) for High Throughput Cosmetics Analysis by LC-MS  WALNONG ZHOU, US FDA, Perry G Wang, James B Wittenberg
9:10 (300-2) Using Thermal Desorption Flame-Induced Atmospheric Pressure Chemical Ionization Mass Spectrometry to Rapidly Determine Chemical Compounds in Cosmetics and Food Products  JENTAE SHEA, Naif Sun Yang and Karla L. Amsden
9:45 (300-3) Screening for Contaminants in Food Products with Mass Spectrometry  JIE NENHIO, Advison, Inc., Nigel Soussou, Changtong Hao, Simon Presser, Murali Reddy, Kathak Banerjee
10:20 Recess
10:35 (300-4) Arsenic Species and N-chloro-organics in Drinking Water and Food  XR YU, University of Alabama, Xing-Fang Li, Qingqing Liu, Hanyong Peng, Xufan Lu
11:10 (300-5) Fast, Automatic, and Accurate Determination and Identification of Targeted Analytes in High-Throughput Analysis by Chromatography – Tandem Mass Spectrometry  STEVEN LEHRX, USDA ARS ERIC, Yelena Sapozhnikova

SYMPOSIUM Session 310
Ionic Liquids for Electrocatalysis and Gas Sensors
arranged by Xiangqun Zeng, Oakland University and Sheng Dai, University of Tennessee
Monday Morning, Room W181b
Xiangqun Zeng, Oakland University, Presiding

8:30 Introductory Remarks – Xiangqun Zeng and Sheng Dai
8:35 (310-1) Tiny High Sensitivity Printed Electrochemical Sensors for Air Quality and E-Health Applications  JOSEPH ROBERT STETTER, KWI Engineering Inc.
9:10 (310-2) Wearable Gas Exposure Monitoring with Microfabricated RTIL Electrochemical Sensors  ANDREW MASON, Michigan State University, Heyu Yin, Hao Wan, Sina Parsnejad
9:45 (310-3) Nanostructure of the Ionic Liquid – Graphite Stern Layer  ROB ATKIN, University of Newcastle, Aaron Eboume, Samila McDonald, Kriston Voitchovsky, Frank Endres, Gregory G Warr
10:20 Recess
10:35 (310-4) Ionic Liquids for Controlled Synthesis of Functional Materials for Energy-Related Applications  SHENG DAI, Oak Ridge National Laboratory
11:10 (310-5) Ionic Liquids for Electroanalysis and Electrocatalysis  XUANGUIN ZENG, Oakland University, Yongan Tang, Min Guo, Lu Lin

PITTCON 2017 TECHNICAL PROGRAM

SYMPOSIUM Session 320
Label-Free Detection for Microfluidic Bioanalyses
arranged by Ryan T Kelly, Pacific Northwest National Laboratory
Monday Morning, Room W181c
Ryan T Kelly, Pacific Northwest National Laboratory, Presiding

8:30 Introductory Remarks – Ryan T Kelly
8:35 (320-1) Digital Microfluidics with Label-Free Detection for Bioanalysis  AARON WHEELER, University of Toronto
9:10 (320-2) Nanoporous Gold Array: A Versatile Plasmonic Chip for High-Performance Surface-Enhanced Spectroscopy and Analytical Sensing  WEI-CHIUAN SHIH, University of Houston
9:45 (320-3) Label-Free, Multiplexed Analyses of Biomolecular Binding Interactions at Model Cell Membrane Interfaces Enabled by Nanodiscs and Silicon Photonic Sensor Arrays  RYAN C BAILEY, University of Michigan
10:20 Recess
10:35 (320-4) Microfluidic Sample Preparation, Separation and Delivery for Ultrasensitive MS-Based Bioanalyses  RYAN T KELLY, Pacific Northwest National Laboratory, Ying Zha, Yongzheng Gong, Erin S Baker, Richard D Smith
11:10 (320-5) Microchambers and Microdroplets: New Perspectives for Proteomics and Single-Cell Analysis  PETRA S DITTRICH, ETH Zurich

SYMPOSIUM Session 330
Miniature Mass Spectrometers
arranged by Zheng Ouyang and R Graham Cooks, Purdue University
Monday Morning, Room W181d
Zheng Ouyang, Purdue University, Presiding

8:30 Introductory Remarks – Zheng Ouyang and R Graham Cooks
8:35 (330-1) Novel Scan Methods Using Miniature Ion Trap Mass Spectrometers  R GRAHAM COOKS, Purdue University, Dalton Snyder, Christopher Pulliam, Patrick Fedick
9:10 (330-2) High Pressure Mass Spectrometry: A Path to Handheld Analyzers with Specificity and Sensitivity  J MICHAEL RANNEY, University of North Carolina at Chapel Hill
9:45 (330-3) Miniaturized Wire Ion Trap  DANIEL AUSTIN, Brigham Young University, Qinghao Wu, Richard Zare, Aliin Li, Yuan Tian, Aaron R Hawkins, Derek Andrews, Trevor Decker, Joshua McClellan
10:20 Recess
10:35 (330-4) Portable Digital Linear Ion Trap Mass Spectrometer  WEI GAO, Guangzhou Hexin Instrument Co., Ltd.
11:10 (330-5) Integrated Miniature Mass Spectrometry Systems  ZHENG OUYANG, Purdue University, R Graham Cooks

ORGANIZED CONTRIBUTED SESSIONS Session 340
Drug Detection in the Field
arranged by Maggie Tam, Canada Border Services Agency and Charles S Harden, US Army Edgewood Chemical and Biological Center
Monday Morning, Room W181a
Maggie Tam, Canada Border Services Agency, Presiding

8:30 (340-1) Progress and Challenges to Realizing Roadside Detection of Acute Marijuana Consumption  BRIAN H CLOWERS, Washington State University, Peyton Nosbusch, Nick Lorenc, Wenjie Liu, Herbert Hill
8:50 (340-2) Detection of Drugs of Abuse and Forensic Attribution Using Raman Spectroscopy and Existing Military Chemical Detection Equipment  JASON GUCHETEAU, USA RDECOM Edgewood Chemical Biological Center, Charles S Harden, Gretchen Blethen, Vincent McIlugh, Ashish Tripathi, Neal Kline, Erik D Emmons, Augustus W Fountain
9:10 (340-3) Detection of Drug Consumption in Human Breath  WOLFGANG VAUTZ, ION-GAS GmbH
9:30 (340-4) Detection of Drugs with Cantilever-Enhanced Photoacoustic Spectroscopy  JAAKKO LEHTINEN, Gaseria Ltd, Sauli Simialo, Iimo Kauppinen
9:50 Recess
### PITCON 2017 TECHNICAL PROGRAM

#### Monday Morning

**Extractables and Leachables Analysis**

**Session 350**

**Organized Contributed Sessions**

- **Monday Morning, Room W184d**
  - **8:30** (350-1) Chemical Assessments Supporting Post-approval Change Control of Pharmaceutical and Medical Devices **WISHL J BARIGE**, Baxter Healthcare Corporation
  - **8:50** (350-2) Extractable and Leachable Studies of Parenteral Infusion and Transfusion Products **JAIENG HONG**, Freenexus Kabi USA LLC
  - **10:05** (350-3) Simplifying the Detection of Known Components Using a New Commercially Available E & L Accurate-Mass Database and MS/MS Library **DAVID A WEIL**, Agilent Technologies, Emma Rennie, Gordon Ross, Shi-Fen Xu, Syed Lateef, Masaharu Miladi, Dorothy Yang
  - **10:50** (350-4) Unknown Identification in E&L Studies **MEGAN BERGAUFF**, SGS

**Ionophore-Based Chemical Sensors II**

**Session 360**

**Organized Contributed Sessions**

- **Monday Morning, Room W184bc**
  - **8:30** (360-1) Fluorescence Nanosensor for Ratiometric Detection of Intracellular Calcium **GUOXIN RONG**, Northeastern University, Eric Kim, Heather A Clark
  - **8:50** (360-2) Aluminum(III)-Octaethylporphyrin-Based Fluoride-Selective Paper Optode Fabricated by Inkjet Printing **XUEWEI WANG**, University of Michigan, Mark E Meyerhoff
  - **9:10** (360-3) Light Activated Electrochemistry for the Capture, Electrochemical Interrogation and Release of Rare Cells **JUSTIN GOODING**, The University of New South Wales, Stephen F Parker, Ying Yang, Mehran B Khaki, Vincius R Goncales, Simone Ciampi
  - **9:30** (360-4) Upconversion Sensing Particles **ELIZABETH (LISA) HAL**, University of Cambridge, Evaluee T Siao
  - **9:50** (360-5) Recess
  - **10:05** (360-6) Colorimetric Microfluidic Paper-Based Analytical Devices: Role of the Paper on Sample Transport and Analytical Performance **DANIEL CITERIO**, Keio University, Riki Ota, Kentaro Yamada, Hiyoriuki Shibata, Yohsiki Soda, Koji Suzuki
  - **10:25** (360-7) Voltammetric Ion Selectivity of Thin Ionophore-Based Polymeric Membranes **SHIGERU AMEMIYA**, University of Pittsburgh

**Potential Characterization of Carbon-Based Ion-Selective Electrodes** **DIPANKAR KIRLEY**, Oregon State University

**ORAL SESSIONS**

**Session 370**

**Advances in Mass Spectrometry**

- **Monday Morning, Room W175a**
  - **8:30** (370-1) Effects of Molecular Gas Addition on a Helium-Based Flowing Atmospheric-Pressure Afterglow (FAPA) Ambient Desorption/Ionization Source **SUNJ P BADAL**, Rensselaer Polytechnic Institute, YO You, Jacob T Shelley
  - **9:10** (370-3) High-Throughput Sensitive Single Particle ICP-MS Methods for Nanoparticle Characterization and Quantification **HONG SHI**, Missouri University of Science and Technology, Dan Yongbo, Ariel R Donovan, Chady Stephan, Heidi Cresek

**Real-Time Detection of Volatile Food Contaminants by PTR-MS** **JONATHAN BEAUCHAMP**, Fraunhofer IVV, Andrea Buetter

**Ultra-Trace Analysis of Mercury Species in Drinking Water (sub pg/g)**

**Monday Morning, Room W175b**

- **8:30** (380-1) High-Throughput, Highly Parallel Magnetic Nanopore-Based Immunomagnetic Isolation of Exosomes for Cancer Diagnostics **JIN A KO**, University of Pennsylvania, Neha Bhagwat, Stephanie Van, Erica Carpenter, Ben Stanger, Dave Issadore
  - **8:50** (380-2) Cycloextrins for Enhanced Selective Toxicity of Rhodamine 6G nanoGUMBOS: Chemotherapeutic Applications **NIMISHA BHATTARAL**, Louisiana State University, Ishac M Warner, Pal, Suzana Hamden
  - **9:10** (380-3) Quantitative Photocathodic pH Imaging of In Vivo Tumor Models **CHANG HEON LEE**, University of Michigan, Janggun Jo, Xueming Wang, Raoul Kopelman
  - **9:30** (380-4) Current Trends in Cancer Biomarker Discovery Using Urinary Metabolomics: Achievements and New Challenges **CASEY BURTON**, Missouri University of Science and Technology, Yinfa Ma
  - **9:50** (380-5) Recess
  - **10:05** (380-6) Single Cell ICP-MS Quantification of Metal Content in Individual Cells - An Insight into Cancer Treatment **CHAIDY STEPHAN**, PerkinElmer, Lauren Amable
  - **10:45** (380-8) Online PTR-ToF-MS Applications Revealing the Influence of Oral and Nasal Routes of Breathing on Exhaled VOC Profiles **PRITAM SUKUL**, University Medicine Rostock, Jochen K Schubert, Wolfram Miekhos, Svend Kamyszek
  - **11:05** (380-9) In Situ Solid Phase Microextraction Coupled to LC-HRMS – Sample Collection-Free Approach to Metabolic Characterization of Organ Based on Kidney Model **BARBARA BUJNO**, Nicolaus Copernicus University, Iga Stryjak

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## ORAL SESSIONS

### Session 390

#### Environmental Analysis of Water Quality

**Monday Morning, Room W175c**

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Holographic Characterization of Contaminants in Wastewater</td>
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<tr>
<td>8:50</td>
<td>Rapid and Concomitant Analysis of Pharmaceuticals in Environmental Water by Coated Blade Spray (CBS)</td>
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<tr>
<td>9:10</td>
<td>Evaluation of Extraction Techniques and Data Reduction Methods for Determination of Emerging Contaminants</td>
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<tr>
<td>9:30</td>
<td>Determination of Trace Concentrations of Oxahalides and Bromide in Municipal and Bottled Waters</td>
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<tr>
<td>9:50</td>
<td>Recess</td>
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<tr>
<td>10:05</td>
<td>Evaluation of Iodinated Disinfection By-Products Formation During Peracetic Acid Treatment by Using SPME-GC-MS and HPIC-MS/MS Detection</td>
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<tr>
<td>10:25</td>
<td>Identification of Emerging Disinfected Byproducts Originating from Organic UV Filters in Chlorinated Swimming Pools Using High-Resolution Mass Spectrometry</td>
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<tr>
<td>10:45</td>
<td>Evolution of Ion Exchange Columns used in Separation of Common Cations and Amines</td>
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### Session 400

#### Food Identification (Half Session)

**Monday Morning, Room W176a**

<table>
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<tr>
<th>Time</th>
<th>Presentation</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Determination of Carbohydrates and Organic Acids in Kombucha by Ion Chromatography</td>
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<tr>
<td>8:50</td>
<td>A Sub-Regional Study of the Chemical Composition of Bottled Waters</td>
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<tr>
<td>9:10</td>
<td>Authenticity and Purity Evaluation of Olive Oils Using Low-Field Benchtop NMR (LFBT-NMR)</td>
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<tr>
<td>9:30</td>
<td>Unique GC Column Selectivity for Time and Cost-Efficient Separation of Complex Cis/Trans Fatty Acid Methyl Esters in Food</td>
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### Session 410

#### Food Safety (Half Session)

**Monday Morning, Room W176a**

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<tr>
<th>Time</th>
<th>Presentation</th>
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<tbody>
<tr>
<td>10:05</td>
<td>Identification and Characterization of Food Packaging Contaminants</td>
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<tr>
<td>10:25</td>
<td>Bio-Inspired Poly (Amic) Acid Nanostructured Membranes as Smart Food Packaging Materials</td>
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<tr>
<td>10:45</td>
<td>On-Site Process Detection of Molds on Grain Using a GC-IMS BERT UNGETHUEM, Airsense Analytics, Andreas Walter</td>
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<tr>
<td>11:05</td>
<td>Assessment of Essential and Toxic Elements in Imported Vegetables in Uyo, Nigeria Using Neutron Activation Analysis</td>
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### Session 420

#### Laboratory Informatics

**Monday Morning, Room W176b**

<table>
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<th>Time</th>
<th>Presentation</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Pay Now or Later: Creating Solid System Application User Requirements</td>
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<td>8:50</td>
<td>How Much Does LIMS Cost? Licensing &amp; Beyond</td>
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<tr>
<td>9:10</td>
<td>A Data Acquisition, Visualization and Analysis Workbench for Open Source Analytical Instruments</td>
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<tr>
<td>9:30</td>
<td>Keeping Your SDMS Fine-Tuned and User Friendly</td>
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<tr>
<td>9:50</td>
<td>Recess</td>
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<tr>
<td>10:05</td>
<td>Planning for Laboratory Software Implementations: Often-Overlooked Considerations</td>
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<tr>
<td>10:25</td>
<td>LIMS Project Success Through Proper Project Governance and Communications</td>
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<tr>
<td>10:45</td>
<td>Use of Custom Access Based Reporting Systems for Sample QC Screening</td>
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<tr>
<td>11:05</td>
<td>Is SAP the Only System You Need to Operate Your QC Lab? A LORT Parody</td>
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### Session 430

#### LC/MS - Bioanalytical, Biomedical and Pharmaceutical

**Monday Morning, Room W176c**

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Simultaneous Determination of 28 Pteridines, Folates, and Modified Nucleosides For Cancer Risk Screening</td>
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<tr>
<td>8:50</td>
<td>Simultaneous Determination of Underivatized Amino Acids in Urine by High-Performance Liquid Chromatography</td>
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<tr>
<td>9:10</td>
<td>Assessment of Flow-Through Desorption and Online SPE Technology for the Quantitation of Dried Blood Spots</td>
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<tr>
<td>9:30</td>
<td>Automating Mobile phase for Peptide Mapping for LC-UV-MS</td>
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<tr>
<td>9:50</td>
<td>Recess</td>
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<tr>
<td>10:05</td>
<td>Elucidation of the Folate-Derived Pteridine Biosynthetic Pathway Using Metabolic Flux Analysis</td>
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<tr>
<td>10:25</td>
<td>Use of a Triple Detection System Combining Photodiode Array, Evaporative Light Scattering and Mass Detection</td>
</tr>
<tr>
<td>10:45</td>
<td>Sensitive and Fast UPLC Method Coupled with Mass Detection for the Analysis of Genotoxic Impurities</td>
</tr>
<tr>
<td>11:05</td>
<td>Development and Comparison of Quantitative Methods Using Orthogonal Chromatographic Techniques for the Analysis of Potential Mutagenic Impurities</td>
</tr>
</tbody>
</table>

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**PITCON 2017 TECHNICAL PROGRAM**

**ORAL SESSIONS**

**Session 440**

**Monday Morning, Room W177**


8:50 (440-2) Translating Traditional GC Methods to an Innovative New GC Platform KENNE T H G L Y N A T H , Agilent Technologies, Amanda Kaspick

9:10 (440-3) Assessment of Arsenic Species in Ginger LEE YU, National Institute of Standards and Technology (NIST)

9:30 (440-4) A Convergent Methodology for Full Automation in Food Safety Analysis FERNAN DO M LA N C A S, University of Sao Paulo, Bruno F Fumes, Mariane A Andrade, Ana L Toffoli

9:50 (440-5) Determination of 8 Macrolide Residues in Royal Jelly Products by Liquid Chromatography-Tandem Mass Spectrometry WU LI Q I, Zhejiang Academy of Agricultural Sciences, Shen Xueli

10:05 (440-6) Towards a Detailed Characterization of Linker Drugs Using Two-Dimensional Liquid Chromatography-Mass Spectrometry C VENKATRAMAN, Genentech, Shu Rong Huang, Ila Patel

10:25 (440-7) Rapid isolation of Monoclonal Antibodies Using Peptides Immobilized in Porous Membranes AUST IN LANDY BENNETT, Georgia Institute of Technology, Wenjing Ning, Weijing Liu, Merlin Bruening

10:45 (440-8) How to Use Automation to Achieve Extraordinarily High SPE Performance MARK HAYWARD, ITSP Solutions, Jonathan Ho, Tom Moran, Kim Gamble

**Session 450**

**Monday Morning, Room W475b**

8:30 (450-1) Iron Oxide Xerogels for Arsenic Sampling From Drinking Water in Resource-Limited Environments MICHAEL S BOMO, Massachusetts Institute of Technology, Emily B Hanhauer, Charlene Ren, Chintan Vaishnav, A John Hart, Rohit Karnik

8:50 (450-2) Improved Cleanup of Pesticides in Dry, Difficult Matrices Using a Novel Dual-Layer SPE Cartridge for LC/MS/MS and GC/MS/MS Analysis JENNIFER E CLAUS, MilliporeSigma, Katherine K Stenerson, Olga I Shimelis, Michael Ye

9:10 (450-3) Evaluation of A Novel Vapor Delivery Device for Homemade Explosives Analysis LAURYN DEGREETF, U.S. Naval Research Laboratory, Christopher Katzie, Michael Malito

9:30 (450-4) Extraction and Analysis of Organochlorine Pesticide Residues in Fatty Matrix by Lipid Removing Sorbent and GC/MS/MS JOAN STEVEN S, Agilent Technologies, Derick Lucas, Limian Zhao

9:50 (450-5) Stability of VOLS in Blood Determined by SPME/ GC/MS LYDIA G THORN B I RD , CDC, Christopher M Reese, Eduardo Sanchez, Jessica Rafson, David M Chambers


10:45 (450-7) Application of a Personal Air Sampler JASON S HERRINGTON, Restek, Jaap de Zeeuw, Rebecca Stevens, Gary Stidson, Steve Kozel

**Session 460**

**Monday Morning, Room W476**

8:30 (460-1) Extraction and Purification of DNA from Complex Biological Sample Matrices Using Solid-Phase Microextraction Coupled with Real-Time PCR OMPRAKASH HAC M A R, Iowa State University, Kevin D Clark, Janet L Anderson

8:50 (460-2) Time Weighted Average Concentration Monitoring of Compounds with Wide Range of Physicochemical Properties in Aquatic Environment Using Thin Film Solid Phase Microextraction EZEL BOYACI, University of Waterloo, Fardin Ahmad, Chris Sparham, Janusz Pawliszyn

9:10 (460-3) Evaluation and Application of SPME Arrows JASON S HERRINGTON, Restek, Jaap de Zeeuw, Rebecca Stevens, Gary Stidson, Steve Kozel

9:30 (460-4) Optimization of Thin Film Microextraction Methods for Determination of Pesticides in Environmental Matrices EMANUELA GONFRI D O, University of Waterloo, Hamid Poi-Moghamad, Angel Rodriguez-Lafuente, Jonathan J Grandy, Heather L Lord, Terry Ogal, Janusz Pawliszyn

9:50 (460-5) Recess

10:05 (460-6) Deposition of a Sorbent into a Recess on a Solid Support Provides a New, Mechanically Robust Solid Phase Micro-Extraction Device JUSTEN J POOLE, University of Waterloo, Jonathan J Grandy, German Augusto Gómez-Rí os, Nathaly Reyes-Garcés, Ezell Boyaci, Harmen Vander Heide, Barbara Bojko, Janusz Pawliszyn

10:25 (460-7) Investigation of the Hematocrit Effect on Solid Phase Microextraction NATH A LYE REYES-GARC ES, University of Waterloo, Barbara Bojko, Janusz Pawliszyn

10:45 (460-8) New Generation of Biocompatible Solid SPME Coatings for Integrated Separation Platforms Applied to Targeted and Untargeted Analyses EZEL BOYACI, University of Waterloo, Emmanouil Gonifridou, Janusz Pawliszyn

11:05 (460-9) Development of an Easy and Automated On-Fiber Derivatization Protocol for Direct Analysis of Short-Chain Amines Using a Matrix Compatible Solid-Phase Microextraction Coating EMANUELA GONFRIDO, University of Waterloo, Alice Passarini, Janusz Pawliszyn

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**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. Poster sessions are on the Exposition Floor, Aisle 2500-2600. PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

**Bioanalytical - MS, MS/ GC, and LC/MS**

Monday, Exposition Floor, Aisle 2500-2600

(470-1 P) Simultaneous LC/MS Analysis of Saccharides, Organic Acids, and Amino Acids with Using Polymer-Based HILIC Column under Alkaline Conditions LEAH BLOCK, Shodes, Showa Denko America, Junji Sarasga, Daiisuke Manaya, Ron Benson

(470-2 P) Analysis of Antibody Drug Conjugates (ADC) by 2 µm Size Exclusion Chromatography Column with Dual Functionality ATIS CHAKRA BART I, Tosoh Bioscience LLC, Richard C Manzari

(470-3 P) Identification of Potential Biomarkers of Exposure to Avobenzone PRI BHA DHIVEDI, CDC, Manoni Silva, Xiaoliu Zhou, Tolar Powell, Antonia Calafat, Xiaoyun Ye

(470-4 P) Proteome Capacity and Substrate Specificity Quantified by Mass Spectrometry JARE D LAMP, University of Notre Dame

(470-5 P) Combination of Liquid Chromatography-Surface Enhanced Raman Spectroscopy and Liquid Chromatography-Mass Spectrometry to Identify of SUMOylated Proteins Due to Nutrient Restriction in Colorectal Cancer MONICA SCHROLL, University of Notre Dame, Zachary D Schultz, Amanda B Hummon

(470-6 P) Comparative Buffer System Analysis for HPLC LC/MS Detection of Neurotransmitters and Metabolites in Non-Mammalian Systems MATTHEW H STODG HILL, Furman University, Nicholas John Kulkinski

(470-7 P) In Vivo Quantification of Melanocortin Peptides Using Capillary Liquid Chromatography-Tandem Mass Spectrometry A L EC C VALEN TA, University of Michigan, Malcolm J Low, Robert T Kennedy


(470-9 P) A Selective Capture/Release Approach to Simplified Metabolite Identification by Mass Spectrometry JING SU, Northeastern Illinois University, Gabriela Martinez

(470-10 P) Determination of the Constituent Compounds in the Essential Oil from Dioscoreophyllum Cumminsii, A Multipurpose Phytomedicine by GCMS, and Their Relevance to the Bioactivity of the Plant MODUPE MABEL OGUNESI, University of Lagos, Maurice C Amas

(470-11 P) GC-MS Identification of the Bioactive Compounds in the Essential Oil from the Aerial Parts of Cardiospermum Halicacabum, and Their Relevance to the Medicinal Uses of the Plant MODUPE MABEL OGUNESI, University of Lagos, Paul Osharie

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POSTER SESSION  Session 480

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600.

PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

**Electrochemistry**
Monday Morning, Exposition Floor, Aisle 2500-2600

- **480-1 P** Fabrication and Evaluation of Analytical Properties of N-Substituted Polypropylene Ionic Liquid Coated Electrodes: ANILKA M DEVARAPURUKHADU, The University of Toledo; Cheng Zhang, Joshua A Young, Jared J Anderson, Jon R Kirchhoff, L M Viranga Tillekeratne
- **480-2 P** Robust Diamond Electrodes for Spectroelectrochemistry, Trace Metal Detection, and General Electroanalytical Applications: CORY ALLEN RUSINKER, Fraunhofer USA, Michael F Becker, Robert Rechenbach
- **480-3 P** Development of a Novel Bipolar Electrochemically Generated Fluorescence Based Detection Method for Microchip Electrophoresis: MANJULA B WIESINGHE, University of Kansas, Dulun B Gunasekara, Susan M Lunte
- **480-4 P** Biominicmic the Cell Redox Signaling: A Bipolar Nanopore Electrode for a Single Living Cell Probing: YIJUN YING, East China University of Science and Technology; Yong-Xu Hua, Rui Gao, Yitian Long
- **480-5 P** Oxidation Properties of Aggregated Au Nanoparticles of Different Sizes: STACY ALLEN, University of Louisville; Francis Zambonini
- **480-6 P** Heavy Metal Detection by Carbon Nanotube Thread Electrochemical Cell: DAQIU ZHAO, University of Cincinnati; David Siebold, Ben Kovacic, Shawn N Veselka, William R Reineman
- **480-7 P** Electrochemical Visualization of Intracellular Hydrogen Peroxide Inside Signl Cell: JINGJING ZHANG, Nanjing University
- **480-8 P** Synthesis and Characterization of Electroporused Iridium-Iridate Oxide Nanofibers and Their Catalytic Activity for Oxygen Evolution Reaction: ARESU YE, Ewha Womans University; Myung Hwa Kim, Chongmok Lee, Youngmi Gyu
- **480-10 P** An Easy-to-Use Low-Noise Nanopore for Controlling Nanoparticle Translocation Dynamics: CHRIS GUNDERSON, University of Washington; Sam Barlow, Bo Zhang
- **480-11 P** Simultaneous Electrochemical Determination of Caffeine and Vanillin by Using Poly (Alizarin red S-modified Glassy Carbon Electrode: HAIYU FILIK, Istanbul University
- **480-12 P** Ultra-Simple and Rapid Approach for the Preparation of Solid Contact Ion Selective Electrodes: TOLUOPE ANDREW FAOSE, Keke University
- **480-13 P** Analyzing the Bio-Compatibility of Collagens on Electrochemical, Aptamer-Based Sensors: INAYAH ENTZINGER, University of Maryland; Baltimore County; Mikael Santos Cancel, Ryan White
- **480-14 P** Improving the Reproducibility of Electrically Deposited Glucose Oxidase-Embedded Chitosan Coatings onto Carbon Fiber Microelectrodes: CAITLIN E DONAHUE, Roanoke College; Timothy W Johans, Richard B Keithley
- **480-15 P** Fabrication and Electrochemical Characterization of Binary Composites of Iridium and Ruthenium Oxides: YOU-N-BIN CHO, Ewha Womans University; Chongmok Lee, Yougmi Gyu
- **480-16 P** The Effect of Carbon Fiber Microstructure on Electrochemical Performance of Disk-Shaped Microelectrodes for Fast-Scan Cyclic Voltammetry: TILAN WILLIAM BEGER, Roanoke College; Richard B Keithley
- **480-17 P** Electrochemical Microcircuit Sensing: Quantification of the Potassium Ion: ISAAC A TAYLOR, Indiana University - Purdue University Indianapolis; Frederique Desir
- **480-18 P** Stripping Voltammetry Study of Citrate-Cu Core/Shell Bimetallic Nanoparticles (NPs): DHRUBA K PRATAPRAJAPATI, University of Louisville
- **480-19 P** Atmospheric Corrosion Study of Metals in an Industrial Environment of Ahmadabad SUNITKUMAR PUNAMBHAI PAREKH, CU Shah Science College
- **480-20 P** Electrochemical Detection for High Sensitivity Cardiovascular Tests at the Point of Care: FANGAI LAI, Ortho Corporation, Eric J Vian Groll, Rebecca S Hoo, Janelle N Fawver, Thomas J Meade, Y P Ee
- **480-21 P** Electrochemical Deposition of Tantalum in Non-Aqueous Media and Its Electrochemical Applications: ANA JOE, Ewha Womans University; Yougmi Gyu, Chongmok Lee
- **480-22 P** The Role of Serotonin in Comorbid Depression and Obesity: MEILINDA HERSEY, University of South Carolina; Claudia Grillo; Victoria Macht; Adrienne Green; Jim R Fadel; Strimal A Samaranayake, Lawrence Reagan, Parastoo Hasemi

POSTER SESSION  Session 490

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600.

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**GC Methods and Developments**
Monday Morning, Exposition Floor, Aisle 2500-2600

- **490-1 P** Optimization of GC Chromatography by Inlet Liner Selection: TIMOTHY ANDERSON, Phenomenex
- **490-3 P** Fast GC: Good Separations in Less Than 10 Seconds: LEE N POLITE, Axion Analytical Labs Inc, Jackson D’Oonnell, Nikolas L Polite, Theodore N Covello, Erick D Wilts, Dennis L Polite, Mary Beth Smith
- **490-4 P** Optimize Productivity, Speed and Accuracy: ASTM Method D2887 Option B: LEE MAROTTA, PerkinElmer, Tom Kwok, Leeman Bennington, Alan Gallasy
- **490-5 P** New Diatomic Earth Materials for Packaged Columns — Exploring Inertness of Solid Support and Effect of Particle Size (mesh) and Packed Column ID on Column Efficiency: ODEN KARUNADHANA, Nestec, Jaap de Zeeuw, Rebecca Stevens, Barry Burger, Scott Adams, Kristi Sellers
- **490-6 P** New ASTM Method Dissolved Gas Sampling Technique Comparison: ANNE JUREK, EST Analytical, Kelly Cavenor, Lindsey Pyn, Adam Guichard
- **490-7 P** A New Versatile Autosampler for Liquids to Increase Productivity and Selectivity Through Dual Injection Mode: MICHAEL GASPERINI, DAN Instruments, Ornella Crispis, Roberto Tascini, Moira Zanaboni, Laura Riccati, Alessandro Giaill, Conor Sullivan
- **490-8 P** Gas Chromatography — Mass Spectrometry for Determination of Environmentally Important Phenols and Their Analogs as Chemical Modification Products: ANZOR MIKRA, National Institute of Standards and Technology (NIST); Levan A Megutnishvili, Nino G Tobi, Stephen E Stein
- **490-9 P** The Continuing Study of the Unique Selectivity of Ionic Liquid GC Stationary Phases: LEONARD M SIDDIQY, MilliporeSigma, Greg A Baney, James L Desorce, Gustavo Serrano, Xin Zheng

POSTER SESSION  Session 500

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**LC/MS**
Monday Morning, Exposition Floor, Aisle 2500-2600

- **500-1 P** Identification of a Secondary Reaction In Pre-Column Amine-Derivatization of Samples for UHPLC Quantitative Methods: DIBO SAM, Abbott Laboratories, Tracey Rae, Richard Haack, Jeff Fishgough
- **500-2 P** “Dilute and Shoot” LC-MS/MS Analysis of Novel Psychoactive Substances: Kratom and Synthetic Catonines: DEBASHISH ROY, Wake Forest University, Oneka Camings, Albyson Mellingor, Gregory McIntyre, Christa L Calyer
- **500-3 P** LC-MS-Based Screening of East Indian Sandalwood Oil (Eise) for Antitubercular and Antiplasmodial Mechanisms of Action: THANKHOEO ABRAM RANTS’O, Auburn University, Angela I Calderon, Mansour Alturki, Conny Levenson
- **500-4 P** Deep and Reproducible Human Proteome Profiling with Novel Nano Flow LC-MS Technology and HRM Mass-Spectrometry: OLEKSANDR BOYCHENKO, Thermo Fisher Scientific, Stefan Mendig, Wim Decrop, Mike Bayhnam, Martin Rueth, Frank Steiner, Remco Swart
- **500-5 P** Quality Analysis of Polysorbate 80 by LC-MS: XIADONG HUANG, Ecobal, Lan Xiao
- **500-7 P** An LC-MS-TOF Method for Quantifying Components of Interest in Hemp Extract: SUE DANTONE, Agilent Technologies, A Roth, Karen Kaikaris, Joan Stevens, Mike Adams
- **500-8 P** Simple and Efficient Method for the Extraction and LC/MS/MS Analysis of Vitamin B1 and B6 in Human Whole Blood: RITHWA MD HASAN, Phenomenex, Jenny Wei, Sean Orlowicz
M onday Afternoon

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600.

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**POSTER SESSION**

Session 510

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Monday Morning, Exposition Floor, Aisle 2500-2600

M agnetic Resonance in Biological and Nano Materials

(M10-1 P) Structure and Membrane Contacts of HIV Fusion Peptide (HFP) Studied by Solid-State Nuclear Magnetic Resonance (NMR) Syracuse University, Michigan State University

(M10-2 P) NMR based Membrane Prospecting by Paramagnetic Enhancement of 2H Relaxation Shuang Liang, Michigan State University, David Weliky

(M10-3 P) Impact of As-Synthesized Ligands and Low-Oxygen Conditions on Silver Nanoparticles Surface Functionalization Kathryn Johnston, University of Pittsburgh, Ashley Smith, Lauren Marbella, Jill Millstone

(M10-5 P) NMR and Mechanistic Analysis of Regioselective Synthesis of Novel Bi- and Tri-Heterocycles Martin S Failla, INQIC, Walter J Pelaez, Noelia M Ceballos, Gustavo A Aguilar

(M10-6 P) Compact NMR Spectroscopy and Chemometrics for Quality Control of Gasoline Mario Henriques Montazzoli Killinger, State University of Londrina, Jarbas J Rotwedder, Luiz A Colnago

**POSTER SESSION**

Session 520

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Monday Morning, Exposition Floor, Aisle 2500-2600

Pharmaceuticals

(S20-1 P) High Sensitivity CZE-ESI-MS Investigations and Applications Emily Amesson, University of Notre Dame, Norman J Doviichi, Liangliang Sun

(S20-2 P) Selection of Aptamers for Microcystin Using Quantum Dot-Assisted Capillary Electrophoresis Selex Jeffrey Guthrie, Eastern Michigan University, Mariah Brito, Celeste Rousseau

(S20-3 P) Sensitive and Fast Characterization of Site-Specific Protein Glycosylation with Capillary Electrophoresis-Electrospray Ionization-Mass Spectrometry Yanyan Qu, University of Notre Dame, Liangliang Sun, Guijie Zhu, Zhenbin Zhang, Norman J Doviichi

**POSTER SESSION**

Session 530

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Monday Morning, Exposition Floor, Aisle 2500-2600


Method Validation for the Thermal Desorption (TD)—GC—MS Analysis of PAHs in Air: ILAIRA FERRANTE, Markus International, Massimo Santoro, Caroline Widdowson, Nicola Watson, Chris Hall

**MONDAY, MARCH 6, 2017 AFTERNOON**

**AWARDS**

Session 550

The LCGC Lifetime in Achievement and Emerging Leader in Chromatography Awards arranged by Laura Bush, LCGC & Spectroscopy

Monday Afternoon, Room W183a

Laura Bush, LCGC & Spectroscopy, Presiding

1:30 Introductory Remarks - Laura Bush

1:35 Presentation of the 2017 LCGC Lifetime Achievement in Chromatography Award to Pat Sandra, Research Institute for Chromatography, by Laura Bush, LCGC & Spectroscopy

1:40 (S50-1 P) Evolution of Peak Capacity in Liquid Chromatography Pat Sandra, Research Institute for Chromatography

2:15 (S50-2 P) Capillary LC with Sub-2 Micron Particles: Effects of Column Packing Conditions on Column Morphology and Efficiency James Wallace Jorgenson, University of North Carolina at Chapel Hill, Justin Godinho, Arved Reising, Ulrich Tallarek

2:50 (S50-3 P) High-Resolution Capillary LC/MS-MS in Structural Elucidation and Measurements of Biologically Important Glycans Milos V Novotny, Indiana University, John D Benkert, Stefan Gausitz, Solomon T Gzaw, Guochang Zou

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SYMPOSIUM

Session 580

Cellular Respiration (Breath-Based) Metabolomics: In Vitro Links to Living Systems for Toxicology, Food Safety, Infection, Pharmaceutical Production and Metabolism Diagnostics

arranged by Joachim Dieter Pleil, US Environmental Protection Agency and Jane E Hill, Dartmouth College

Monday Afternoon, Room W179a
Joachim Dieter Pleil, US Environmental Protection Agency, Presiding

1:30
Introductory Remarks - Joachim Dieter Pleil and Jane E Hill

1:35 (580-1)
Overview of In Vitro Cellular Respiration (Gas-Phase) Analysis as a Complement to Systemic In Vivo Human Metabolome Discovery
JOACHIM PLEIL, US Environmental Protection Agency

1:40 (580-2)
New Technologies in Infection Diagnostics: Linking the Volatile Cell Metabolome to Breath-Based Diagnostics Using Innovative Analytical Tools
JANE HILL, Dartmouth University

2:10
Recess

2:15 (580-3)
Diagnostic Assessment for Food Safety: Detecting Adverse Changes in Packaged Meats and Perishable Products
JONATHAN BEAUCHAMP, Fraunhofer IVV

2:20
Recess

2:25 (580-4)
Online Monitoring and Diagnostics of In Vitro Processes for Production of Pharmaceuticals
JENS HERBIG, IONICON Analytik, Rene Gautmann, Gerald Stiendner, Markus Luchner

2:45 (580-5)
In Vitro Toxicity Assessment Technique for Volatile Substances Using Cytochrome P450 Isozyme-Specific Metabolic Pathways
BRET ROBERT WINTERS, University of North Carolina at Chapel Hill, Michelle Angrish, Michael Madden, Ariel Wallace

SYMPOSIUM

Session 590

Frontiers in Sensors: From Ultratensitive to Single Molecule Devices

arranged by Justin Gooding, The University of New South Wales and Antonella Mazur, American Chemical Society

Monday Afternoon, Room W179b
Justin Gooding, The University of New South Wales, Presiding

1:30
Introductory Remarks - Justin Gooding and Antonella Mazur

1:35 (590-1)
Nanotechnology-based Microelectrodes as Ultratensive Biomolecular Sensors
SHEREE TAYLOR, University of Sydney

1:40 (590-2)
New Directions with Ultra-Small and Ultra-Thin Chemical Ion Sensors
ERIC BAXTER, University of Geneva

1:45 (590-3)
Single Nucleotide Discrimination with a Novel Nanopore
YI-TAO LONGLONG, East China University of Science and Technology

2:10
Recess

2:15 (590-4)
Measuring Small Molecule Interactions with Membrane Proteins
JANETTE HOEKSTRA, University of Arizona

4:00 (590-5)
Towards Single Molecule Sensors
JUSTIN GOODING, The University of New South Wales

SYMPOSIUM

Session 600

Integration of Liquid Chromatography and Mass Spectrometry in Proteomics

arranged by Ying Ge, University of Wisconsin-Madison and Amanda B Hummon, University of Notre Dame

Monday Afternoon, Room W181a
Ying Ge, University of Wisconsin-Madison, Presiding

1:30
Introductory Remarks - Ying Ge and Amanda B Hummon

1:35 (600-1)
Abstract Not Submitted at Time of Printing

1:40 (600-2)
Direct HIC-MS Analysis of Antibodies and Antibody-Drug Conjugates
ANDREW ALPERT, Polyo Inc.

2:10 (600-3)
A Promising Alternative to SWATH: Ionstar for In-Depth, Large-Scale and Reproducible Quantification with High Accuracy/Precision and <1% Missing Data
QU JUN, SUNY-Buffalo

2:20
Recess

2:35 (600-4)
Exploring the Proteome Changes Resulting from Nutrient Restriction in Colorectal Cancer
AMANDA B HUMMON, University of Notre Dame

4:10 (600-5)
Novel Multi-Dimensional LC/MS Developments in Top-Down Proteomics
YING-GE, University of Wisconsin-Madison

AWARDS Session 560

The SEAC - Charles N Reilly Award and Royce W Murray Awards
arranged by Hector Arbruna, Cornell University

Monday Afternoon, Room W183b
Shelley D Minteer, University of Utah, Presiding

1:30
Introductory Remarks - Shelley D Minteer

1:35
Presentation of the 2017 SEAC - Charles N Reilly Award to Juan M Feliz, University of Alicante, by Shelley D Minteer, SEAC President

2:10 (560-1)
Single Crystal Reactivity as In-Situ Analytical Characterization Tool of Platinum Surfaces
JUAN M FELIZ, University of Alicante

2:50
Recess

3:20 (560-2)
New Views of Platinum Surface Electrochemistry
MARC KOPER, Leiden University

3:45
Recess

4:20 (560-3)
Thermodynamic Studies of Electrochemical Interphases: Application to Platinum Single Crystal Electrodes
ROBERTO VICTOR CLIMENT, University of Alicante, Ricardo Martinez-Hincape, Paula Sebastian-Pascual, Juan M Feliz

4:45
Recess

5:10 (560-4)
Versatile Electrochemical Probes for Emerging Concepts in Energy Materials
JOAQUIN RODRIGUEZ LOPEZ, University of Illinois at Urbana-Champaign, by Shelley D Minteer, SEAC President

5:35
Recess

6:10 (560-5)
Electrochemistry of Nanobubbles
HENRY WHITE, University of Utah, Sean R German, Martin A Edwards, Qianjin Chen

SYMPOSIUM Session 570

ACS-GAC - Advances in Biomolceule Quantitation by Mass Spectrometry
arranged by Karen W Whinney, National Institute of Standards and Technology (NIST)

Monday Afternoon, Room W178b
Karen W Whinney, National Institute of Standards and Technology (NIST), Presiding

1:30
Introductory Remarks - Karen W Whinney

1:35 (570-1)
Diagnostic Protein Quantitation in Patient Biopsies Using Mass Spectrometry
WEI LI-LIANG, Augustomics, Chao Gong, Fabiola Cecchi, Todd Hembrough

2:10 (570-2)
Improving Our Understanding of Vitamin D Metabolism with LC-MS/MS: Unveiling Biology, Increasing Throughput
ANDY HOOFNAGLE, University of Washington

2:45 (570-3)
High-Throughput, High-Precision Protein Assays Via Mass Spectrometry: Longitudinal Measurement of Protein Biomarker Panels in Dried Blood Spots
LEIGH ANDERSON, SISCAPA Assay Technologies, Morteza Razavi, Matt Pope, Terry W Pearlson

3:20
Recess

3:35 (570-4)
Trumpling the Enzymes: Breaking Down Walls to quantify Enzyme Activity for Patient Care
WILLIAM O’RINN SLADE, LabCorp, Christopher Shuford, Russell P Grant

4:10 (570-5)
Strategies for Protein Biomarker Quantitation
KAREN W PHINNEY, National Institute of Standards and Technology (NIST), David Bunk, Eric Kilpatrick, Mark Lowenthal, Nicole Schnedl, Illaron Turko

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SYMPOSIUM Session 610
It's Legal! Now What? The State of Sample Analysis in the Era of Legal Cannabis
arranged by Paul Winkler, Sciex
Monday Afternoon, Room W181b
Paul Winkler, Sciex, Presiding

1:30 Introductory Remarks – Paul Winkler
1:35 (610-1) The Rocky Mountain High Experience HEATHER KRUG, Colorado Dept of Public Health and Environment
2:10 (610-2) Abstract Not Submitted at Time of Printing
2:45 (610-3) State Regulatory Laboratory Perspective KEITH WEGNER, Colorado Department of Agriculture
3:20 Recess
3:35 (610-4) Establishing Quality Assurance in the Medical Cannabis Industry ROBERT WILLIAM MARTIN, Association of Commercial Cannabis Laboratories
4:10 (610-5) Advanced Techniques for Unknown Screening of Cannabis Samples PAUL WINKLER, Sciex

SYMPOSIUM Session 620
Method Development Strategies for Two-Dimensional Liquid Chromatography Separations – Small and Large Molecules
arranged by Dwight Stoll, Gustavus Adolphus College
Monday Afternoon, Room W181c
Dwight Stoll, Gustavus Adolphus College, Presiding

1:30 Introductory Remarks – Dwight Stoll
1:35 (620-1) Two Dimensional Liquid Chromatography Applied to the Characterization of Monoclonal Antibodies and Antibody-Drug Conjugates KOEN SANHERA, Research Institute for Chromatography, Pat Sandra, Isabel Vandenheede, Gerd Vanhoenacker, Mieke Steenbeke
2:10 (620-2) Determination of Peak Purity for Therapeutic Peptides with Two-Dimensional Liquid Chromatography (2D-LC) LIANJIA MA, Bristol-Myers Squibb, Bahar Demirdirek, George Wang, Landon Greene, William Fish
2:45 (620-3) Effects of Method Development Decisions on the Quantitative Performance of Two-Dimensional Liquid Chromatography DWIGHT STOLL, Gustavus Adolphus College, David C Harmes, Tyler Brau, Eli Larson, Raj Sajulga, Sarah Rusan, Peter Carr
3:20 Recess
3:35 (620-4) Two Dimensional Liquid Chromatography for mAb’s: Expanding the Analytical Toolkit for Product and Process Characterization DOUGLAS RICHARDSON, Merck, Jun Heo, Yuetian Chen, Shengliang Yu, Daisy Richardson, David Pollard
4:10 (620-5) Method Validation and Robustness Assessment of a Two-Dimensional Liquid Chromatography Method for Pharmaceutical Materials: A Focus on Special Considerations Unique to 2D-LC from a Quality Control Perspective SAMUEL H WANG, Genentech, Jenny Wang, Kelly Zhang

SYMPOSIUM Session 630
Nanomedicine, From Diagnostics to Large Animal Therapy
arranged by Weihong Tan, University of Florida and Raoul Kopelman, University of Michigan
Monday Afternoon, Room W184a
Raoul Kopelman, University of Michigan, Presiding

1:30 Introductory Remarks – Raoul Kopelman and Weihong Tan
1:35 (630-1) Spherical Nucleic Acids as Potent Immunomodulation Agents for Cancer Therapy CHAO A MIRKIN, Northwestern University
2:10 (630-2) Graphitic Nanocapsules Based Raman Bioimaging and Analysis ZHAN CHEN, Hunan University
2:45 (630-3) Nanotherapy and Nanodiagnostics: From Cancer to Heart Disease RAOUl KOPELMAN, University of Michigan, Chang Lee, Jeff Foltz, Hyungki Yoon, Janggun Jo, Joel Tan, Uma Avula, Xueding Wang, Jerome Kalifa
3:20 Recess
3:35 (630-4) DNA Nanostuctures and Logic Circuits: Biological Recognition and Function WEIHONG TAN, University of Florida
4:10 (630-5) Nanomedicine for Functional Imaging and Therapy of Brain PARAS PRASAD, SUNY at Buffalo

SYMPOSIUM Session 640
Novel Approaches in Optical Biological Imaging and Bioanalytical Analysis
arranged by Stephane Petoud, University of Geneva
Monday Afternoon, Room W184bc
Stephane Petoud, University of Geneva, Presiding

1:30 Introductory Remarks – Stephane Petoud
1:35 (640-1) Ln3+ Based Nanoparticles and Near-Infrared (NIR) Quantum Dots for Optical Bioimaging FRANK VAN VEGEL, University of Victoria
2:10 (640-2) Reactivity Approaches to Selective Molecular Imaging in Biological Systems CHRISTOPHER J CHANG, University of California Berkeley
2:45 (640-3) Optical Biological Imaging with Autophagic Silicon Nanoparticles MICHAEL J SAILOR, University of California, San Diego
3:20 Recess
4:10 (640-5) Abstract Not Submitted at Time of Printing

SYMPOSIUM Session 650
The Twenty-Eighth James L Waters Symposium on Genomic Analysis Technologies
arranged by Adrian C Michael, The Pittsburgh Conference and David R Walt, Tufts University
Monday Afternoon, Room W183c
Adrian C Michael, The Pittsburgh Conference, Presiding

1:30 Introductory Remarks – Adrian C Michael and David R Walt
1:35 (650-1) Taking a Discovery from an Academic Laboratory and Building a Transformative Company DAVID R WALT, Tufts University
2:10 (650-2) Next-Generation Sequencing JAY FLATLEY, Illumina
2:45 (650-3) Abstract Not Submitted at Time of Printing
3:20 Recess
3:35 (650-4) Non-Invasive Prenatal Testing as the First Major “Liquid Biopsy” Clinical Application DANIEL S GROSSU, LabCorp
4:10 (650-5) Circulating Cell-Free Nucleic Acids and Early Cancer Detection ALEX M ARMANS, GRAIL

WORKSHOPS Session 660
The Current State of the Art in (U)HPLC Columns
arranged by Jason Anspach and Lawrence Loo, Phenomenex
Monday Afternoon, Room W176c
Jason Anspach, Phenomenex, Presiding

1:30 Possibilities and Limitations of State-of-the-Art UHPLC Columns and Systems KEN BROEKHOFEN, Vrije Universiteit Brussel, Sebastiaan Eeltink, Gert Desmet
2:05 (660-2) Optimum Experimental and Instrumental UHPLC Conditions for Real World Separation Challenges A CARL SANCHEZ, Phenomenex, Inc., Jason Anspach, Tivadar Farkas
2:35 (660-3) Recent Trends in the Use of Superficially Porous Particle Technology DAVID SCOTT BELL, MilliporeSigma
3:05 Recess
3:20 (660-4) The Recent Development of Superficially Porous Particles for Separation of Small Molecules and Large Biomolecules WU CHEN, Agilent Technologies, Anne Mack
3:50 (660-5) Bridging the Gap Between Gas and Liquid Chromatography: Making Low-Density Fluid Chromatography Successful FABRICE GRITTI, Waters Corporation

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Monday Afternoon, Room W184d
Andrea Jaquins-Gerstl, University of Pittsburgh, Presiding
1:30 (670-1) Investigation of Neurochemical Alterations in Obesity Prone Rats Using In Vivo Microdialysis Coupled with Benzoyl Chloride Derivatization and LC/MS KATHRYN M NESBITT, University of Michigan, Carrie R Ferraro, Robert T Kennedy
1:50 (670-2) Flexible Microelectrode Arrays for Monitoring and Manipulating Neuronal Dynamics ANNA BELLE, Lawrence Livermore National Laboratory, Angela Tooker, Vanessa Tolosa, Allison M Yonta, Kye Lee, Jeanine P ebbles, Aaron Sperry
2:10 (670-3) Impaired Dopamine Release and Uptake in Chemotherapy-Treated Rats SAM VINCENT KAPLAN, Pinnacle Technology Inc.
2:30 (670-4) Insulin Increases Striatal Cholinergic Interneuron Excitability and Enhances Dopamine Release via nAChRs: Implications for Food Reward JYOTI C PATEL, NYU School of Medicine, Melissa A Stouffer, Christian R Lee, Paul Wilkowsky, Robert P Machold, Catherine A Woods, Kenneth D Cart, Margaret E Rice
3:05 (670-5) Factors Affecting Chronic Intracortical Electrode Function TARUN SAXENA, Duke University, Lothar Karumbahala, Ravi Bellamkonda
3:25 (670-6) Increasing the Speed and Sensitivity of Neurotransmitter Analysis by LC-MS JAMES P GRINNIS, Rowan University, Jenny-Marie T Wong, Robert T Kennedy
4:05 (670-8) Striatal Mapping of High-Resolution Voltammetric Recording of Dopamine and μ-Opiate Receptors ANDREA JAQUINSGERSTL, University of Pittsburgh, Kathryn M Nesbitt, Seth Walters, Adrian C Michael

Monday Afternoon, Room W176a
Andrea Jaquins-Gerstl, University of Pittsburgh, Presiding
1:30 (680-1) Military Applications of Portable GC-MS PAULINE E LEARY, Smiths Detection, Gary L Beals
1:50 (680-2) Field Analysis of Agricultural Commodities and Products FRANKLIN ELLIWOOD BARTON, LLL Instruments, Inc., James A de Haseth
2:30 (680-4) Use of a Field Portable GC/MS with Solid Phase Microextraction and Needle Trap Sampling for VOC and SVOC Analysis CHARLIE SCHMIDT, PerkinElmer, William Hahn
2:50 (680-5) Drug Detection Using Smartphones TRAVIS KISNER, Detectacem
3:25 (680-6) Portable Forensic Mass Spectrometry GLEN PAUL JACKSON, West Virginia University, Kornia Menking-Hoggatt, Taylor Krievenki
4:05 (680-8) Environmental Analysis of Metals and Nanomaterials

Monday Afternoon, Room W175a
1:30 (690-1) Determination of Heavy Metals in Natural Water by Solid Phase Microextraction Coupled with Inductively Coupled Plasma Mass Spectrometry AHMAD ROKAN FAI, The University of Toledo, Amila M Devasurendra, Lida B Rodriguez, Niloofar Alipourasadi, Jon R Kirchoff
1:50 (690-2) Uptake of Nanoparticles by Fresh Water Algae Using Single Cell ICP-MS CHAD STEPHAN, PerkinElmer, Ruth M Merrifield, Jamie Lead
2:10 (690-3) Certification of a New Low-Level Hexavalent Chromium Standard Reference Material in a Soil Matrix JAMES HENDERSON, Duquesne University, Patrick Benezecwicz, Weier Hao, Logan Miller, Matt Pamukcu, Jennifer Crawford, Sue Lu, Teresa Switzer, Vasilie Furdui, Pam Wee, Francine Walker, Bob O’Brien, HM Skip Kingston
2:30 (690-4) Portable Low-Cost Instrumentation for Field-Ready Electrochemical Environmental Analysis DREW FARRELL, University of Arizona, Michael L Heien
2:50 (690-5) Ionopore-Grafted Carbon Fiber Microelectrodes as On-Site Trace Metal Voltammetric Sensor JORDAN HOLMES, University of South Carolina, Thushani Siriwardana, Pavnitha Pathiratna, Parastoo Hashemi
3:25 (690-6) Rapid Detection of Toxic Heavy Metals with Boron Doped Silicon Microelectrode Arrays CORY ALLEN RUSKIN, Fraunhofer USA, Michael F Becker, Robert Rechenberg
3:45 (690-7) Ordered Gold Nanorod Assembly with Surface Plasmon Enhanced Fluorescence Manipulation ZHONG MEI, University of Texas at San Antonio, Liang Tang
4:05 (690-8) Sulfur Role in Atlantic Oysters and Mediterranean Mussels as Sea Pollutant Biomarkers. A XANES Based Study MANUEL VALENTE, Universitat Autonoma De Barcelona, Carlo Martins, Marta Avila, Maria A Subirana, Wojciech Olizewski, Montserrat Lopez-Mesas, Laura Simonelli

Monday Afternoon, Room W176c
Richard A Coombe, PerkinElmer, Presiding
1:50 (700-2) On-Set, Thin-Film Microextraction for the Quantitation of Anthropogenic Pollutants in Surface Waters Using Portable GC-MS Instrumentation Validated by Comparison to Benchtop Methods XIUQIANG CUNGRANDY, University of Waterloo, Named Pir-Mohagham, Farsad Abjadi, Janusz Pawliszyn
2:30 (700-4) US EPA 625 Method Validation Study for Automated SPE Disk Application ZOE GROSSER, Horizon Technology, Alicia Cannon, Michael Ebitson
2:50 (700-5) The Characterization of Flowback Hydrocarbons Towards the Fingerprinting of Environmental Contamination Events PAULINA K PIOTROWSKI, Pennsylvania State University, Frank Dorman, Joseph E Binkley, Christina N Kelly, Jonathan Byer
3:25 (700-6) PDHs in Whole Water Using a New Method MICHAEL EBITSON, Horizon Technology, Alicia Cannon, Zoe Grosser
3:45 (700-7) Analysis of S8 Volatile Organic Compounds in the Water Intake of the Panama Canal Using a Tandem GC System SALLEY DARA, Inficon
4:05 (700-8) Measurement of Formaldehyde Pollution in Ambient Air ISMO KAUPPINEN, Gasera Ltd., Sauli Sinisalo, Toomas Hietta
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**ORAL SESSIONS**  
**Session 710**  
GC/MS - Polymers, Plastics, and Environmental (Half Session)  
Monday Afternoon, Room W175c

1:30 (710-1)  
Selected Applications Reveal Strategies for Material and Polymer Characterization with Pyrolysis-Gas Chromatography/Mass Spectrometry (PY-GC/MS)  
TERRY RAMUS, Diabolic Analytical, Dave Randle, Itsuko Iwai, R R Freeman  

1:50 (710-2)  
DAVE RANDLE, Diabolic Analytical, Itsuko Iwai, Terry Ramus, R R Freeman  

2:10 (710-3)  
Quantification of Persistent Organic Pollutants in Different Matrices Using Stir-Bar Sorptive Extraction and Isotope Dilution Mass Spectrometry  
WEIER HAO, Duquesne University, HM Skip Kingston, Scott Faber, Anthony Machenexen, Matt Pomuku, James Henderson  

2:30 (710-4)  
TAI VAN TRUONG, Perkin Elmer, Edgar D Lee, Milton L Lee  

**ORAL SESSIONS**  
**Session 720**  
Laboratory Management: Automation (Half Session)  
Monday Afternoon, Room W175c

3:05 (720-1)  
Not All Software as a Service (SaaS) Is Created Equal: Why SLA Matters More Than Ever  
STACEY BREWER, Accelerated Technology Laboratories, Ken Ochi  

3:25 (720-2)  
Automation in High Throughput Food Processing Plant Laboratory to Facilitate Rapid Turnaround and Regulatory Compliance  
DUSTIN EBBING, Smithfield Foods, Gene Bartholomew, Sandra Moore, Laura L Williford  

3:45 (720-3)  
LIMS: A Critical Tool for Achieving and Maintaining Regulatory Compliance  
KEN OCHI, Accelerated Technology Laboratories, Mark Gray  

4:05 (720-4)  
Real-Time Monitoring of in Process Laboratory Experimentation and Review of Laboratory Asset and Facility Management Systems  
PETAR STOJADINOVIC, Automation Trainer LLC, John Collet, William Herms, Robert Dyer  

**ORAL SESSIONS**  
**Session 730**  
LC/MS - General Interest and Others  
Monday Afternoon, Room W176b

1:30 (730-1)  
Development of High Throughput LC/MS/MS Method for Analysis of Perfluorooctanoic Acid from Serum, Suitable for Large-Scale Human Bio-Monitoring  
EDUARD ROGATSKY, New York State Dept of Health, Calleen O’Heir, James Daly, Amelie Tedesco, Richard Jenny, Kenneth Abudus  

1:50 (730-2)  
Differentiation and Quantitation of Phosphonates Using Ion Chromatography and Triple-Quadrapole Mass Spectrometry  
LEI CHENG, Nalco Champion, An Ecoball Company, Christopher Dursell, Emerikle Casado-Rivera  

2:10 (730-3)  
Clinical Isomer Analysis in Blood Plasma with Ion Mobility – Mass Spectrometry  
ROBIN HENDRIKUS JOHANNES KEMPERMAN, University of Florida, Christopher D Chounard, Nicholas R Oranzo, Allison J Levy, Richard A Yost  

2:30 (730-4)  
Quantitative Study of microRNAs by Immobilized DNA-Peptide Probe and Liquid Chromatography-Tandem Mass Spectrometry-Based Quasi-Targeted Proteomics  
YUN CHEN, Nanjing Medical University  

2:50  
Recess  

3:05 (730-5)  
Separation of Metal Nanoparticles by Ultrathin Layer Chromatography Using Electrospraying Nanofibers as the Stationary Phase  
YANHUI WANG, The Ohio State University  

3:25 (730-6)  
Sample Collection Tubes – A Preanalytical Factor that can Influence Laboratory Developed in Vitro Diagnostic Tests  
JASON HEFTYKA, Abbott Laboratories, Marytone Himmelsbach  

3:45 (730-7)  
LC-MS with Cold EI – The New System and Recent Applications  
AIVY AMIRRAJ, Tel Aviv University, Svetlana Tsinin, Boaz Seemann, Tal Alon, Alexander Falikov  

**ORAL SESSIONS**  
**Session 740**  
Pharmaceutical Analysis and Stability  
Monday Afternoon, Room W177

1:30 (740-1)  
Novel Method for Determining Shelf-Life Stability of Peptides  
JENNIFER LEWIS, FreeThink Technologies  

1:50 (740-2)  
A 24 Hour Study on the Stability of Dopamine and Dobutamine Under Laboratory Simulated Neonatal Ward Conditions  
BHAVIK PATEL, University of Brighton, Katherine Kirupakaran, Liam Mahoney, Heke Rube  

2:10 (740-3)  
Development of A Stability Indicating RP-HPLC Method for ML-163 Topical Solution for Cats  
NILUSHA LT PADIVITAGE, Merial, Ab Ruustum  

2:30 (740-4)  
Adding Mass Detection as an Orthogonal Technique for Improved Confidence in the Analysis of Synthetic Peptides  
BROOKE M KOSHEL, Waters Corporation, Robert E Birdsall, Ying Qing Yu, Aschi Kharabory, Joe Fredette, Scott Berger  

2:50 (740-5)  
Recess  

3:05 (740-6)  
Mass Spectral Accuracy for the Identification of Large Biomolecules and Adducts  
YONGDONG WANG, Geno Bioscience, Don Kuehl  

3:25 (740-7)  
Universal Headspace GC Method for the Analysis of Residual Solvents in Pharmaceuticals with Dual FID/NPD Detection  
ANY F BIRCH, Boehringer Ingelheim Pharmaceuticals, Inc.  

3:45 (740-8)  
Analysis of Over-The-Counter Medications and Packaging Using Multi-Step Pyrolysis GC/MS  
KAREN D SAAM, CDS Analytical  

4:05 (740-9)  
Investigating the Application of Protein A Modified Capillary-Channel Polymer (CP)-Polypropylene (PP) Fibers to the Quantitation of Immunoglobulin (IgG) in Complicated Matrices  
HUIQI TRANG, Clemson University  

**ORAL SESSIONS**  
**Session 750**  
Pharmaceutical Characterization  
Monday Afternoon, Room W475a

1:30 (750-1)  
Protein Protection Evaluation with Viscoelastic Measurement by Fluidicam TISSERAND, Formulation, Patricia Adamis, Yoann Lefevre, Patrick Abgrall, Jim Munhall  

1:50 (750-2)  
Imaging Cleaved Tablets to Determine API Size and Distribution Metrics From Coatings and Particles – A New Instrument  
TIM SMITH, Renishaw, Tim Prusnick  

2:10 (750-3)  
A Unifying, Informatics-Based Approach to Life Cycle Management of Impurity Data in Pharmaceutical Development  
ALBERT VAN WYK, ACD/Labs, Colin Read, Dmitry Mitsyouch, Petr Kandalov  

2:30 (750-4)  
Evaluation of the Nicotine Particle Size in an Aerosol Formed by an Electronic Cigarette  
JESSE LEE PATTERSON, Virginia Commonwealth University, Justin Poklis, Michael Hindle, Joseph Tumey, Carl Wolf, Alphonse Poklis, Michelle Peace  

2:50  
Recess  

3:05 (750-5)  
Evaluation of Barcode Tracking System for Automated Sample Preparation and ICP/OESMS Analysis  
KEVIN J HAHN, Elemental Scientific Inc., M Paul Field  

3:25 (750-6)  
Faster and Improved Ease-of-Use Citrate and Phosphate Assays of Pharmaceutical Products  
JENNY TANG, Thermo Fisher Scientific, Jeffrey Rahrer  

3:45 (750-7)  
Core-Shell vs. Fully-Porous Particles for High Throughput Analysis  
LAWRENCE LOO, Phenomenex, Inc., Jason Atspach, Twodark Forkas, Mike Chitty, Ismail Rustainov  

4:05 (750-8)  
Fast Centrifugal Partitioning Chromatography  
ROBERT DRISCOLL, Robatel Inc.

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**ORAL SESSIONS**

**Session 760**

**Sampling and Sample Preparation - Liquid Extraction, SPE and Others**

Monday Afternoon, Room W475b

1:30 (760-1) Advances in the Development of a Universal Passive Dosimeter MITCHELL RUBENSTEIN, USAF, Kim Anderson, Glenn Wilson, Kathy Fullerton

1:50 (760-2) Inter-Laboratory Comparison of Two Thin Film Microextraction Devices as Green Alternatives to an EPA Certified Liquid-Liquid Extraction Method for the Determination of Pesticides in Surface Water Samples JONATHAN J GRANDY, University of Waterloo, Hamed Pir-Mohagham, Emanuela Gionfriddo, Angel Rodriguez-Lafuente, Heather L Lord, Terry Obal, Janusz Pawliszyn

2:10 (760-3) Development of a New Pressurized Liquid Extraction Method for Extracting Analytes from Fatty Matrices DOUGLAS E RAYNIE, South Dakota State University, Alcia Douglas Steil, Brittany A Leffler, Shammapguppa Dharmanjan

2:30 (760-4) The Analysis of Water for Perfluorinated Compounds Using Automated Solid Phase Extraction MICHAEL EBITZON, Horizon Technology, Alcia Cannon, William Jones

2:50 (760-5) Recess

3:05 (760-5) In Vino Measurement of Neuropeptide Activity Using Electroosmotic Perfusion – Microdialysis (EOP-MD) RACHAELE WILSON, University of Pittsburgh, Yangguang Ou, Bart Degreef, Stephen G Weber

3:25 (760-6) Magnetic Ionic Liquids: Solvents for Nucleic Acid Extraction and Amplification from Nuclease-Rich Samples KEVIN D CLARK, Iowa State University, Jared Anderson

3:45 (760-7) A Novel 3D-Printed IV Piggyback System to Improve Low Glucose Storage of Red Blood Cells RUOFENG MU, Michigan State University, Dana Spence

**ORAL SESSIONS**

**Session 770**

**Sensors - Bioanalytical**

Monday Afternoon, Room W476

1:30 (770-1) Highly Sensitive Detection of Small Molecule Markers by Surface Plasmon Resonance Imaging Assisted by Chemical and Enzyme Indicators ZAINAB HUSSAIN AL MUBARAK, Oklahoma State University, Gayan C Premaratne, Cassandra Rodenbaugh, Lucy Lohouchy, Sadagopan Krishnan

1:50 (770-2) 2D Photonic Crystal Sensor for Phenylpyruvate, An Enzymatic By-Product of Phenylalanine KONGNENG JIAO, University of Pittsburgh, Sanford A Asber, W S Home

2:10 (770-3) MicroRNA Biosensor Design Strategies to Mitigate Off-Array Response NICHOLAS E LARRYK, Oregon State University, Sean M Burrows

2:30 (770-4) Development and Characterization of Thiol-Responsive Scintillation Proximity Assay Core-Shell Nanoparticles as Turn-On Biosensors ZENAB MOKHITARI, University of Arizona, ISEN CALDERON, Colleen M Janczk, Craig A Aspinwall

2:50 (770-5) Recess

3:05 (770-5) Pi-Pi Stacking of Pyrene-carboxylic Acid with Carboxylated Multiwalled Carbon Nanotubes for Sensitivity Enhancement of Clinical Immunosensors JINESH HRIOOLA, Oklahoma State University, Gayan C Premaratne, Sreyed A Shojaei, Don A Lucca, Sadagopan Krishnan

3:25 (770-6) Development of a Nano-Biosensor for Detection of Methanol in Alcoholic Drinks NAUMIN HOAG, United States International University-Africa

3:45 (770-7) A Novel Bioassay Platform Using Silica Core Liposome Shell Microparticles for Ligand Discovery KENDALL ELIZABETH SANDY, University of Arizona, Jinyan Wang, Mark T Agauid, Craig A Aspinwall

4:05 (770-8) Coupling of Electrophoretical Reactions with Optical Readout at Closed Bipolar Electrode for Chemical Sensing WEI XU, University of Notre Dame, Kaiyu Fu, Chaosuoguang Ma, Paul W Bohn

**POSTER SESSION**

**Session 780**

**Atomic Spectroscopy - Environmental, Food, Fuels, Metals**

Monday Afternoon, Exposition Floor, Aisle 2500-2600


760-2 P In Search of a Mass Burial Site from the French and Indian War: Preliminary Results for Analysis of Soils for Selected Elements from an Archaeological Excavation near Ligonier, Pennsylvania MARK T STAUFFER, University of Pittsburgh - Greensburg, Anthony T Baldurian, Justin McKee, Michael F Jacobyansky, Morgan M Stetson, Samantha L Merz, Alicia Hurby

760-3 P Validation and Application of Online Isotopic Dilution ICPMS (OD-ICPMS) Method for Determination of Trace Elements in Herbal Supplements OLUIJDE T AKINBO, Butler University, David Cho, Abua Ikem

760-4 P Considerations for the Analysis of Cremated Remains by Inductively Coupled Plasma-Atomic Emission Spectrometry WILLIAM CWETZEL, Thomas More College, Kelsey L Sparks, Christina A Farwick, Christie A Currie

760-5 P Evaluation of Online Isotopic Dilution Analysis (ODA) For Determination of Trace Elements in Shrimps OLUIJDE TAKINBO, Butler University, Jordan Knotts, Abua Ikem

760-6 P Qualitative Analysis of Mineral Elements in Milk Powders Using Laser-Induced Breakdown Spectroscopy (LIBS) BADRA ALFAARRAJ, Mississippi State University, Herve K Sanghapi, Chet R Bhatt, Fang Y Yueh, Jagdish P Singh

760-7 P Total Organic Carbon (TOC) Analysis of Soil and Rock Comparing Various Elemental Analysis Techniques JEFFERY GAST, LECO Corporation, Adam Darling

760-8 P How to Compromise Between ICP-OES Detection Limits and Speed of Analysis? SANJA ASENDORF, Thermo Fisher Scientific, Nora Barrettt, Matthew Casap, Mauara Rury

760-9 P Oxide Analysis by Pulsed Radio-Frequency Discharge Inductively Coupled Plasma Mass Spectrometry WEIFENG LIU, Xiamen University, Wei Huang

760-10 P Laser Induced Spectroscopy for Quantitative Analysis of Trace Elements in High Pressure CO Enriched Water: An Application to Carbon Sequestration HERVE K SANGHAPI, Mississippi State University, Jagdish P Singh

760-11 P Analysis of Micronutrients in Soils and Foods with ICP-OES NICK SPYVEY, PerkinElmer Inc., Kenneth Neubauer, Stan Smith

760-12 P Ce02 and Zno Removal from Surface Water Characterized by Single Particle ICP-MS CHADY STEPHAN, PerkinElmer, Ariel R Donovan, Honglan Shi

760-13 P Environmental Life Cycle of Metal-Based Nanoparticles Assessed by Single Particle - ICP-MS CHADY STEPHAN, PerkinElmer

760-14 P Gunshot Residue Analysis by Single Particle ICP-MS CHADY STEPHAN, PerkinElmer, James Ramville, Rodrigo Herringer

760-15 P Microwave Digestion of Petroleum Industrial Products for Multi-Elemental Determination by ICP-MS XINBANG FENG, Alberta Innovates Technology Futures, Lisa Shi, Julius Pretorius

760-16 P Accurate Mercury Measurements in Condensate and Naphtha JASON P GRAY, AGS Scientific, Inc., Naoko Hishida, Koji Tanida, Tomoori Watanabe, Alvin Chua

760-17 P Handheld Mercury Monitoring: Atomic Absorption vs Atomic Fluorescence JASON P GRAY, AGS Scientific, Inc., Koji Tanida, Tomoori Watanabe, Alvin Chua

760-18 P Advantages of Discrete Technology for EPA 1631E JASON P GRAY, AGS Scientific, Inc., Koji Tanida, Tomoori Watanabe, Alvin Chua

760-19 P Microwave Plasma Emission Spectrometry for Lube Oil & Fuel Analysis ANDRES BERNARDO LANTOS, Laboratorio Dr. Lantos

760-20 P Cyanide Analysis from Contaminated Blood Samples via the Indirect Analysis of Silver JEFFREY ROSENTERER, Idaho State University

760-21 P Advantages of Flexible Autodilution Systems for ICP OES NORA BARTSCH, Thermo Fisher Scientific, Sanja Asendorf, Matthew Casap, Mauara Rury

760-22 P Fully Automated Double Channel Analysis for NCS Determination of Soils and Plants Using an Elemental Analyzer GUIDO GIAZZI, Thermo Fisher Scientific, Lilliana Krotz, Francesco Leone


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Monday Afternoon
Exposition Floor, Aisle 2500-2600

POSTER SESSION Session 790

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600. PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

POSTER SESSION Session 800

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600. PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

Environmental Air Quality
Exposition Floor, Aisle 2500-2600

POSTER SESSION Session 810

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600. PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

LC - Pharmaceutical
Exposition Floor, Aisle 2500-2600

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600. PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

Proteomics and Metabolomics
Exposition Floor, Aisle 2500-2600

POSTER SESSION Session 830

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600. PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

Quality/ QA/QC
Exposition Floor, Aisle 2500-2600

POSTER SESSION Session 840

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600. PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.
Monday Afternoon, Exposition Floor, Aisle 2500-2600

**UV/VIS Applications**

**800-1** Micelles - Nanometric Containers for Extractions and Colorimetric Determination
KATARZYNA KŁUCIŃSKA, University of Warsaw, Emilia Steimach, Paulina Paulina Bartosińska, Anna Kisiel, Krzysztof Maksymiuk, Agata Michalska

**800-2** Photometric Study of Enzymatic Reaction by Glucose Oxidase Immobilized on Iron Oxide Fine Particles
TATSUYO OKUBA, Kanazawa Institute of Technology Math & Sci., Takashi Chaki, Keisuke Itoh, Yu Hirose

**800-3** Multianalyte Determination of Aluminum and Iron (and Other Metals) in Transparent Membranes, Using Visible Spectrophotometry and Chromometrics: Preliminary Attempts and Results
MARK T STAUFFER, University of Pittsburgh - Greensburg, Brandon M Adams, William E Weller

**800-4** Simultaneous Determination of Iron and Aluminum by Spectrophotometry and Partial Least Squares Regression (PLSR), PART 2: Investigations of Xylenol Orange, Chrome Azurol S, and Pyrocatechol Violet, as Potential Simultaneous Chelators
MARK T STAUFFER, University of Pittsburgh - Greensburg, Danyaal Alam, Nicholas A Franken

**800-5** Syntheses, Characterization, Catalytic and Anti Microbial Study of Some Lanthanide Complexes with Kynurenic Acid
RASHMIKANT A PATEL, Mun. Arts & UB Science College

**800-6** Alternative Optics for Standoff Spatial Heterodyne Raman Spectroscopy
ASHLEY N ALLEN, University of South Carolina Columbia, Kevin Dudley, Patrick Barnett, J Chance Carter, S Michael Angel

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**POSTER SESSION Session 840**

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600. PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

**Sensors**

**840-1** Electrokinetic-Assisted SPR Sensing with Kretschmann-Configuration
KYOHEI TERAO, Kagawa University, Shohi Kondo, Nobumitsu Miyashita, Hidekuni Takao, Fusao Shimokawa

**840-2** Low Power Miniaturized Helium Discharge Photodetection for High Sensitive Vapor Detection
HONGBO ZHU, University of Michigan, Menglian Zhou, Jiwen Lee, Robert Nidget, Katsumi Kurabayashi, Xudong Fan

**840-3** Multiplexed, Flexible and Portable Plasmonic Biosensing On-Chip
LAURA SAGLE, University of Cincinnati, Jie He, Sarah Unser

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**POSTER SESSION Session 850**

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**UV/VIS Applications**

**850-1** Micelles - Nanometric Containers for Extractions and Colorimetric Determination
KATARZYNA KŁUCIŃSKA, University of Warsaw, Emilia Steimach, Paulina Paulina Bartosińska, Anna Kisiel, Krzysztof Maksymiuk, Agata Michalska

**850-2** Photometric Study of Enzymatic Reaction by Glucose Oxidase Immobilized on Iron Oxide Fine Particles
TATSUYO OKUBA, Kanazawa Institute of Technology Math & Sci., Takashi Chaki, Keisuke Itoh, Yu Hirose

**850-3** Multianalyte Determination of Aluminum and Iron (and Other Metals) in Transparent Membranes, Using Visible Spectrophotometry and Chromometrics: Preliminary Attempts and Results
MARK T STAUFFER, University of Pittsburgh - Greensburg, Brandon M Adams, William E Weller

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MARK T STAUFFER, University of Pittsburgh - Greensburg, Danyaal Alam, Nicholas A Franken

**850-5** Syntheses, Characterization, Catalytic and Anti Microbial Study of Some Lanthanide Complexes with Kynurenic Acid
RASHMIKANT A PATEL, Mun. Arts & UB Science College

**850-6** Alternative Optics for Standoff Spatial Heterodyne Raman Spectroscopy
ASHLEY N ALLEN, University of South Carolina Columbia, Kevin Dudley, Patrick Barnett, J Chance Carter, S Michael Angel

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**PITTCON 2017 TECHNICAL PROGRAM**

**SYMPOSIUM Session 890**

In Vivo Neurochemistry: Faster, Smaller, More Sensitive Methods for Real-Time Neuroanalysis

**SYMPOSIUM Session 900**

JAIMA - Emerging Technologies for the Evaluation of Biotherapeutics

**SYMPOSIUM Session 910**

Multimodal Chemical Imaging Approaches

**SYMPOSIUM Session 920**

Novel Uses of Mass Spectrometry and Ion Mobility in Pharmaceutical: From Small Molecules to Monoclonal Antibodies

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**Tuesday Morning, Room W179a**

Jill Venton, University of Virginia, Presiding

8:30

- Introductory Remarks - Jill Venton and Andrew Gewing

8:35

- Sensing Neurotransmitters with Electrochemical Tools - Mark Wrightman, University of North Carolina at Chapel Hill

9:10

- Dopamine Storage, One Vesicle at a Time: Effects of Mind-Altering Drugs on Vesicle Content Inside Cells in Vitro and In Vivo - Andrew Gewing, University of Gothenburg and Chalmers University, Xianchen Li, Jelena Lovric, Sooabeh Majdi, Lin Ren, Anna Larsson, Johan Duevall, Neda Najafnobar, Amir Mohammadi, Daixin Ye

9:45

- Novel Carbon-Based Sensors for the Next Generation of In Vivo Voltammetric Measurements - Leslie A Sombers, North Carolina State University

10:20

Recess

10:35

- New Insights into DA from New Kinetic Models - Adrian C Michael, University of Pittsburgh, Elaine M Robbins, Rebecca H Wu

11:10

- Tunable CNT Fiber and Yarn Microelectrodes - Jill Venton, University of Virginia, Cheng Tang

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**Tuesday Morning, Room W181c**

Ehrlich, University of Virginia, Andrew Robert Unwin, University of Utah

8:35

- Introductory Remarks - Patrick Robert Unwin

9:10


9:45

- The Use of Molecular Modelling for Ion Mobility Drift Time and Fragment Ion Prediction in Ion Mobility and Mass Spectrometry - Chris Lapthorn, University of Greenwich, Frank Pullen, Babur Chowdhyry, Patricia Wright, Trevor Dines, George Perkins, Yasna Heredia

10:20

Recess

10:35

- Inhibition of Lactate Export Paradoxically Transforms Mitochondria from Synthesis Organelles to Oxidative Machines: Insights from a MIMOSA-Based Fluxomics Screen - Darren S Dumlao, Pfizer, John S Janiszewski, Richard G Kibbey, Tiago Alves, Mary A Piotrowski, Julie Keefer, Maggie A Basile, Peter Wells

11:10

- Native-MS and Ion Mobility to High-Throughput MS: From Diastereoisomers to Large Monoclonal Antibodies and Beyond - Iain Campbell, Amgen

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**Monday Afternoon**

**SYMPOSIUM Session 930**

Single Nanoparticle Electrochemistry

**Tuesday Morning, Room W179b**

Jacob T Shelley, Rensselaer Polytechnic Institute, Presiding

8:30

- Introductory Remarks - Jacob T Shelley

8:35

- Intraoperative Tumor Boundary Monitoring by Multimodal Non-Linear Imaging - Juergen Poppe, Leibniz Institute of Photonic Technology

9:10


9:45

- Correlated Chemical Imaging of Mechanisms of Spatiotemporal Organization in Communities of the Opportunistic Pathogen Pseudomonas aeruginosa - Paul W Bohn, University of Notre Dame, Namrata Baig, Sneha Polikart, Sai B Nottingham, Mylida Morales Soto, Joshua Shrou, Jonathan V Sweedler

10:20

Recess

10:35

- New Approaches for Multimodal Ambient Imaging of Biological Samples - Julia Laskin, Pacific Northwest National Laboratory

11:10

- Towards Simultaneous Elemental and Molecular Chemical Imaging Through Optical and Mass Spectrometries - Jacob T Shelley, Rensselaer Polytechnic Institute, Courtney L Walton, Sunil P Badal

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**Tuesday Morning, Room W181a**

Robert Unwin, University of Warwick, Presiding

8:30

- Introductory Remarks - Patrick Robert Unwin

8:35

- Single-Particle Photoanode: Super-Resolution Reaction Imaging and Sub-Particle Photocurrent Mapping - Pengu Chen, Cornell University

9:10

- Optical Readouts of Nanoscale Electrochemistry - Katherine Willets, Temple University

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### Tuesday Morning, Room W181b

**Katsuhito Ajito, NTT Device Technology Labs, Presiding**

**Introductory Remarks - Katsuhito Ajito and Zachary Taylor**

8:30

- **Intermodular Fingerprint Imaging of Pharmaceutical Coscrystals Using Pulse and CW Terahertz Spectroscopy Systems**
  - Katsuhito Ajito, Nippon Telegraph and Telephone Corporation, Takuji Tajima, Michio Seyama

9:45

- **Advances in Terahertz Imaging of Human Breast Carcinomas and Tumor Phantoms**
  - Magda El-Shenawee, University of Arkansas, Tyler Bowman, Aile Walter, Yao Wu, John Gauch, Lucas Campbell

Recess

### Tuesday Morning, Room W184bc

**Ellen Mino, Hamamatsu, Presiding**

**Novel and Prospective Spectroscopic Applications for Quantum Cascade Lasers**

8:30

- **Widely Tunable Quantum Cascade Lasers: Technology and Applications**
  - Daniel A. Paladino, Hamamatsu

9:45

- **Second Generation QCL Microscopy: Pushing the Limits of Infrared Chemical Imaging**
  - Jeremy A. Rollètte, Daylight Solutions, Edeline Fotheringham, David Nichols, Ben Bird, Miles Weida, Justin Kane, Allen Priest, David Amone, William Chapman, David Caffey, Paul Larson, Tim Day

Recess

### Tuesday Morning, Room W175a

**Open Source Instruments and Chemical Analysis Methods for a Citizen Science Based Environmental Monitoring Initiative**

8:30

- **Fieldwork Determination of Design Priorities for Point-of-Use Water Sensors for Use in Resource-Limited Environments**
  - Michael S. Bonito, Massachusetts Institute of Technology, Sydney B. Beasley, Emily B. Hannauer, A John Hart, Rohit Karimi, Chintan Vaidnav

Recess

- **Microcystins Release and Removal from Cyanobacteria During Oxidation Monitored by UFLC-MS/MS**
  - Haiting Zhang, Missouri University of Science and Technology, Yongbo Dan, Craig D. Adams, Honglan Shi, Yintao Ma, Todd Eichholz

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PITTCON 2017 TECHNICAL PROGRAM

ORAL SESSIONS

Tuesday Morning, Room W175b

8:30 (990-1)  Portable Chromatography for Field Analysis of Suspicious Substances RICH PAUL BUDEK, Cronite

8:50 (990-2)  Rapid and Robust Analysis of Counterfeit and Adulterated Pharmaceuticals Using a High Performance GC-TOFMS JOHN RORABECK, Andrews University,David E Alonso, Kail Pham, Joseph E Binkley

9:10 (990-3)  What’s Really in My Drug Sample? A Multiplatform Workflow for the War Against Synthetic Drugs of Abuse DAVID E ALDINOS, LECO Corporation, Joseph E Binkley

9:30 (990-4)  Modifications of DART-MS for Enhanced Detection of Forensic Compounds EDWARD SISCO, National Institute of Standards and Technology (NIST), Thomas P Forbes

Tuesday Morning, Room W176b

8:30 (1030-1)  GC-MS with Cold EI and Its Unexpected Benefits PHILIP TACKETT, FLIR Systems, Inc.


9:10 (1030-3)  A Novel Benchtop GC-TOFMS for Improved Detection and Quantitation of Semivolatile Organic Compounds JIN A KO, University of Pennsylvania, Matthew Hemphill, Youning Na, Junzhyong Kim, Dave Meaney, Dave Isacordare

9:30 (1030-4)  Fully Inkjet Printed Paper-Based Analytical Device for Potentiometric Ion Sensing NIPAPAN RUETCH, Keio University, Koji Suzuki, Daniel Citterio

Tuesday Morning, Room W177c

10:05 (1010-1)  Microspectroscopy of Nanoparticle Contaminants in Water LINDSAY C ELLIOTT, NIST/UMD, Kuo-Tang Liao, Wenqi Zhu, Henri Lezec, Samuel M Stavis

10:25 (1010-2)  Imaging Carbon Dioxide Reduction on Single Nanoparticles PRAVINANT K JAIN, University of Illinois

10:45 (1010-3)  Nanogold Single-Molecule Spectroscopy Using Near-Infrared Imaging and Microscopy for Molecular Holography NIKOLAS SPEGAZZINI, University of Illinois at Urbana-Champaign, Saumya Tiwari, Jennifer Mitchell, Martha Gillette, Rohit Bhargava

11:05 (1010-4)  Brain Image Fusion of fMRI Imaging and Microspectroscopy for Molecular Holography NIKOLAS SPEGAZZINI, University of Illinois at Urbana-Champaign, Saumya Tiwari, Jennifer Mitchell, Martha Gillette, Rohit Bhargava

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PITCON 2017 TECHNICAL PROGRAM

9:50 Recess

10:05 (1060-5) In Vivo Brain Analysis Using Solid Phase Microextraction NATALY REYES-GARCES, University of Waterloo, Emil Boyaci, German Augusto Gomez-Rios, Barbara Bojke, Dajana Vuckovic, Clement Hamani, Janusz Pawliszyn

10:25 (1060-6) Analyzing Single Vesicles in PC12 Cells Using Novel Pt Nanoelectrodes SAMUEL BARLOW, University of Washington, Peter Defnet, Bo Zhang

10:45 (1060-7) Monitoring Neurotransmitter Release In Vivo Via Fast-Scan Cyclic Voltammetry Following Pesticide Exposure SHANE BERGER, University of South Carolina, Parasvoo Hashem

ORAL SESSIONS Session 1070
Pharmacological Characterization with Spectroscopy and Spectrometry
Tuesday Morning, Room W475a

8:30 (1070-1) Characterization of BSN 272: An NME for Prader Willi Syndrome ROBERT LODDER, University of Kentucky

8:50 (1070-2) Integrity Assessment of Therapeutic IgG2 Monoclonal Antibodies by Measuring Their Interaction with FcRL5 Using Surface Plasmon Resonance (SPR) OYELEYE A AALB, U.S. Food and Drug Administration, Mate Tolnay

9:10 (1070-3) A Happy Marriage: Fluid Image Characterization and Raman Composition Analysis OLGA LASKINA, rap.ID Inc., Oliver Valet, Markus Lankers

9:30 (1070-4) Second Harmonic Generation Microscopy Guided Raman Spectroscopy for Rapid Qualitative and Quantitative Measurements of Active Pharmaceutical Ingredients in Excipients Matrix ZHENGHANSONG, Purdue University, Ashad U Chowdhury, Shijie Zhang, Garth J Simpson

9:50 Recess

10:05 (1070-5) The Development of Analytical Procedures for Analysis of Trace Metals in Pharmaceutical Formulations SAMARRAHAB, Liverpool John Moores University, Phil Ribby, Mark Wainwright

10:25 (1070-6) Analysis of Arsenic and Other ICH Q3D Metals in Pharmaceutical Formulations PHIL RIBY, Liverpool John Moores University, Phil Ribby, Emily Westwood, Matt Roberts

10:45 (1070-7) Testing and Validation of Various Antacids – Trace Elemental Impurities and Major Components in a Single Analysis AARON HINEMAN, PerkinElmer Inc., Jan Sims

11:05 (1070-8) Development of an Instrument for Rapid Characterization of Crystal Content in Pharmaceuticals Using Triboluminescence GREGORY EAKINS, Purdue University, Garth J Simpson, Casey J Smith, Scott R Griffin, Jasmine Madison

ORAL SESSIONS Session 1080
Process Analytical Chemistry / Monitoring (Half Session)
Tuesday Morning, Room W476

10:05 (1080-1) Spectroscopic Purity Assessment of Early Stages of a Natural Product Isolation Reduces Excessive Costly Recovery Unit Processes MARK BOATWRIGHT, Kansas State University, David Wetzel


10:45 (1080-3) A Novel FTIR-GC/FTIR Detection Method as Applied to Process Monitoring of Carbon Dioxide Purity CHARLES M PHILLIPS, Prism Analytical Technologies, Martin Lee Spartz, Anthony S Bonanno, Alexander T Steele, Peter P Behoke


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ORAL SESSIONS Session 1040
LC - Environmental and Others
Tuesday Morning, Room W177

8:30 (1040-1) Recent Advances in Suppression Technology for Ion Chromatography RONG LIN, Thermo Fisher Scientific, Sheetal Bhardwaj, Mirsal Sengupta, Brittany Omphrey, Kannan Srinivasan

8:50 (1040-2) Recent Advances in Suppressed Ion Chromatography Using Carbonate Eluents in Achieving Low Background and Noise Performance MINIMAK SENGUPTA, Thermo Fisher Scientific, Kannan Srinivasan

9:10 (1040-3) Optimizing LED-Based UV Absorption Detectors for On-Column Capillary Liquid Chromatography THY X TRuong, Brigham Young University, Xiaofeng Xie, Paul B Farnsworth, H Dennis Tolley, Luke T Tolley, Milton L Lee


9:50 Recess


10:25 (1040-6) Multi-Component Stationary Phase Gradient on Silica Monoliths for Liquid Chromatography ANNA FORZANO, Virginia Commonwealth University, Sarah C Rutan, Maryanne M Collinson

10:45 (1040-7) Hydrophilic Interaction Liquid Chromatography: Fundamental Investigation of Column Equilibration for Polar Siliceous and Zwitterionic Stationary Phases DANIEL SHOELLEBERGER, MilliporeSigma, Craig Aurand, David Scott Bell, Hugh Cramer

11:05 (1040-8) Non-Traditional Chiral Separations with Polysaccharide HPLC Columns Using Atypical Solvents and High pH MORGAN JACOB KRAMES, Phenomenex, J P Preston

ORAL SESSIONS Session 1050
LC - Pharmaceutical (Half Session)
Tuesday Morning, Room W476

8:30 (1050-1) Development and Validation of a Fast Reversed Phase Stability-Indicating Method for the Assay of 3,3’-Thiodipropionic acid (TDPA) and Estimation of its Related Compounds PENG ZHANG, Merial, Nilushta IT Padivitage, Abu Rustum

8:50 (1050-2) Developing HPLC Methods When Cl8 Columns Don’t Work RICHARD A HENRY, Penn State University

9:10 (1050-3) HPLC Method Development for Identification and Assay of Praziquantel, Afonolur, Moxidectin, and BHT/BHA, and Estimation of Praziquantel, Afonolur, and Moxidectin Related Compounds in Topical Spot-on Products JIANQIANG HE, Merial, Jumin Huang, Abu Rustum

9:30 (1050-4) Advances in Bioanalysis Using On-Line SPE with Liquid Chromatography Mass Spectrometry XIAOYINING ZU LI, MilliporeSigma, Hillel Brandeis, David Scott Bell, Candace Price

ORAL SESSIONS Session 1060
New Approaches to Understanding Brain Function
Tuesday Morning, Room W184d

8:30 (1060-1) Dexamethasone Enhanced Microdialysis Sampling of Spreading Depolarization Waves in the Rat Cortex DRIK L VARNA, University of Pittsburgh, Andrea Jacono-Gerst, Chi Leng Leong, Kathryn M Neriott, David Fine, Amy K Wagner, Martyn G Boutelle, Adrian C Michael

8:50 (1060-2) Comparing Spreading Depolarizations in the Nucleus Accumbens and Cortex CADDY HOBBS, University of North Carolina at Chapel Hill, Justin Allen Johnson, R Mark Wightman

9:10 (1060-3) In Situ Transient Adenosine Characterization with Fast-Scan Cyclic Voltammetry: Exploring Brain Regions and Release Mechanisms SCOTT T LEE, University of Virginia, B Jill Vento

9:30 (1060-4) Multiple Sources Contribute to Extracellular Hydrogen Peroxide Dynamics in the Striatum LESLIE RAE WILSON, North Carolina State University, Sambit Panda, Andrea C Schmidt, Leslie A Sombers
(1100-1) Triboluminescence Instrumentation for Rapid Detection of Trace Residual Crystallinity in Amorphous Pharmaceutical Formulations

(1100-2) Monitoring Changes in Protein Aggregation with Holographic Characterization

(1100-3) A Simple and Fast Screening Method for the Identification of Male DNA in Forensically Relevant Samples

(1100-4) Magnette Nanoparticles for Scalable Enzyme-Catalyzed Reactions and Electrochemical Biosensing

(1100-5) Low Level Product Off-Gassing by IR/GC-IR

(1100-6) Observation and Visualization of Process Streams in Real-Time with Direct Mass Spectrometry (RTQA-MS)

(1100-7) Spectral Diagnostics for Plasma Process Control

(1100-8) Quality Control and Calibration Approaches for Determining Reproducible Results

(1110-1) Electrochemical Measurements of Dopamine in Chemotherapy-Treated Zebrafish

(1110-2) Tailoring Biopolymer Matrices to Stimulate Fibroblast Synthesis Toward Cell Therapeutic Treatment of POP

(1110-3) Label-Free Pathology by Spectrally Sliced Femtosecond Stimulated Raman Scattering (SRS) Microscopy

(1110-4) Development of Apatmers Against Patient Pancreatic Adenocarcinoma for Personalized Precision Cancer Monitoring and Therapy

(1110-5) Laminated Microfluidic Paper-Based Analytical Devices for Clinical Protein Assays

(1110-6) Miniature Gas Chromatography Based Breath Analyzer for Non-Invasive Point-of-Care Diagnostics of Acute Lung Injury

(1110-7) The Potential Impact of Circulating miR-26a in a Rat Model of Non-Alcoholic Fatty Liver Disease Fed High Fat Diet: In Vivo and In Vitro Study

(1110-8) Comparative Study on the Efficacy of Formal Ether and Other Organic Solvents in Body Fluid Analysis

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POSTER SESSION Session 1140

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Tuesday Morning, Exposition Floor, Aisle 2500-2600

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POSTER SESSION Session 1150

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Tuesday Morning, Exposition Floor, Aisle 2500-2600

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600.

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POSTER SESSION Session 1130

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600.

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Poster Titles:

1130-1 P Determination Of Molecular Mass 302 Polycyclic Aromatic Hydrocarbons in Standard Reference Material 1597A by Reverse-Phase Liquid Chromatography Coupled with Fluorescence Detection

1130-2 P Investigation of Retention Behavior of Polycyclic and PoAromatic Sulfur Heterocycles in Normal-Phase Liquid Chromatography (WALTER BRENT WILSON, National Institute of Standards and Technology (NIST), Hugh V Hayes, Lane C Sander, Andres D Campiglia, Stephen A Wise)

1130-3 P Improvement of Precision and Uptime in UHPLC by Intelligent Sample Pre-Compression Technology (MARKUS M MARTIN, Thermo Fisher Scientific, Matthias Krajevski, Sabrina Patzelt, Frank Steiner)

1130-4 P Automated Pre-Column Derivatization of Amino Acids by HPLC (LEE N POLITE, Axion Analytical Labs Inc, Jackson O'Donnell, Nikolai L Polite, Theodore N Gavello, Erick D沃尔ts, Dennis L Polite, Mary Beth Smith)

1130-5 P Anion Exchange Chromatography of Sulfonated Compounds Using a Protamine Coated Column (ASHLEY E RICHARDSON, Miami University; Matthew T Webb, Neil D Danielson)

1130-6 P Development and Validation of a High-Performance Liquid Chromatographic Method for Therapeutic Drug Monitoring of Menemem in Serum/Plasma (HUA TANG, Cincinnati Children’s Hospital Medical Center)

1130-7 P Introduction of No Pulsation Pump (KEN KITAMURA, FLM Corporation)

1130-8 P Liquid Feeding System Controlling the Pressure and Flow Rate Simultaneously (YOKO SEKIGUCHI, FLM Corporation, Satoshi Motomiya, Shojiyo Fanakoshi, Satoshi Nakamura, Takafumi Shimizu)

1130-9 P High pH Chiral Separations of Amphetamine and Amphetamine Derivatives with a Polysaccharide HPLC Column (MORGAN JACOB KRAMER, Phenomenex, J P Preston, Abraham Becerra)
PITCON 2017 TECHNICAL PROGRAM

POSTER SESSION

Tuesday Morning, Exposition Floor, Aisle 2500-2600

The Versatile Use of Portable Instruments
Tuesday Afternoon, Room W183a

Awards Session 1170
The Pittsburgh Spectroscopy Award
arranged by Sanford Asher, The University of Pittsburgh

Tuesday Afternoon, Room W183a
Partha Basu, Indiana University - Purdue University Indianapolis, Presiding

1:30   Introductory Remarks - Sanford Asher

1:35   Presentation of the 2017 Pittsburgh Spectroscopy Award to Edward I. Solomon, Stanford University, by Karen L. Johnson, Chair, Spectroscopy Society of Pittsburgh

1:40   (1170-1) Bioorganic Spectroscopy: Activating Metal Sites for Biological Electron Transfer EDWARD I. SOLOMON, Stanford University

2:15   (1170-2) Synchrotrons and X-Ray Free Electron Lasers in Structural Biology – From “Slow” to “Ultrafast” KEITH O. HODGSON, Stanford University, Britt Hedman

2:50   (1170-3) Spectroscopic insights into the BioSynthesis of Coenzymes B12 THOMAS C BRUNOLO, University of Wisconsin Madison

3:25   Recess

3:40   (1170-4) Electron-Nuclear Double Resonance (ENDOR) in Metallobiochemistry BRIAN HOFFMAN, Northwestern University

4:15   (1170-5) Dynamics and Mechanisms of Copper-Responsive Regulators and Efflux Pumps in Living Cells Revealed by Single-Molecule Imaging PENG CHEN, Cornell University

Tuesday Afternoon, Room W183b
Rebecca Brodie, Royal Society of Chemistry, Presiding

1:30   Introductory Remarks - Rebecca Brodie

1:35   Presentation of the 2017 Royal Society of Chemistry Award to Kirsty Penkman, University of York, United Kingdom, by Rebecca Brodie, Royal Society of Chemistry

1:40   (1180-1) Through the Looking-Glass, and What Amino Acids Found There KIRSTY PENKMAN, University of York

2:15   (1180-2) Evolutionary Metallomics ARIEL D. ANBAR, Arizona State University

2:50   (1180-3) Development of Targeted Metaproteomic Method for Studies of Ocean Metabolism and Change MAK SAIITO, Woods Hole Oceanographic Institution, Matthew McIlvin, Dawn Moran

3:25   Recess

3:40   (1180-4) Intergrowth of PTMs in C. Reinhardtii via MS-Based Proteomics Approaches LESLIE HICKS, University of North Carolina at Chapel Hill

4:15   (1180-5) Dissecting Protein Complexes in the Gas-Phase: From Top-Down Sequencing to Collision Induced Unfolding BRANDON RUOTOLO, University of Michigan

SYMPOSIUM

Awards Session 1180
The Royal Society of Chemistry Award
arranged by Rebecca Brodie, Royal Society of Chemistry

Tuesday Afternoon, Room W183b
Rebecca Brodie, Royal Society of Chemistry, Presiding

1:30   Introductory Remarks - Rebecca Brodie

1:35   Presentation of the 2017 Royal Society of Chemistry Award to Kirsty Penkman, University of York, United Kingdom, by Rebecca Brodie, Royal Society of Chemistry

1:40   (1180-1) Through the Looking-Glass, and What Amino Acids Found There KIRSTY PENKMAN, University of York

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2:50   (1180-3) Development of Targeted Metaproteomic Method for Studies of Ocean Metabolism and Change MAK SAIITO, Woods Hole Oceanographic Institution, Matthew McIlvin, Dawn Moran

3:25   Recess

3:40   (1180-4) Intergrowth of PTMs in C. Reinhardtii via MS-Based Proteomics Approaches LESLIE HICKS, University of North Carolina at Chapel Hill

4:15   (1180-5) Dissecting Protein Complexes in the Gas-Phase: From Top-Down Sequencing to Collision Induced Unfolding BRANDON RUOTOLO, University of Michigan

SYMPOSIUM

Awards Session 1190
ACS-DAC - Ion Mobility: Adding New Dimensions
arranged by Matthew F Bush, University of Washington

Tuesday Afternoon, Room W184d
Matthew F Bush, University of Washington, Presiding

1:30   Introductory Remarks - Matthew F Bush

1:35   (1190-1) Multidimensional Ion Mobility Analysis of Proteins and Protein Complexes MATTHEW F BUSH, University of Washington

2:10   (1190-2) Pathways and Thermodynamics of Polyproline Helix Formation in Solution from Measurements of Ions in the Gas Phase DAVID E CLEMMER, Indiana University

2:45   (1190-3) Tandem Differential Mobility Spectrometry and Addition of Ion Transformations for Improved Selectivity of Response GARY ALAN EKEMANN, New Mexico State University

3:20   Recess

3:35   (1190-4) Ion Mobility Spectrometry for Nanomaterials CHRISTOPHER J HOGAN, University of Minnesota, Seongho Jeon, Vivek R. Raval, David T Buckely, Derek R Oberreit

4:10   (1190-5) Coupling of Surface-Induced Dissociation with Ion Mobility or High Resolution MS VICOI WYSOCKI, Ohio State University, Joshua Gilbert, Jing Yan, Zachary VanAernum, Florian Busch, Sophie Harvey, Aniruddhe Sahasrabuddhe, Alyssa Stiving, Akiho Tanimoto

Tuesday Afternoon, Room W184e
Yi Lu, University of Illinois at Urbana-Champaign, Presiding

1:30   Introductory Remarks - Yi Lu and Daniela Buccella

1:35   New Targeted Fluorescent Probes for the Study of Intracellular Metal Distribution and Mobilization DANIELA BUCELLA, New York University

2:10   Tracking Metal in the Brain - New Probes, New Biology STEPHEN J LIPPMANN, Massachusetts Institute of Technology

2:45   Molecular Imaging of Transition Metal Signaling in the Brain and Beyond CHRISTOPHER J CHANG, University of California Berkeley

3:20   Recess

AWARDS

54
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:35</td>
<td>SYMPOSIUM 1210</td>
<td>Forensic Analysis in the Lab and Crime Scene</td>
<td>arranged by Igor K. Lednev, University at Albany, SUNY</td>
</tr>
<tr>
<td>1:30</td>
<td>1210-1</td>
<td>Introductory Remarks - Igor K. Lednev</td>
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<tr>
<td>1:35</td>
<td>1210-2</td>
<td>Discriminating Power of Volatiles from Forensic Specimens in the Field</td>
<td>KENNETH F. FURTON, Florida International University, Howard K. Holness, Alison Simon, Lauren Colon-Crespo, Adly Huearts, Vaniaqua Shellman, Rodolfo Mesa, Abuzar Kabi</td>
</tr>
<tr>
<td>4:10</td>
<td>1210-3</td>
<td>Macro X-Ray Fluorescence (MA-XRF): A Powerful Tool for the Non-Invasive</td>
<td>ARIAN VAN AALSTEN, Netherlands Forensic Institute, Kirsten Langstraat, Alwin Knijenbergen, Gerda Edelman, Annelies van Loon, Joris Dik</td>
</tr>
<tr>
<td>3:20</td>
<td>1210-4</td>
<td>Collection and Analysis of Break Components for Marijuana Detection</td>
<td>GREGORY DUTTON, National Institute of Justice</td>
</tr>
<tr>
<td>3:35</td>
<td>1210-5</td>
<td>Raman Microspectroscopy of Biological Stains and Advanced Statistics</td>
<td>IGOR K. LEDNEV, University at Albany, SUNY</td>
</tr>
<tr>
<td>3:35</td>
<td>SYMPOSIUM 1220</td>
<td>IAEAC - Novel Sensor Strategies for the Quantification of Biogenic Amines</td>
<td>arranged by Antje J. Baeumer, University of Regensburg</td>
</tr>
<tr>
<td>1:30</td>
<td>1220-1</td>
<td>Introductory Remarks - Antje J. Baeumer</td>
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<tr>
<td>1:35</td>
<td>1220-2</td>
<td>Novel Sensing Strategies for the Quantification of Biogenic Amines</td>
<td>JAN MARKUS SCHNORR, C2Sense, Inc., Timothy M. Swager</td>
</tr>
<tr>
<td>3:20</td>
<td>1220-3</td>
<td>Seafood Decomposition, Biogenic Amines, and Associated Regulatory Applications</td>
<td>NOLAND B. BENNER, University of Regensburg</td>
</tr>
<tr>
<td>3:35</td>
<td>1220-4</td>
<td>Stimulus-Response Biosensor for Determining Bacteria Viability Using Lectin-Glycoenzyme Nanobrushes</td>
<td>ERIC MCLAUGRORE, University of Florida</td>
</tr>
<tr>
<td>4:10</td>
<td>1220-5</td>
<td>Process Analytical Technology Applications in Agricultural Processing</td>
<td>ERIN ROCKAFELLER, ADMI, Joshua Terran, David Egeh</td>
</tr>
<tr>
<td>3:35</td>
<td>SYMPOSIUM 1230</td>
<td>JAIMA - Analytical Solutions for Biopharmaceutical Practice - Recent Trends</td>
<td>arranged by Satoshi Nomura, Japan Analytical Instruments Manufacturers’ Association (JAIMA)</td>
</tr>
<tr>
<td>1:30</td>
<td>1230-1</td>
<td>Introductory Remarks - Satoshi Nomura</td>
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<tr>
<td>1:35</td>
<td>1230-2</td>
<td>Workflow Solutions for the Analytical Separation of Monoclonal Antibodies (mAbs) and Their Congenates</td>
<td>ATIS CHAKRABARTI, Toosh Bioscience LLC</td>
</tr>
<tr>
<td>2:10</td>
<td>1230-3</td>
<td>Multiple Reaction Monitoring for Direct Quantitation of Intact Proteins</td>
<td>KEVIN A SCHUG, University of Texas at Arlington</td>
</tr>
<tr>
<td>2:45</td>
<td>1230-4</td>
<td>Expanding on BioPharmaceutical Applications with ICP-QQQ</td>
<td>AMIR LIBA, Agilent Technologies</td>
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<tr>
<td>3:35</td>
<td>1230-5</td>
<td>Abstract Not Submitted at Time of Printing</td>
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<tr>
<td>3:35</td>
<td>SYMPOSIUM 1240</td>
<td>Microanalytical Methods for Immunology</td>
<td>arranged by Rebecca R. Pompeano, University of Virginia and J. Christopher Love, Koch Institute at MIT</td>
</tr>
<tr>
<td>1:30</td>
<td>1240-1</td>
<td>Introductory Remarks - Rebecca R. Pompeano and J. Christopher Love</td>
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<tr>
<td>1:35</td>
<td>1240-2</td>
<td>Single-Cell Technologies for Profiling Human Disease</td>
<td>J. CHRISTOPHER LOVE, Koch Institute at MIT</td>
</tr>
<tr>
<td>2:10</td>
<td>1240-3</td>
<td>Microsystems and Materials for Capture, Analysis and Release of Immune Cells</td>
<td>ALEXANDER REVZIN, University of California, Davis, Kyunghun Son, Tam Vu, Judy van de Water, Gulnaz Stybayeva</td>
</tr>
<tr>
<td>2:45</td>
<td>1240-4</td>
<td>Spatially Resolved Detection of Cytokines in Intact Tissue Ex Vivo</td>
<td>JODI A. STENKEN, University of Arkansas, Kamel Alkatib, Alda Diaz-Perez, Randy Espinal Cabrera, Sarah Phillips, Tina Pozo, Margaret Power, Patrick Pysz, Thaddeus Vasiczek</td>
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**PITTCON 2017 TECHNICAL PROGRAM**

**SYMPOSIUM**  
Session 1260  
*Recent Innovations in Nanosensing*
arranged by Xiuxin James Li, University of Texas at El Paso

**Tuesday Afternoon, Room W177b**
Xiuxin James Li, University of Texas at El Paso, Presiding

1:30  
**Introductory Remarks** - Xiuxin James Li

1:35  
(1260-1)  
Ion Channel Probes (ICPs) for Bio/Chemical Analysis  
LANE A BAKER, Indiana University

2:10  
(1260-2)  
Nanoparticle-Mediated Photothermal Immunosensing Using a  
Thermometer XIUJUN JAMES LI, University of Texas at El Paso

3:20  
(1260-4)  
Nanosensors for Direct Reading of DNA Damage  
STEVEN SOPER, University of Kansas

4:10  
(1260-5)  
Novel Si/Novel Plasmonic Nanostructures for Sensing and Imaging  
Applications  
YOUNAN Xia, Georgia Institute of Technology

**ORGANIZED CONTRIBUTED SESSIONS**  
Session 1270  
*Current Trends in Pharmaceutical Dissolution Testing*
arranged by Gregory K. Webster, AbbVie and J. Derek Jackson, Flexion Therapeutics

**Tuesday Afternoon, Room W179b**
Gregory K. Webster, AbbVie, Presiding

1:30  
(1270-1)  
Five Steps Required for Transition to Enhanced Mechanical Qualification of the Dissolution Apparatus  
BRYAN CRUST, Agilent Technologies

1:50  
(1270-2)  
Summary Report from the AAPS IVROTG Instrumentation Sub-Team  
GREGORY GROVE, SofDas Corporation

2:10  
(1270-3)  
Cleaning Validations for App1/App2 Systems  
GREGORY K WEBSTER, AbbVie, Xi Sha, Christian Hansen

2:30  
(1270-4)  
In Vitro Release Testing of Parenteral Suspensions  
DEREK JACKSON, Flexion Therapeutics

2:50  
(1270-5)  
Novel Methods for Predictive Dissolution Measurements  
KONSTANTIN TSINMAN, Pion Inc, Dave Kwajewski

3:05  
(1270-6)  
Advanced Dissolution Technologies for Formulation Rapid Screening and Development  
XIUJIN LIU, Bristol-Myers Squibb, Lili Li, Pankaj Shah

3:45  
(1270-7)  
Analyzing Multi Component Dissolution Samples Using In-Situ Fiber Optic UV Spectrophotometry  
ANDREW KIEL, Distek, Inc., Guy Imman

**ORGANIZED CONTRIBUTED SESSIONS**  
Session 1280  
*From Discovery to Precision Medicine: Mass Spectrometry Through the Years and Beyond*
arranged by Jody Roberts, Chemical Heritage Foundation

**Tuesday Afternoon, Room W184bc**
Jody Roberts, Chemical Heritage Foundation, Presiding

1:30  
**Introductory Remarks** - Jody Roberts

1:35  
(1280-1)  
The Commercialization of Quadrupole Mass Spectrometry and GC/MS/DS: An Historical View  
DAVID C BROCK, Computer History Museum, Robert E Finnigan

2:10  
(1280-2)  
A Brief History (1974-2016) of Mass Spectrometry Instrumentation Driving Cutting-Edge Biological Research that then Stimulates Development of New Mass Spectrometry Instrumentation  
DONALD F HUNT, University of Virginia

2:45  
(1280-3)  
Abstract Not Submitted at Time of Printing  
Recess

3:20  
(1280-4)  
Mass Spectrometry and Biomonitoring for Assessing Exposure to Environmental Chemicals  
ANTONIA CALAFAT, CDC

4:10  
(1280-5)  
Panel Discussion - Continued Expansion of the Role of Mass Spectrometry in the Biomedical World of the Future

**ORGANIZED CONTRIBUTED SESSIONS**  
Session 1290  
*SEAC: The Student Session in Electroanalysis*
arranged by Stephen Maldonado, University of Michigan

**Tuesday Afternoon, Room W176c**
Stephen Maldonado, University of Michigan, Presiding

1:30  
(1290-1)  
Nanopip Voltammetry of Highly Disordered Conductive Carbon  
RANI CHEN, University of Pittsburgh, Amin M Najarian, Richard L McCreery, Shigeru Amemiya

1:50  
(1290-2)  
Convection-Based Removal of Non-Faradic Background Current in Fast-Scan Cyclic Voltammetry Recordings  
JUSTIN ALLEN JOHNSON, University of North Carolina at Chapel Hill, R Mark Wrightman

2:10  
(1290-3)  
Dual Function Ion Selective Microelectrodes for SEC  
JOTHIR GANESH UMMADI, Oregon State University, Dipankar Koley

2:30  
(1290-4)  
Nanoscaled EIS Films for Impedimetric Imaging of Human Serum Albumin  
ALANA OGATA, University of California Irvine, Jeffrey Briggs, Shie Schlegel, Ming Tan, Sudipta Mukamdar, Gregory Weiss, Reginald Penner

2:50  
(1290-5)  
Reaction Mechanism of Nickel Molybdate (NiMoO4) Investigated via Operando Synchrotron X-Ray Techniques  
JAMES P PASTORE, Cornell University, Peter M Ciesnica, Katherine E Sibertstein, James R McKone, Francis J DiSalvo, HECTOR D Abruna

3:25  
(1290-6)  
Electrolysis of Ammonia Using Earth-Abundant Materials  
DANIEL J LITTLE, Michigan State University

3:45  
(1290-7)  
Probing the Unique Reactivity Modes of Redox Active Polymer Particles  
MARK BURGES, University of Illinois at Urbana-Champaign, Kenneth Hernandez-Burgos, Elvirene Chenard, Jonathan Schub, Jasmine Davila, Elena C Montoto, Randy H Ewoldt, Jeffrey S Moore, Joaquim Rodriguez-Lopez

**ORAL SESSIONS**  
Session 1300  
*Bioanalytical - Electrochemistry*

**Tuesday Afternoon, Room W175a**

1:30  
(1300-1)  
The Electrochemical Characterization of Ink-Jet Printed Carbon Nanotubes Electrodes  
ROMANA JAROSZUKI, Michigan State University, Margaret Gajda, Greg Swain, Andreas Lesch

1:50  
(1300-2)  
Electroanalytical Measurements in Zebrasfish  
MICHAEL JOHNSON, University of Kansas, Mimi Shin, Thomas Field, Chase S Stucky

2:10  
(1300-3)  
Integration of Collagen Hydrogel Scaffold to Enhance Performance of RNA Electrochemical-Aptamer Based (E-A) Sensors  
MIRIELS SANTOS CANCEL, University of Maryland, Baltimore County, Ryan J White

2:30  
(1300-4)  
Nanocomposite Microelectrode Electrochemical Arrays for Non-Invasive Transdermal Sensing of Analytes  
ELDHOSE SKABIA, University of Brighton, Melanie S Flint, Bhavik A Patel, Kenny W Hig

2:50  
(1300-5)  
Applications of Different CNT Fibers and Novel Microelectode Design for Neurotransmitter Detection  
YANG CHENG, University of Virginia, B Jill Venton, Christopher B Jacobs

3:25  
(1300-6)  
Measurement of Pyocyanin from Pseudomonas aeruginosa in Polymicrobial Environments Using Electrochemical Sensors  
EDGAR D GOLITCH, Northeastern University, Clara Romero Santiveri, Hunter Sismas

3:45  
(1300-7)  
Bacteriocal Cytochrome c30 Electrocatlysis  
RAASEKHARA NIRMELA, Oklahoma State University, Sadagopan Krishnan

4:05  
(1300-8)  
Electrochemiluminescence-Based Detection of Bacteria  
HENOK BHYE HABITAMU, Indiana University - Purdue University Indianapolis, Frederique T Deiss

**ORAL SESSIONS**  
Session 1310  
*Bioanalytical - Fluorescence/Luminescence, and Capillary Electrophoresis*

**Tuesday Afternoon, Room W175b**

1:30  
(1310-1)  
A Cooperative-Binding Split Aptamer Assay for Rapid, Specific and Ultra-Sensitive Fluorescence Detection of Cocaine in Saliva  
HAIXIANG YU, Florida International University, Juan Canosso, Bhargav Guntopalli, Xi Xiao

1:50  
(1310-2)  
Reversible Distribution of G Protein 9 Based Assay for Real-Time Quantification of GPCR and 6 Protein Function in Living Cells  
KANISHKA SENGARATH, University of Toledo, Kasun Ratnayake, Praneeth Siripurapu, Ajith Karunarathne

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2:10 (1310-3)  A Novel Fluorescent Ratiometric Nanosensor for Continuous Chloride Monitoring In Vivo  WENJUN B, Northeastern University, Heather A Clark

2:30 (1310-4)  Development of Graphene Quantum Dots with Controllable Size and Composition YUEFEI ZHANG, University of North Dakota, Xiao Liu, Yuqian Xing, Ying Zhang, Julia Zhao

2:50  Recess

3:05 (1310-5)  Analyzing Drosophila Melanogaster Hemolymph with Different Sampling Techniques, Capillary Electrophoresis, and Fluorescence Cell Sorting MARISSA R CABAY, University of Illinois at Chicago, Scott A Shippy

3:25 (1310-6)  The Role of Deuterium Nucelotides in Endocytic Disruption Through Binding to Steroid Hormones MAARRAH ELLINGTON, West Virginia University, Vincent N iyakabuya, L ica A Holland

3:45 (1310-7)  Assay Conditions and New Applications of a Peptide Substrate Reporter MICHELLE L KOYAR, Trinity College, Allison J Tiemeier, Xunwei Yang

4:05 (1310-8)  Optical Control and Real Time Mapping of Subcellular Signaling & Cell Behavior AUHT HARIJIT ARUMANAI, University of Toled o, K anisha Senarath, Dinesh Kankanamge, Kasun Ratnayake, Christine Dansak, Praneeth Siripurapu

**ORAL SESSIONS**  Session 1320  Bioanalytical - MS, GC/MS, and LC/MS

**Tuesday Afternoon, Room W175c**

1:30 (1320-1)  Metabolic Profiling Along the Segmentally Stratified Rat Colon MEIRETH DINES, University of California Riverside, Cynthia K Larive, Christian Lyle


2:10 (1320-3)  12-Time Point Proteomics of Xenopus Laevis Allows for Broad Understanding of Protemic Expression Data Emerging from a Mature Oocyte to Late Neural Stage Embryos Quantifying More than 6,100 Protein Profiles ELIZABETH H PEUCHEN, University of Notre Dame, Liangiang Sun, Matthew M Champion, Norman Dovich

2:30 (1320-4)  New Setup for Micro-Extraction Techniques and GC-MS Analysis of Biological Cultures ANNE-CHRISTIN BISCHOFF, Rostock University Medical Center, Peter Oertel, Pratim Sukul, Wolfram Miiekisch, Jochen K Schubert

2:50  Recess

3:05 (1320-5)  Identification and Determination of Photosensitizing Porphyrins in Oral Bacteria JANOS FYRESTRAM, Stockholm University

3:25 (1320-6)  Selenium Accumulation and Metabolism in Supplemented Aquacopon Systems Using ICP-QQQ and HPLC SKYLER W SMITH, University of Cincinnati, Julio A Landero-Figuera, Christopher Yap, Megan Schmade

3:45 (1320-7)  The Impact of Glycophosphate on the Artemia Metabolome Determined Using 1H NMR and GC-MS: MELISSA A MORGAN, University of California Riverside, Cynthia K Larive, Corey M Griffith

4:05 (1320-8)  Universal Derivatization of Metabolites for Improved Sensitivity in Electrospay Ionization Mass Spectrometry TIANYUO HUANG, Saint Louis University, James Edwards

**2:50**  Recess

**3:05**  (1330-5)  Tip Enhanced Laser Ablation for Genomics and Proteomics Analysis KERAMY M KIRK, Louisiana State University, Fan Cao, Bijay Banstola, Fabrizio Donnarumma

**3:25**  (1330-6)  High-Throughput Screening and Quantitation of Prohibited Substances in Plasma and Urine Samples by Coated Blade Spray Mass Spectrometry (CBS-MS) MARCOS TASDON, University of Waterloo, German August Gomez-Rios, Nathaly Reyes-Garcés, Ezeil Boyce, Justin J Poole, Janusz Pawlisy

**3:45**  (1330-7)  Paper-Based Ion Concentration Polarization Within the Volume of a Paper Spray Ionization Emitter for Mass Spectrometric Detection of Biomolecules from Small Sample Volumes LARRY G W A RFIELD, University of Tennessee, Christopher A Baker

**4:05**  (1330-8)  Open Port Probe as a Robust Interface for the Direct Coupling of Biocompatible Solid-Phase Microextraction Fibers to Atmospheric Pressure Ionization Mass Spectrometry GERMAN AUGUSTO GOMEZ-RIOS, University of Waterloo, Janusz Pawlisy, Chang Liu, Nathaly Reyes-Garcés, Thomas R C ovey, Bradley Schneider, Don W Arnold

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**PITTCNON 2017 TECHNICAL PROGRAM**

**Tuesday Afternoon, Room W176b**

1:30 (1340-1)  Medical Applications of GC-Ion Mobility Spectrometry WOLFGANG VAUTZ, ISAS

1:50 (1340-2)  Electrochemical Measurement of Pyocyanin Production by Clinical Pseudomonas Aeroginosa Isolates EDGAR G GOLUCH, Northeastern University

2:10 (1340-3)  A Chemical Assessment of Marijuana by GC-FID with a Variety of Injection Techniques REBECCA PLESSEL, Penn State University, Maura McGonigal, Frank Dorman

2:30 (1340-4)  Development, Validation and Comparative Analysis of HPLC and HPTLC Methods for Quantification of Capetstamine in Serum of Cancer Patients SONAIL GAINAABRAD THOIRAE, Rashtravant Yakadoji Maharaj Nagpur University, Madhukar R Tajne

**ORAL SESSIONS**  Session 1340  Clinical Chemistry Aspects with Focus on Pathogens, Marijuana and Anti-Cancer Measurements (Half Session)

**Tuesday Afternoon, Room W177**

1:30 (1350-1)  Microfabricated Sampling Probes Coupled to Droplet Microfluidics for In Vivo Neurochemical Monitoring with High Spatiotemporal Resolution TANAYATAVAT NGERINSIVATHARUK, University of Michigan, Alec C Valenta, Robert T Kennedy

1:50 (1350-2)  A New All-Polymer Microfluidic Chip to Measure Neurochemical Release from Single Cells ADAM ROBERT MEIER, University of Arizona, Richard F Vreeland, Marco Matteucci, Rafael Taborsky, Michael A. Heien

2:10 (1350-3)  Smart Hydrogel Integrated on Microfluidic Paper-Based Analytic Device for Point-of-Care Testing ZHI ZHU, Xiamen University, Chaoyang Yang

2:30 (1350-4)  Development of Computer-Controlled Microfluidic Biosensing Systems for Tissue Vialility Monitoring SALLY A GOWERS, Imperial College London, Michelle L Rogers, Chi Leong Leong, Tonghathai Phairatana, Isabelle A. Samper, Martyn G Boustelle

**2:50**  Recess

**3:05**  (1330-5)  A 3D Printed Device to Test Bacterial Susceptibility to Antibiotic Dosing ANDREW HELLER, Michigan State University, Dana Spence

**3:25**  (1330-6)  Carbon-Based Sensors for Use in On-Line Microfluidic Carbaplatin Detector TONGHATHEI PHAIRATANA, Imperial College London, Martyn G Boustelle

**3:45**  (1350-7)  Inertial Microfluidic Device for Automated Adjustment of Cell Concentration JIAN ZHOU, Zhejiang University, Chunlong Tu, Yitao Liang, Bobo Huang, Yifeng Fang, Xiao Liang, Xuesong Ye

**4:05**  (1350-8)  Portable High-Resolution 3D Printed Microfluidic Analyzer for Online Clinical Microdialysis Samples ISABELLE C SAMPER, Imperial College London, Sally A Gowers, Bymoon K Sandhu, Chi Leng Leong, Michelle L Rogers, Carlo A Senic, Vassilios Papalois, Martyn G Boustelle, Brook F Huxford

**Microfluidics Methods - Biomedical Applications**

**Tuesday Afternoon, Room W177a**

1:30 (1330-1)  Controlled Protein Digestion in Membranes Containing Immobilized Enzymes MERLIN BRUHENING, University of Notre Dame, Yongle Pang, Wenjing NIng, Jinlan Dong

1:50 (1330-2)  Expanding the Capabilities of Microscopy-Guided MALDI MS Profiling to Enable Analysis of Biochemically and Structurally Heterogeneous Biological Samples Ranging from Individual Neurons to Bacterial Colonies TYRO J COHN, University of Illinois, Elizabeth K Neumann, Tong Si, Stanislav S Rubakhin, Jonathan V Sweedler

2:10 (1330-3)  Analysis of Trace Glycosylated Peptides In Vivo Using Mass Spectrometry CATHERINE KRAMER, University of Arizona, Evan M Jones, Chris Stagg, Laos Szabo, Robin Pot, Michael L Heien

2:30 (1330-4)  SILAC In Vitro Quantitative Profiling of Colon Cancer Spheroids Treated with Combination Chemotherapies in a 3D Printed Fluidic Device GABRIEL J LABOVNA, University of Notre Dame, Amanda B Hummon
### PITCON 2017 TECHNICAL PROGRAM

#### ORAL SESSIONS

**Microfluidics Methods - Environmental Applications (Half Session)**

**Tuesday Afternoon, Room W176b**

- **3:05** (1360-1)
  - Low Cost Microfluidics for Resource Limited Settings: Using 3D Printing and Microcontroller Technology to Increase the Reach of Cutting Edge Research
  - JASON M ENDRY, Pfeiffer-Pfeiffer, University, Micah E Bostian

- **3:25** (1360-2)
  - Fully Printable Optical System Oriented Micro/Nano Fabrication by Configuration of Polydimethylsiloxane and Gallium
  - KESUKE NAKAUBO, Kyoto University, Hiroaki Nomada, Hirokazu Higuchi, Hiroaki Yoshika, Kinichi Monta, Yui Oki

- **3:45** (1360-3)
  - A Novel Microfluidic Device for Fast Extraction of Polyyclic Aromatic Hydrocarbons (PAHs) from Environmental Waters
  - FLORENCE RICDOUD, CEA/Leti, Louise Fan, Julien Delaitre, Bertrand Bourdon, Severine Vignoud

- **4:05** (1360-4)
  - A One-Step Surface Modification Method for Simple DNA immobilization on Paper-Based Device and Its Application for DNA Detection
  - WERN ZHOU, University of Texas at El Paso, Mengli Feng, Alejandra Valadez Valadez, Xiajun Li

**Microfluidics Methods - Bioanalytical Applications**

**Tuesday Afternoon, Room W475a**

- **1:30** (1370-1)
  - Microfluidic Protein-Based Separations with Phospholipid Nanogels
  - CASSANDRA CHIFIELD, West Virginia University, Srikant Gatta, Lisa A Holland

- **1:50** (1370-2)
  - Enhancing the Information Content of Single Cell Analysis on Microfluidic Devices Using Optical Fiber Bridges for the Analysis of Kinases, Proteases, and Cytokines
  - CHRISTOPHER T CULBERTSON, University of Kansas State University

- **2:10** (1370-3)
  - Development of an On-Line Microdialysis Microchip Electrophoresis-Based Separation System for In Vivo Monitoring of Biomarkers in Traumatic Brain Injury
  - SHAMAL M GUJARATHIGHAM, University of Kansas, Susan M Lunte

- **2:30** (1370-4)
  - Functional Screening of Membrane Proteins with Microfluidic Nanodisc Assembly
  - JAMES H WADE, University of Illinois at Urbana-Champaign, Ryan C Bailey, Josh D Jones, Rebecca

- **3:05** (1370-5)
  - An In Vitro Microfluidic Model of Endothelial Barrier Function
  - ALEXANDRA M ANDERSON, University of Tennessee, Christopher A Baker

- **3:25** (1370-6)
  - Electrokinetically Operated Integrated Microfluidic Platform for Immunoaffinity Extraction and Electrophoresis of Preterm Birth Biomarkers
  - MUJLIS SONIKER, Brigham Young University, Vishal Sahore, Ellen Parker, Adam T Woolley

- **3:45** (1370-7)
  - Microfluidic Separation of Lymphoblasts in Diagnosis of Acute Lymphoblastic Leukemia
  - WEN JI, Texas Tech University

- **4:05** (1370-8)
  - Separation of Biomolecules from Microdroplets to Nanodroplets
  - M AO FUKUYA, Kyoto Institute of Technology, Yumi Yoshida, Kohji Maeda

**Recent Developments in Portable Instruments**

**Tuesday Afternoon, Room W475b**

- **1:30** (1380-1)
  - Portable Field Deployable Sensors Based on Functional Redox Active Nanoparticles
  - SIDHANA ANDRESCU, Clarkson University, Gonca Bulbul, Ali Othman

- **1:50** (1380-2)
  - Novel Non-Radioactive Ion Source for Atmospheric Pressure Ionization (API)
  - BERT UNGHEIM, Airenyse, Andreas Waite

- **2:10** (1380-3)
  - Hand-Portable NanoFlow Liquid Chromatography System
  - LUKE T OLLY, Brigham Young University, Xiaofeng Xie, Trung X Thy, Paul B Farnsworth, H Dennis Tolley, Milton T Lee

- **2:30** (1380-4)
  - Dopant-Assisted Positive Photoinization Ion Mobility Spectrometry for On-Site Detection of Pesticide Explosives
  - HUIFANG LI, Dalian Institute of Chemical Physics, Dandan Jiang, Chuang Chen, Xin Wang

- **2:50**
  - Recess

- **3:05** (1380-5)
  - Improving Worker Safety by the Measurement of Toxic Gases Inside Cargo Containers Using a Novel Hand-Held Photoacoustic Gas Analyzer
  - ARTO BRANDERS, Goerz Ltd., Jmo Koppinnen, Jaakko Lehtinen

- **3:25** (1380-6)
  - Reliable Measurements and Influence of Humidity in an Ion Mobility Spectrometer
  - BERT UNGHEIM, Airenyse, Andreas Waite

#### ORAL SESSIONS

**Sensors - Bioanalytical, Biomedical, Pharmaceutical, and Clinical/Toxicology**

**Tuesday Afternoon, Room W476**

- **1:30** (1390-1)
  - Surface Plasmon Immunoarrays for Insulin Measurements with Binding Kinetics
  - VINI SINGH, Oklahoma State University, Sadagopan Krishnan

- **1:50** (1390-2)
  - Generating Exosome-Specific DNA Aptamers for Cancer Detection
  - LIQIN ZHANG, University of Florida, Weihong Tan

- **2:10** (1390-3)
  - Nano-Assembly-Based Logic Sensor for In Situ Analysis of Small RNA Combinations
  - LULI ZHANG, Oregon State University, Sean M Burrows

- **2:30** (1390-4)
  - Gold-Aptamer-Nanocoatings Engineered to Diagnose the Common Cold
  - VEEREN CHAUHAN, University of Nottingham

- **2:50**
  - Recess

- **3:05** (1390-5)
  - Reversible Electrochemical Detection of Dextran Sulfate and Pentosan Polysulfate
  - KEBELE E GEMENE, Northern Kentucky University, Emma Gordon, Simon Segal, Karina Sabo

- **3:25** (1390-6)
  - In Acupoint Real Time Monitoring of Nitric Oxide by Graphene-Functionalized Acupuncture Needle
  - GUOJUN ZHANG, Hubei University of Chinese Medicine, Lina Tang, Yu-Tao Li

- **3:45** (1390-7)
  - Creating Paper Analytical Devices to Screen for Low Quality Pharmaceuticals
  - TONI L BARSITIS, St. Mary’s College, Christopher J Dunlap

- **4:05** (1390-8)
  - The Enumeration of E. coli and Beta-Hemolytic Streptococcus by Paper-Based Membrane
  - UGUR TAMER, Gazi University, Merve Eryilmaz, Ayen Garmustas, Gokhan Caglayan, Eira Azac, Ismail H Boyaci, Demet Cetin, Zekyie Suluder

#### POSTER SESSION Session 1400
All posters are to be mounted at 1:00 PM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Poster sessions are on the Exposition Floor, Aisle 2500-2600. Please note: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

**Bioanalytical - Sensors and Lab-on-a-Chip**

**Tuesday Afternoon, Exposition Floor, Aisle 2500-2600**

- **1400-1 P**
  - Acoustophoresis Based Method for Diagnostic Applications
  - GAKARI P GAUTAM, New Mexico Institute of Mining and Technology, Scott Cox, Minako E Piyasena

- **1400-2 P**
  - Improved On-Chip Separation and Detection of Cellular Release from a 3-Dimensional Cell Culture Model
  - BENJAMIN TIMOTHY MEHL, St. Louis University, R Scott Martin

- **1400-3 P**
  - Dual-Function Paper-Based Analytical Device for Cultivation and Screening of Escherichia Coli Infection
  - JULIAUX P HING, Chungangkum University, Wandi Latippanawattanai

- **1400-4 P**
  - A Reconfigurable Pipette for Customized, Cost-Effective Liquid Handling
  - DANIEL J WILSON, Tufts University, Syrena C Fernandes, Charles R Mace

- **1400-5 P**
  - A Reconfigurable Single-Cell Protein Dynamics Using Single Molecule Array (SIMOA) Technology
  - SOTOFUN HWAHG, Tufts University, Liangxia Xie, Shaiba Baig, Stephanie Walter, David R Wait

- **1400-6 P**
  - Advanced Glucose Biosensors based on Dendrithic Gold Nanostuctures
  - ALMIRA RAMANUKIENĖ, Vilnius University, Anton Popov, Rita Atkinait, Natalija German, Arta Kausaitė-Motkine, Arunas Ramanarickas

- **1400-7 P**
  - Human Immune Cytokines Analysis of Post-Influenza Vaccine Responses
  - VINI H LING, Tufts University, Danlu Wu, Bruce Basuk, David R Wait

- **1400-8 P**
  - Tuning the Orientation of Proteins on the Surface of Nanoparticles Through Genetic Engineering for Detection of HPV Virus
  - JU-YI MAO, National Taiwan Ocean University

#### 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. Poster sessions are on the Exposition Floor, Aisle 2500-2600. Please note: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

**Environmental Analysis of Water Quality**

**Tuesday Afternoon, Exposition Floor, Aisle 2500-2600**

- **1410-1 P**
  - Evaluation of Drinking Water and Surface Water in Pennsylvania for Volatile Organic Compounds Determined by GC/MS with Purge and Trap Sample Concentration
  - CYNTHIA ELMORE, OI Analytical, Frank Dormian, Paulina K Piotrowski, Callan Glover

- **1410-2 P**
  - Bioluminescence as A Measure to Detect Toxicity of an Analgesic in Bioreactors
  - SHEYLA ANDREA ORTIZ DE GARCÍA, University of Carabobo, Rubén Frusta-Mata, Pedro García-Encina, Johanna Zambrano

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Tuesday Afternoon

POSTER SESSION  Session 1420

Food Identification
Tuesday Afternoon, Exhibition Floor, Aisle 2500-2600

(1420-1 P)  New GC Column Selectivity for Characterization of Complex Fatty Acid Methyl Esters in Food  RAMKUMAR DHANDAPANI, Phenomenex, Marc Gregerson, A Carl Sanchez, Kristen Parnell, Timothy Anderson


(1420-3 P)  Butter-Beer - Detecting Diacetyl in Beer Brewing Using Thermal Desorption and GC-MS  NATHAN S PROVO, Central Michigan University, Andrew T McDonald, Dale J Lecaptain

(1420-4 P)  Analysis of Water-Soluble Vitamins in Infant Formula by UHPLC/MS/MS  WILHAD M REUTER, PerkinElmer Inc, Sharrada Reddy, Avinash Dalma

(1420-5 P)  A Simplified Extraction and Analysis of Vitamin D2/D3 and Pre-D Vitamins from Complex Food Matrices Using SLE and LCMSMS for Quantification  ALLEN MISA, Phenomenex, Scott Krepich, Penny Wei, Sean Orlowicz


(1420-7 P)  Fast and Reliable Analysis of Isoflavones in Dietary Supplements  KENNETH XIHIN ROSKACK, Waters Corporation, Jinchuan Yang, Mark Benvenuti, Joe Romano

(1420-8 P)  GC Analysis of E-Cigarette Juice  TIMOTHY ANDERSON, Phenomenex

(1420-9 P)  Cannabinoid and Terpene Analysis in Food Products  TIMOTHY ANDERSON, Phenomenex

(1420-10 P)  Flavor and Fragrance Screen by GC TIMOTHY ANDERSON, Phenomenex

(1420-11 P)  Discrimination of Cold-Pressed Oils Using Raman Spectroscopy  HASAN MURAT VELOGLU, Namik Kemal University

POSTER SESSION  Session 1430

Food Science
Tuesday Afternoon, Exhibition Floor, Aisle 2500-2600

(1430-1 P)  Mapping Elemental Nutrient and Surface Treatment Distribution in Produce  KIMBERLY RUSSELL, Bruker

(1430-2 P)  Optimizing a Total Protein Combustion Instrument for Lowest Cost-per-Analyses  MASON MARSH, Leca, Dennis Lawrenz, Fred Schultz, Adam Darling

(1430-3 P)  Texture Structuring of Meat Analogues with Moisture Extrusion: Application of Insect and Soy Proteins  KILOOFAR ASHTARI LARKE, Deutsches Institut fuer Lebensmitteltechnik e.V., Marc Birringer, Stefan Topf, Sergiy Smirnate, Christoph Pennz

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PITTCON 2017 TECHNICAL PROGRAM

(1430-4 P)  Thermally Activated Microreology for Characterization of Microstructure Evolution  CHRISTELLE TSIESSERAND, Formulation, Maxime Bazin, Giovanni Brambilla, Mathias Fleury, Matt Vandern Eyden, Gerard Meunier

(1430-5 P)  Synthesis and Analyses of the Nature Product Thujone and Its Metabolites  IRENE THAMM, TUM, Michael Rychlik, Konrad Tiefenbacher, Johannes Richer

(1430-6 P)  Determination of Sugar Alcohols, Monosaccharides, and Disaccharides in Juice and Juice Drinks Using Ion Exchange Chromatography with Pulsed Amperometric Detection  ANNE SHEARROCK, Metrohm, Frederick Fiddler

(1430-7 P)  Illuminating Flavor with Vacuum Assisted Sorbent Extraction (VASE) and GC/MS Analysis  VICTORIA NOAD, Entech Instruments, Dan Cardin, Jared Bossart, Brian Vogel

(1430-8 P)  The Effect of Redox Potential on Amino Acid Catabolism by Lactic Acid Bacteria  TU BA BULUT, Hacettepe University, All Topcu

(1430-9 P)  Real-Time VOC Analysis of Manuka Honey Using PTR-TOFMS  LUKAS MARK, IONICON Analytik, Jens Herbig, Marteau Lanca, Simone Jurschik, Philipp Sulzer, Aforns Jordan, Eugen Hartungen, Gernot Hanel, Christopher A Mayhew

(1430-10 P)  Real-Time Quantification of Impurities in Food-Grade CO2 with PTR-MS  JENS HERBIG, IONICON Analytik, Lukas Mark, Aforns Jordan, Gernot Hanel, Eugen Hartungen, Stefan Jaksh, Simone Jurschik, Philipp Sulzer

(1430-11 P)  The Comparison of Headspace and HS-SPME Sampling Techniques to Characterize Volatiles in Wine over an Extended Period of Time  ALAN OWENS, Shimadzu Scientific Instruments, Inc, Andy Sandy, Nicole Lock, Michelle Yang, Robert Clifford

(1430-12 P)  Applying High Speed Gas Chromatography for the Speciation of Fats in Foods and Edible Oils  REBECCA STEVENS, Restek Corporation, Jaap de Zeeuw, Jason S Herington

(1430-13 P)  Quantitative Analysis of Virus Adhesion on Various Food-Processing Materials  AO GUO, Illinois Institute of Technology, Kamal Sandal, Ruzifa Khutaja, Ruman Yan, Carol Shieh, Rong Wang

(1430-14 P)  Analysis of Amino Acid Profiles in Ergosterol Yeast Cells by IPLC Coupled to CE LIF Detection System  JAQUELINE PICADA, Lutheran University of Brazil, Carlos E Rodrigues, Maria C Coerens, Fernanda Boaretto, Cleonice Hoffmann, Juliana Bordan, Giancarlo Pasquali, Tarso Leduc Kist

(1430-15 P)  Exploiting the Outstanding Properties of Calixarenes for Direct Potentiometric Determination of Choline in Milk Powders and Infant Formula with Nanomolar Detection Limit  MOHAMMED EL-RAHMAN, Cairo University, Amr Mahmoud

(1430-16 P)  Discovery of Internal Standard for the Determination of Limonene in Sweet Orange (Citrus Sinensis) Oil by Gas Chromatography  UGO50, Western Illinois University, Wei Chuan Chau, Ravi Kiran Lella, Taylor Windbelt, Angel L Perez, Shuozong Zhang

(1430-17 P)  Examination of Cannabis and Hemp Products for Heavy Metal Contamination  PATRICIA L ATKINS, SPEX CertiPrep

(1430-18 P)  New Method for the Extraction of Polymeric Aromatic Hydrocarbons (PAHs) from Edible Oils Using Molecularly Imprinted Polymers (MIP)  KAYNOUSH HARGAMI, AFFINISSE, Michel Arotzarena, Sami Bayoudh

(1430-19 P)  Flavors, Odors, and Contaminants in Alcoholic Beverages Using Vacuum Assisted Sorbent Extraction (VASE) and GC/MS Analysis  VICTORIA NOAD, Entech Instruments, Dan Cardin, Jared Bossart, Brian Vogel, Thomas Robinson

POSTER SESSION  Session 1440

Food Science
Tuesday Afternoon, Exhibition Floor, Aisle 2500-2600


(1440-2 P)  Headspace Method Comparison for GC/MS Food Analysis  ADAM PATKIN, PerkinElmier, Timothy Ruppel, Charlie Schmidt

(1440-3 P)  Novel Food Packaging Analysis by Extraction Cell Thermal Desorption GC/MS  RONALD EDWARD SHMIDT, Scientific Instrument Services, Christopher Baker, John J Mumara

(1440-4 P)  Advantages of SPME Analysis Using Multiple Fibers  ANNE JURK, ESTA Analytical, Kelly Carter, Lindsey Lyon, Adam Guichard


PITCON 2017 TECHNICAL PROGRAM

Tuesday Afternoon

5:00

Abstract Not Submitted at Time of Printing

Tuesday Afternoon, Exposition Floor, Aisle 2500-2600

1440-1 P

Study of Magnetic Ionic Liquids as Extraction Solvents and Their Selectivity Towards DNA JWWO AW, Iowa State University, Kevin D Clark, Jared L Anderson

1440-2 P

Examination of Extraction and Clean-Up Efficiencies of Multi-Residue Pesticides in Difficult Matrices Using A Combination of Heated Extraction Techniques and A Modified QuEChERS Method PATRICIA L ATKINS, Spx CertiPrep, Alicia Douglas Stell, Taylor M Hostak, Brittany A Leffler

1440-3 P

The Use of Thermal Desorption for the Analysis of Stationary Source Emissions in Accordance with CEN/TS 13649: A Valid Alternate to Traditional Solvent-Extraction Methodology ELARIA FERRANTE, Markes International, Massimo Santoro, Caroline Widdowson, Chris Hall, Nicola Watson

1440-4 P

Examination of a New Pressurized Liquid Extraction Method for the Extraction of Phthalates in Polyethylene ALICIA DOUGLAS STELL, CEM, Brittany A Leffler, Taylor M Hostak

1440-5 P

Modelling and Numerical Evaluation of the Post-Sampling Period in a Permeation Passive Sampler FATEN SALIM, University of Waterloo, Hashtina Puavendarnd, Marios Ioannidis, Tadeusz Gorecki

1440-6 P

Protein Precipitation and Separation without Pipetting ROLF SCHLAEKE, Applied Separations

1440-7 P

Simple Method for Isolation of Foreign Matter from Tissue Sections MARY L STELLMACK, McConie Associates, Anna S Retsov

1440-8 P

Optimization of 1,4-Dioxane and Ethanol Detection Using UPEA Method 8260 ANNE JUNER, EST Analytical, Kelly Gravenor, Lindsey Pyron, Adam Guichard

1440-9 P

Extraction of Cannabis Infused Edible Products TIMOTHY RUPPEL, PenkilElmer

POSTER SESSION  Session 1450

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Sampling and Sample Preparation - Liquid Extraction, and Others Tuesday Afternoon, Exposition Floor, Aisle 2500-2600

1450-1 P

DNA JWWO AW, Iowa State University, Kevin D Clark, Jared L Anderson

1450-2 P

Examination of Extraction and Clean-Up Efficiencies of Multi-Residue Pesticides in Difficult Matrices Using A Combination of Heated Extraction Techniques and A Modified QuEChERS Method PATRICIA L ATKINS, Spx CertiPrep, Alicia Douglas Stell, Taylor M Hostak, Brittany A Leffler

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1450-9 P

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POSTER SESSION  Session 1460

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Surface Analysis/Imaging Tuesday Afternoon, Exposition Floor, Aisle 2500-2600

1460-1 P

Detection and Characterization of Microplastics in the Penn State Waste Water Treatment Facility and Analysis of Artificial Weathering on Microplastic Spheres CHRISTINE GETU, Pennsylvania State University

1460-2 P

Examining the Morphology of Native Urban Surface Films JACOB S GRANT, University of Iowa, Scott K Shaw

1460-3 P

Combination of Surface Plasmon Resonance (SPR) and Surface Enhanced Raman Scattering Spectroscopy (SERS) for Elucidating Protein- Ligand Recognition AU-YOUNG KIM, University of Notre Dame, Zachary D Schultz

1460-4 P

Advancing Tip-Enhanced Raman Scanning in Ultrahigh-Vacuum with Single-Molecule Resolution Scanning Tunneling Microscopy PHILIP WHITEMAN, University of Illinois at Chicago, Zachary Porash, Nan Jiang

1460-5 P

Electrochemiluminescence Imaging for Fast Single Cell Analysis JINGJING XU, Nanjing University

1460-6 P

Dynamic X-Ray Diffraction Sampling for Automated Protein Crystal Positioning NICOLE M SCARBOROUGH, Purdue University, Dilkshan Godalayadda, Dong Hye Ye, Shijie Zhang, David J Kissick, Robert F Fischetti, Charles A Bouman, Garth J Simpson

1460-7 P

Investigation of Heavy Metal Deposition in Zebrasibhi by X-Ray Fluorescence Spectrometry ELIZABETH ANN JANAKA, Loyola University Chicago, Martina Schmeling

WEDNESDAY, MARCH 8, 2017

MORNING

AWARDS  Session 1470

The Satinder Ahuja Award for Young Investigators in Separation Science arranged by Karen W Phinney, National Institute of Standards and Technology (NIST)

Wednesday Morning, Room W181a

Karen W Phinney, National Institute of Standards and Technology (NIST), Presiding

8:30 Introductory Remarks - Karen W Phinney

8:35 Presentation of the 2017 Satinder Ahuja Award for Young Investigators in Separation Science Award to Omar K Farha, Northwestern University by Karen W Phinney, NIST

8:40 (1470-1) Functional Metal-Organic Framework Materials OMAR K FARHA, Northwestern University

9:15 (1470-2) Design and Fabrication of Fluorinated MOF Platforms for Gas Storage / Separation Applications MOHAMED EDIAOUDI, King Abdulaziz University of Science and Technology

9:50 (1470-3) Xylene Isomer Separation via Organic Solvent Reverse Osmosis RYAN P LIVELY, Georgia Institute of Technology

10:25 Recess

10:40 (1470-4) Insights into MOF Functionality from Advanced Synchrotron Characterization KARINA CHAPMAN, Argonne National Laboratory

11:15 (1470-5) Mimicking Nature by Metal-Organic Frameworks: Perspective and Applications NATALIA SHUSTOVA, University of South Carolina

SYMPOSIUM  Session 1480

ACS-DAC - Mid-Scale Instrumentation Programs in the Chemical Sciences arranged by Paul W Bohn, University of Notre Dame and Robert Hamers, University of Wisconsin-Madison

Wednesday Morning, Room W170b

Paul W Bohn, University of Notre Dame, Presiding

8:30 Introductory Remarks - Paul W Bohn and Robert Hamers

8:35 (1480-1) Mid-Scale Instrumentation: Needs and Opportunities ROBERT HAMERS, University of Wisconsin-Madison

9:10 (1480-2) Mid-Scale Instrumentation: Broader Impacts GRAHAM F PEASLEE, University of Notre Dame

9:45 (1480-3) Abstract Not Submitted at Time of Printing

10:20 Recess

10:35 (1480-4) Abstract Not Submitted at Time of Printing

11:10 (1480-5) Results from the Workshop on Chemical Sciences Needs for Mid-Scale Instrument Development PAUL W BOHN, University of Notre Dame, Marcos Danuta

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PITTCON 2017 TECHNICAL PROGRAM

SYMPOSIUM Session 1550
Scalable Neuron-Based Cell Culture Assays for Drug Discovery and Toxicity Testing
arranged by Anne Marion Taylor, University of North Carolina at Chapel Hill

Wednesday Morning, Room W183c
Anne Marion Taylor, University of North Carolina at Chapel Hill, Presiding
8:30 Introductory Remarks - Anne Marion Taylor
8:35 (1550-1) Scalable Neuron-Based Cell Culture Assays ANNE MARION TAYLOR, University of North Carolina at Chapel Hill
9:10 (1550-2) 3D Neuron-Based Tissue Models for Functional Assessments DAVID KAPLUN, Tufts University
9:45 (1550-3) Integration of CNS and PNS Cellular Components with BioMems Systems for Drug Discover and Toxicology JAMES J HICKMAN, University of Central Florida
10:20 Recess
10:35 (1550-4) Applications of High-Throughput Longitudinal Single-Cell Analysis to Target Identification and Neurotherapeutics Discovery STEVEN FINKBEINER, Gladstone Institute of Neurological Disease
11:10 (1550-5) In Vitro Approaches to Screening and Prioritization of Chemicals for Potential Developmental Neurotoxicity TIMOTHY J SHAFER, US Environmental Protection Agency

SYMPOSIUM Session 1560
Wearable and Point-of-Care Sensor Technologies for Biomonitoring
arranged by Ian Papautsky, University of Illinois and William R Heineman, University of Cincinnati

Wednesday Morning, Room W184d
Ian Papautsky, University of Illinois, Presiding
8:30 Introductory Remarks - Ian Papautsky and William R Heineman
8:35 (1560-1) Point-of-Care Breath Analysis for Ultrafine Particle Exposure in Children PATRICK RYAN, Cincinnati Children’s Hospital Medical Center
9:10 (1560-2) Nanophotonic Point-of-Care Devices for Ultra-sensitive Label-free Analysis LAURA M LECHUGA, ICN2
9:45 (1560-3) Point-of-Care Determination of Manganese in Clinical Applications IAN PAPAUTSKY, University of Illinois
10:20 Recess
10:35 (1560-4) A Field Test of a Personal Sensor for Ultrafine Particle Exposure in Children PATRICK RYAN, Cincinnati Children’s Hospital Medical Center
11:10 (1560-5) Monitoring Corrosion of Biodegradable Magnesium Implants with a Visual H2 Sensor WILLIAM R HEINEMAN, University of Cincinnati; Daoli Zhao, Zhongyun Dong, William Hoagland, David K Benson, Prashant Kumta

WORKSHOPS Session 1570
Analytical Methods and Reference Materials for Dietary Supplements
arranged by Stephen A Wise, National Institutes of Health, Office of Dietary Supplements (NIH-ODS) and Catherine A Rimmer, National Institute of Standards and Technology (NIST)

Wednesday Morning, Room W176c
Stephen A Wise, National Institutes of Health, Office of Dietary Supplements (NIH-ODS), Presiding
8:30 Introductory Remarks - Stephen A Wise
8:35 (1570-1) Critical Needs and Use of Reference Materials for Dietary Supplements DARRYL SULLIVAN, Covance Laboratories
9:05 (1570-2) Beyond Compliance: Current Challenges in Quality Testing of Dietary Supplements HOLLY E JOHNSON, Alkemist Labs
10:05 Recess
10:20 (1570-4) Characterizing and Establishing Authenticity of Botanical Products PAULA N BROWN, BC Institute of Technology
10:50 (1570-5) Accuracy of Reference Materials for Dietary Supplements UMA SREENIVASAN, MilliporeSigma
11:20 (1570-6) Reference Materials for Dietary Supplements CATHERINE A RIMMER, National Institute of Standards and Technology (NIST), Laura J Wood

ORGANIZED CONTRIBUTED SESSIONS Session 1580
Frontiers in Atomic Spectrometry: Isotopic Signatures for Novel Environmental Assessments of Non Conventional Isotopic Systems
arranged by Olivier FX Donard, MARS-IPREM

Wednesday Morning, Room W184a
Olivier FX Donard, MARS-IPREM, Presiding
8:30 (1580-1) High Precision, High Sensitivity and Speciation in Isotopic Analysis for Environmental and Food Research OLIVIER FX DONARD, MARS-IPREM, Sylvain Bovial, Emmanuel Resler, Oriol Baltrons, Christophe Pecheyran, David Amouroux
8:50 (1580-2) Copper Isotopic Composition as a Valuable Cancer Biomarker for Animals and Humans PHILIPPE TELOUK, ENS-Lyon, Alexandra T Gouraud, Gabriel Chamel, Marie Laure Plissonnier, Victor Bondanese, Guillaume Douay, Frederique Ponce, Francis Albarede
9:10 (1580-3) The ICP TOF as Efficient Detector for Laser Ablation Imaging and Nanoparticle Detection MARTIN TANNER, TOPWERN AG, Olga Borovinskaya, Joel Kimmel
9:30 (1580-4) Calcium Isotope Signatures and Kidney Function THOMAS WALCZYK, National University of Singapore, Ye Zhao, Ian Bowen
9:50 Recess

ORGANIZED CONTRIBUTED SESSIONS Session 1590
SFE/SFC Current Trends for Pharmaceutical and Natural Products
arranged by Andy Miles and Ted Szczera, Regis Technologies

Wednesday Morning, Room W184bc
Andy Miles, Regis Technologies, Presiding
8:30 (1590-1) The Application of Supercritical Fluid Chromatography (SFC) to the Analytical Method Development and Purification of Pharmaceutical Compounds ERIC SEEST, Eli Lilly and Company
8:50 (1590-2) Online Supercritical Fluid Extraction/Supercritical Fluid Chromatography (SFE/SFC) for Analysis of Pharmaceuticals and Food MEILING WONG, Genentech, You Min Ri, Amber Guilien, Joseph Pease
9:10 (1590-3) Preparative Supercritical Fluid Chromatography in Support of Drug Discovery and Development MIIRUNGA BBA, Merck, Jinchu Liu, Jimmy DaSilha, Judy Morris
9:30 (1590-4) What a Gas! Open Access Laboratory Usage of SFC Instruments TOM HOFFENBECK, GNF
9:50 Recess
10:05 (1590-5) Chiral Resolution of Acids, Amines, and Amino Acids with SFC QI (TONY) YAN, Pfizer, Frank Riley
10:25 (1590-6) Application of Supercritical Fluid Chromatography to the Analysis and Separation of Chiral Pharmaceutical Compounds ERIN JORDAN, AbbVie, Philip Searle

ORAL SESSIONS Session 1600
Advances in Fuel and Petrochemical Analyses

Wednesday Morning, Room W175a
9:10 (1600-3) Automotive Gasoline Analysis by GC-VUV – A New ASTM Method DAN WISPNISKI, Alberta Innovates Technology Futures, Chris Goss, Philip Walsh

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**PITTCON 2017 TECHNICAL PROGRAM**

### ORAL SESSIONS  Session 1630
**Capillary Electrophoresis - New Technology**

**Wednesday Morning, Room W176a**

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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors &amp; Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>(1630-1)</td>
<td>Flow-Gated Capillary Electrophoresis Coupled with Alternate Injections for Rapid Quantitation of Biological Samples</td>
<td>MAGUIN GONG, Wichita State University, Qingfu Zhu</td>
</tr>
<tr>
<td>8:50</td>
<td>(1630-2)</td>
<td>Microscale Enzymatic Reactions Using Phospholipid Assisted Capillary Separation</td>
<td>SRIKANTH GATTU, West Virginia University, Cassandra Cribfield, Lisa A Holland</td>
</tr>
<tr>
<td>9:10</td>
<td>(1630-3)</td>
<td>Nonaqueous Microchip Capillary Electrophoresis with ESI-Ms for the Detection of Lipid Disease Biomarkers</td>
<td>ERIK FOSTER, University of Notre Dame, Paul W Bohn</td>
</tr>
<tr>
<td>9:30</td>
<td>(1630-4)</td>
<td>Simple Techniques to Preconcentrate Samples for Capillary Electrophoresis/Mass Spectrometry</td>
<td>Doo Soo Chung, Seoul National University, Khvnan Choi, Jun Yop Kwon, Jhie Kim</td>
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</tbody>
</table>

### ORAL SESSIONS  Session 1640
**Consumer Products (Half Session)**

**Wednesday Morning, Room W175b**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors &amp; Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:05</td>
<td>(1640-1)</td>
<td>Analysis of Cosmetic Allergens Using Ultra Performance Convergence Chromatography (UPCC) with MS Detection</td>
<td>JANE ALISSON COOPER, Waters Corporation</td>
</tr>
<tr>
<td>10:25</td>
<td>(1640-2)</td>
<td>Reversed-Phase Separation of Six Sunscreen Actives Through Analyte Behavior Study and Software Modeling</td>
<td>HUGO CORDOVA, Northwestern University, John Albai</td>
</tr>
<tr>
<td>10:45</td>
<td>(1640-3)</td>
<td>Method Development and Validation for the Determination of Nicotine Enantiomers in Electronic Cigarette Liquids Using Reversed-Phase and Chiral Phase High Performance Liquid Chromatography</td>
<td>NORBERT GONZALEZ, Northeastern Illinois University, John Albai</td>
</tr>
<tr>
<td>11:05</td>
<td>(1640-4)</td>
<td>A Comprehensive Solution for the Analysis of Fragrance Allergens Using Tandem Ionization GC×GC-TOF MS</td>
<td>LAURA McGREGOR, Markes International, Matthew Edwards, Nick Bukowski, Massimo Santoro, Chris Hall, Pete Grosshans</td>
</tr>
</tbody>
</table>

### ORAL SESSIONS  Session 1650
**Environmental Analysis for Air Quality and Atmospheric Conditions**

**Wednesday Morning, Room W176b**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors &amp; Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>(1650-1)</td>
<td>Detection of Toxic Chemicals in the Workplace by GC/PID</td>
<td>JENNIFER MACKACHLAN, PID Analyzers, LLC, John N Dsnoff</td>
</tr>
<tr>
<td>8:50</td>
<td>(1650-2)</td>
<td>Determination of Thermal Oxidizer Destruction and Removal Efficiency with an Innovative FTIR / GC-FTIR Analyzer</td>
<td>ALLAH P BOHLEK, Prism Analytical Technologies, Martin Lee Spurtz, Joseph J Gregoria, Peter P Behrke</td>
</tr>
<tr>
<td>9:10</td>
<td>(1650-3)</td>
<td>Characterizing of Emissions from Open Burning of Electronic Waste Using TG-GC-MS</td>
<td>ENDALKACHEW SAHLE-DERMESSE, US Environmental Protection Agency, Changpeok Han, Jouchua Dichtig, Teri Richardson, Jun Wang</td>
</tr>
</tbody>
</table>

### ORAL SESSIONS  Session 1620
**Bioanalytical - Microfluidics/Lab-on-a-Chip**

**Wednesday Morning, Room W175c**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors &amp; Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>(1620-1)</td>
<td>Using Paper-Based Microfluidics to Measure the Hematocrit</td>
<td>SYRENA C FERNANDES, Tufts University, Samuel Berry, Nicholas DeChiara, Anjali Rajaratnam, Charles R Mace</td>
</tr>
<tr>
<td>8:50</td>
<td>(1620-2)</td>
<td>Co-Culture of Primary Pancreatic Islets and Adipose Tissue on Microfluidic Platform</td>
<td>JUAN HU, Auburn University, Jessica Brooks, Christopher J Easley</td>
</tr>
<tr>
<td>9:10</td>
<td>(1620-3)</td>
<td>Paper-Based Tumor Models: Quantifying the Role of Oxygen in Drug Metabolism</td>
<td>MATTHEW RYEN LOCKETT, University of North Carolina at Chapel Hill</td>
</tr>
<tr>
<td>9:30</td>
<td>(1620-4)</td>
<td>Fabrication and Characterization of Transmembrane Protein Functionalized-Phospholipid Nanoshell Microarrays</td>
<td>SI MIN WANG, Xumin Wang, Qingshu Wang, Craig A Arpinwall</td>
</tr>
<tr>
<td>9:50</td>
<td>(1620-5)</td>
<td>Scanning Microfluidic System for Chromatographic-Based Binding Assays with Near-Infrared Fluorescence Detection</td>
<td>ELOIET LEONCI RODRIGUEZ, University of Nebraska-Lincoln, Saumon Poddar, John Vargas, Ryan Matsuda, Benjamin Hage, Michael Stoller, Stephen Morin, David S Magee</td>
</tr>
<tr>
<td>10:25</td>
<td>(1620-6)</td>
<td>Diffusional Analysis of Cytokines in Lymph Node Tissue on a Microfluidic Chip</td>
<td>ASHLEY E ROSS, University of Virginia, Rebecca R Pompiano</td>
</tr>
<tr>
<td>10:45</td>
<td>(1620-7)</td>
<td>Pressure-Actuated Microfluidic Devices Integrating Solid Phase Extraction, Fluorescent Labeling, and Microchip Electrophoresis for Pre-Term Birth Biomarker Analysis</td>
<td>VIVASH SANDBOR, Birmingham Young University, Miskal Sonker, Suresh Kumar, Adam T Woolley</td>
</tr>
<tr>
<td>11:05</td>
<td>(1620-8)</td>
<td>Investigating Reactive Nitrogen Species Using Microchip Electrophoresis with Electrochemical Detection</td>
<td>ZBIGNIEW KNIEGER, University of Kansas, Joseph M Siegel, Susan M Lunte</td>
</tr>
</tbody>
</table>
PITTCON 2017 TECHNICAL PROGRAM

10:25 (1650-6) The Best Technique for the Analysis of Volatile and Semi-Volatile Organic Compounds (VOCs and SVOCs) in Air LEE MARIOTA, PerkinElmer, Roberta Prevost

10:45 (1650-7) Ship Emissions Monitoring with Laser-Based Cantilever-Enhanced Photoacoustic Detection: Feasibility with Laboratory and Field Measurements SAULI SINSALO, Gasera Ltd., Jaakko Lehtinen

11:05 (1650-8) Measuring Surface Tension from Sub- to Super-Saturated Regimes of Submicrometer Single Particles Using AFM HANSOL D LEE, University of Iowa, Holly S Morris, Armando D Estill, Vicki H Grasian, Alexei V Tiwanski

ORAL SESSIONS

Session 1660

Food Science

Wednesday Morning, Room W177

8:30 (1660-1) Development of a New High Performance Anion Exchange Column for Mono- to Tetra-Saccharide Analysis in Foods and Beverages JIM R THAYER, Thermo Fisher Scientific, Andy Woodruff, Charanjit Saini

8:50 (1660-2) Thermal Analysis Coupled to On-Line Ultrafast-Cycling Gas Chromatography-Photo Ionization Mass Spectrometry to Study the Flavor Formation During the Roasting Process of Coffee Beans and Nuts RAUL ZIMMERMANN, IMSC, HelmholtzZentrum München & University Rostock, Hendryk Checz, Elbert Soen, Michael Fischer

9:10 (1660-3) Investigation of Aging in Beer Using Gas Chromatography with Time-of-Flight Mass Spectrometry ELIZABETH HUMSTON-FULMER, LECO, Joseph E Binkley

9:30 (1660-4) Chemical Marker Profiling of Borututu Bark - An Emerging Antioxidant Herbal Dietary Supplement EBINKLEY TISSERAND, Formulation, Roland Ramsch, Giovanni Brambilla, Matt Vanden Eynden

9:50 Recess

10:05 (1660-5) HPAGE-PAD Determination of Carbohydrates in Honey MANALI AGRAWAL, Thermo Fisher Scientific, Jeffrey Rohrer

10:25 (1660-6) Method Development in the Use of an Overcoated Fiber for the Solid Phase Microextraction of Pesticide Residues from Baby Food ROBERT E SHREY, MilliporeSigma, Katherine K Stenerson, Leonard M Sidisky, Yong Chen, Tyler Young

10:45 (1660-7) Protein Evaluation in Food Formulations by Passive Microchips CHRISTEL TISSERAND, Formulation, Roland Ramsch, Giovanni Brambilla, Matt Vanden Eynden


Session 1670

LC - Bioanalytical

Wednesday Morning, Room W475a

8:30 (1670-1) Practical Considerations when Transferring Methods to Sub 2 µm GFC Columns for Bioanalysis JASON ANSPACH, Phenomenex, Brian Rivera, Lawrence Loo, Ismail Rustamov, Tuvard Farkas

8:50 (1670-2) Solving the Volume Overload Problem in Analytical Scale Liquid Chromatography: Design and Application of a 1.0 mm ID Temperature-Assisted Solute Focusing Precolumn STEPHEN R GROSSEKREUTZ, University of Pittsburgh, Dwight R Snell, Anthony R Homer, Stephen G Weber


9:30 (1670-4) Development and Optimization Protein Entrapment in Monolithic Supports for High Performance Affinity Chromatography ELLIOTT LEONCIO RODRIGUEZ, University of Nebraska-Lincoln, Shidem Azarai, David S Hage

9:50 Recess

10:05 (1670-5) Leveraging the Power of Spatial Temperature Gradients in Capillary Liquid Chromatography with Active Temperature Control STEPHEN R GROSSEKREUTZ, University of Pittsburgh, Michael T Rerick, Stephen G Weber

10:25 (1670-6) A Cation Exchange Chromatography-Based Immunoassay to Measure B-endorphin AMIRUS SALEHEEN, University of Tennessee, Christopher A Baker

10:45 (1670-7) Development of Pillar Array Columns with Low Dispersion and Low Pressure Drop Turns MAKOTO TSUGOUDA, University of Tokyo

11:05 (1670-8) Enantioresolution of Substituted 1, 3-Diazaprop-4 (S) -decan-4-Ones: HPLC Comparative Study on Different Polysaccharide Type Chiral Stationary Phases OLA AHMED SALEH, National Research Center, Mohamed N Aboul-Enein, Aida A El Azououy, Rasha M Hassan, Kamilla M Amin, Hassan Y Aboul-Enein

ORAL SESSIONS

Session 1680

Sensors - Environmental, Nanotechnology, and Food Safety

Wednesday Morning, Room W475b

8:30 (1680-1) Determination of Pharmacologically Active Compounds in Wastewater by a Bead-based Flow-Cytometric Immunocapture PETER CARL, Bundesanstalt für Materialforschung und -prüfung, Rudolf Schneider, Dominik Sarma, Knut Rurack

8:50 (1680-2) New Hyperspectral Imager for Environmental Monitoring with Use of Optical Fiber Bundle and Ultra-Compact Spectrometers for Unmanned Aerial Vehicles (UAVs) RUNIKARI UTO, Tokyo Institute of Technology, Haruyuki Seki, Genta Saita, Yoko Kosugi, Shuji Sato, Shinji Sawayama, Minami Asada, Teshima Komatsu

9:10 (1680-3) Moleculary Imprinted Polyvinylidene Difluoride (PVDF) Sensor for the Determination of Hydrophobic Parathion Methyl Pesticide Molecules Using Quartz Crystal Microbalance LUSAM, NUS, Xuan Hao Lin

9:30 (1680-4) Optical Sensors and Nanoprobes for Antioxidant Assessment MUSTAF ARESAT APAK, Istanbul University, Erol Ergac, Sema Cekic, Aysem Arda, Esin Celik, Mustafa Bener, Burcu Bekdeser, Dya Can, Sener Saglam, Aysegur Tufan

9:50 Recess

10:05 (1680-5) Quantitative Comparison of Enzyme Immobilization Strategies for Glucose Biosensing in Real-Time SANANTH A SMITH, North Carolina State University, Leyda Lupo-Morales, Saash Gorani, Gregory S McCarthy, Leslie A Sommers

10:25 (1680-6) Strategy to the PPQ-Level-Detection of SFR Immunosensing TOSH KAZU KAWAGUCHI, Hokkaido University, Dual C Kabiraz, Kinchi Monta

Session 1690

Spectroscopic Applications in Materials Science

Wednesday Morning, Room W476

8:30 (1690-1) Forensic Application of Laser Induced Breakdown Spectroscopy for Paint Analysis and Stainless Steel Inclusions OLGA LASKOVA, npl.ltd., Olivier Valet, Markus Lankers

8:50 (1690-2) Study of Rare Earth Elements by Laser Induced Breakdown Spectroscopy (LIBS) CHET R BHATT, Mississippi State University, Ayed Binzawaim, Jagdish P Singh

9:10 (1690-3) Determining Physical and Optical Properties of Thin Mixed Block Copolymer Waveguide Films by Scanning Angle Ramman Spectroscopy JONATHAN MICHAEL BOBBIT, Iowa State University, Ames Laboratory DOE, Denny Mendivilco-Perez, Emily A Smith

9:30 (1690-4) Nano Scale Sub-Surface Metrology Via Terahertz Time-Domain Spectroscopy JOSEPH E SABOL, Chemical Consultant, Anis Rahman, Anik K Rahman

9:50 Recess

10:05 (1690-5) Graphene Oxide - Nanocarrier for Systematic In-Vitro Delivery of Antitumor Agents and FRET Based Detection of Ion Induced Enzymatic Activity PETER SHAHITA, University of California Riverside, Quan Cheng

10:25 (1690-6) New Polyelectrolyte Multilayer Films for Capture of Tagged Proteins in Porous Membranes WEI JING LIU, Michigan State University, Salinda Wiljeratne, Merlin Bruening

10:45 (1690-7) Production and Analysis of Highly-Loaded Hollow Glass Microsphere Epoxy Syntactic Foams KERRICK DANDO, Composite and Polymer Engineering Laboratory, Siemens

11:05 (1690-8) Modification of Silicon Particles for Liquid Chromatography AMARIS C BORGES-MUNOZ, University at Buffalo - SUNY, Luis A Colon

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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. Poster sessions are on the Exposition Floor, Aisle 2500-2600. PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

**Chemical Analysis of Art and Archaeological Objects**

**Wednesday Morning, Exposition Floor, Aisle 2500-2600**

**Poster 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. Poster sessions are on the Exposition Floor, Aisle 2500-2600. PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

**Environmental Analysis of Metals**

**Wednesday Morning, Exposition Floor, Aisle 2500-2600**

**Poster Session 1730**

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600. PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

**Leveraging Self-Cleaning Laminar Flow Tandem Mass Spectrometers for the Detection of Low Level Pesticide and Glyphosate Residues in Wine and Beer**

**Hawkins, University, Zachary E, Lawton, Angelica R, Traub, Jamie R, Wieland, Michael C, Gizzi, Herbert**

**The Development of High-Pressure Photon Ionization Mass Spectrometry for Online Chromatography - Mass Spectrometry**

**HAIMOVICI, Ontario Ministry of the Environment and Climate Change**

**High-Throughput Single Cell MALDI MS with Follow-Up Immunofluorescence for Direct Profiling and Classification of Rodent Astrocytes**

**Elizabeth K. Neumann, University of Illinois at Urbana-Champaign, Jonathan V. Sweedler, Troy J. Comi, Erk T. Jansson, Elena V. Romanova, Jonathan V. Sweedler, Jian Jing**

**3D Elemental Imaging Using Femtosecond Laser Ionization Orthogonal Time-of-Flight Mass Spectrometry**

**MAO HONG HE, Xiamen University, Wei Hang**
PITTCON 2017 TECHNICAL PROGRAM

POSTER SESSION Session 1740
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. Poster sessions are on the Exposition Floor, Aisle 2500-2600.

Forensics and Homeland Security
Wednesday Morning, Exposition Floor, Aisle 2500-2600

(1740-1 P) Portable and Low-Cost Colorimetric Paper-Based Device for Phenacetin Detection in Seized Cocaine Samples
WILLIAM R ARAUJO, Universidade de Sao Paulo, Gabriela O Silva, Thiago O Paisais

(1740-2 P) Identification of Fentanyl and Other Synthetic Opiates in Seized Street Drugs Using Ambient Ionization High Resolution Time-of-Flight Mass Spectrometry
JAMIE FOSS, PerkinElmer, Amanda Moore, Frank A Kero, Charlie Schmidt, Tom Jacobs, Sabra R Botch-Jones

(1740-3 P) Feasibility of FTIR Chemical Imaging for Forensic Analysis of Suspected Illicit Materials on Blotter Papers: LSD vs. 2C-NBOMe
FRANK A Kero, PerkinElmer, Sabra R Botch, Christopher Milligan, Alexander Bruno, Jamie Foxx, Zachary E Lawton, David Barajas, Raquel LeBlanc, Jill Keokey, Ryan Smith

(1740-4 P) of Volatile Organic Compounds Present within a C4 Storage Magazine and Emittted by C4: Using High-Volume Sampling (HVS) Traps that are Extracted into Thermal Desorption (TD) Tubes for TD-NGC/MS Analysis
NIKOS CHLSTA

KATHRYN CHABAUD, Florida International University, Bruce McCord, Ilaria Pirazzini, Michelle Torres, Sheila Oliveira

(1740-6 P) Handheld High Pressure Mass Spectrometry with a Novel APCl Dual-Polarity Source for Threat Detection
MATTHEW ABNER, 908 Devices, Kerin Gregory, LUC GLE, Duncan Davidson, Christopher D Brown

(1740-7 P) Implications of the Daubert Standard on Field-Based, Forensic Applications of Portable Mass Spectrometers
ANGELECA R TRALOBL, Illinois State University, Christopher Milligan, Zachary E Lawton, Michael G Gizi, Jamie R Wieland

(1740-8 P) On-Site Determination of Chemical Warfare Agents Between Two Portable Instruments of 63Ni Ionization-No Dopant System and Corona Discharge Ionization-Ammonia Dopant System
YASUTO SETO, National Research Institute of Police Science, Yasuhiko Ohru, Takeshi Ohmori, Koichiro Tsuge, Mai Ohtsuka, Fumihito Muto, Taro Nigami, Bree Allen

(1740-9 P) Comparison of Ion Mobility Behaviors of Chemical Warfare Agents Between Two Portable Instruments of 63Ni Ionization-No Dopant System and Corona Discharge Ionization-Ammonia Dopant System
YASUTO SETO, National Research Institute of Police Science, Yasuhiko Ohru, Hisayuki Nagashima, Tomoki Nagoya, Takeshi Ohmori, Koichiro Tsuge, Mai Ohtsuka, Takao Nakagawa, Nobuyoshi Kitagawa, Kenichi Tokiwa, Souichiro Yamamoto

(1740-10 P) Forensic Discrimination of Glass Fragments by Elemental Analysis of Ti and Fe Using Reaction Cell ICP-MS/MS
TAKAO IGAWA, National Research Institute of Police Science, Yasuhiko Suzuki, Masaki Kusematsu, Daisuke Kukobi, Atsushi Funatsuki, Yaku Kanzu, Ritsuko Sugita, Shinichi Suzuki, Yuusuke Seto

(1740-11 P) AuNPs/Aptamer Based Paper Microfluidic Devices for the Detection of Cocaine
WANG, Florida International University, Bruce McCord

(1740-12 P) A Universal Battery-Powered Vapor Preconcentrator
LEONID KRASNOSBAEV, University Systems Inc.

(1740-13 P) Investigation of Some Novel Benzophenoxazine Dyes for the Detection of Latent Fingermarks on Porous Surfaces
EMAM AL-SOLIOMY, Georgia State University, Vincent Martinez, Walid Abdelahab, Karl Kananda, Maged Henary, Gabor Patonay

(1740-14 P) Photothermal Spectral Modulation for Spectroscopic Chemical Detection Applications
ERIK DAVID EMMONS, U.S. Army ECBC

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600.

Fuels, Energy and Petrochemical Analyses
Wednesday Morning, Exposition Floor, Aisle 2500-2600

(1750-1 P) The Use of Both Thermalsorption and GC-MS to Access an Expanded Characterization of Trace Compounds in Biomethane
ETIENNE BASSET, Engie, Ony Rabetimannana, Amelie Louvat

(1750-2 P) Two Dimensional Gas Chromatography (2D GC): A New Tool for Fast and Enhanced Diagnostics Applied to Gas and Biometane Industries
ETIENNE BASSET, Engie, Marianne Gallardo

(1750-3 P) Battling Fuel-Washing: Identification of Accuratce S10 in Diesel Samples Using a New Benchtop GC-TOF MS System
CHRISTINA N KELLY, LECO Corporation, David E Alonso, Joseph E Binkley, Lorne M Fell

(1750-4 P) Rapid Fuel Type Analysis and Fuel Cross Contamination Analysis for In-Service Engines
TIMOTHY RUPPEL, PerkinElmer

SYMON V KUCZYNSKI, AGR University of Science and Technology, Stanislaw Nagi, Tomasz Wlodar, Karol Dabrowski, Jan Barbaczi

(1750-6 P) A Simple Solution for Permanent Gas Analysis by Gas Chromatography Using Dual Column System and a FID/Methanizer Detection System
JAA P DE ZEEUV, Restek, Katarina Oden, Mark Badger, Barry Burger, Rebecca Stevens

(1750-7 P) Rapid Analysis of Liquefied Petroleum Gas Using Micro GC Technology
SHAWN WILSON, INFICON

(1750-8 P) In Situ Raman and XPS Characterization of MnCoOx Catalysts Active for the Purification of H2 Rich Stream
LETRICA ESTER GOMEZ, Chemical Engineering School, FIQ-UNL-INCAP-CONECT, John F Munera, Eduardo E Mito, Alicko V Boix

(1750-9 P) Real-Time Monitoring of Natural Gas (NG) Composition with Raman Spectroscopy
MARTEN KUCZYNSKI, AGR University of Science and Technology, Stanislaw Nagi, Tomasz Wlodar, Karol Dabrowski, Jan Barbaczi

(1750-10 P) Differential Scanning Calorimetry (DSC) Oxidation Studies to Determine the Useful Life of Lubricants
IAN ROBERTSON, PerkinElmer Limited, David Hilligoss, Cory Schomburg

IAN ROBERTSON, PerkinElmer Limited, David Hilligoss, David Wooton

(1750-12 P) Chemometrics Combined with Laser-Induced Breakdown Spectroscopy (LIBS) to Evaluate Impurities in Sugar Cane for Better Yield of Raw Material
FABIOLA PEKEREA, Uenq, Wesley Guedes

(1750-13 P) Portable and Low-Cost Colorimetric Paper-Based Device for Phenacetin Detection in Seized Cocaine Samples
MOON KYUHUN, SANGHO, UNIVERSITY OF KOREA, Suhyun Park, Kyoungsun Seo

(1750-14 P) Electroanalytical Functional Materials for Carbon Dioxide Reduction and Photovoltaic Energy Conversion
PAWEL J KULIESZKA, University of Warsaw, Iwona Rutkowska, James A Cox

(1750-15 P) In-Situ Mid-Infrared Spectroscopic Monitoring of Carbon Dioxide Conversion
CHRISTINE KRANZ, Ulm University, Sven Daboss, Fang Gao, Christoph Nebel

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PITTCON 2017 TECHNICAL PROGRAM

WEDNESDAY, MARCH 8, 2017
AFTERNOON

SEAC POSTER SESSION Session 1770

SEAC Poster Session
Wednesday Morning, Exposition Floor, Aisle 2500-2600

(1770-1 P) A Universal and Highly Selective Four-Way Junction Electrochemical Nucleic Acid Sensor
DAWNN M MILLS, University of Central Florida, Dmitry M Kolpakchuk, Karin Y Chumbimuni-Torres, Percy Cao-Mazariegos, Juan E Arias

(1770-2 P) Electrochemical Biosensors and Spectral Study on the Interaction of the New Acridine-Thiophene Cancer Drug with dsDNA and ssDNA KATHERINE LOZANO UNITIVEROS, University of Central Florida, Karin Y Chumbimuni-Torres, Fabiane Casco de Abeu Galdino

(1770-3 P) Tuning pKa of Mercocyanine Metastable-State Photoacids for Ion Sensing Membranes Operational at Physiological Conditions RENAN SANTIAGO GÔNGORA, University of Central Florida, Parth K Patel, Karin Y Chumbimuni-Torres, Juan E Arias


(1770-5 P) Inkjet Generated Ion-Selective Optode Particles for Calibrations-Free Sensing on Paper-Based Analytical Devices YOSHIKI SODA, Keio University, Hiroki Shibata, Kentaro Yamada, Koji Suzuki, Daniel Citerio

(1770-6 P) pH-Buffer-Integrated Ion-Selective Optodes on Printed Microfluidic Paper-Based Analytical Devices (microPADs) HIROYUKI SHIBATA, Keio University, Terence G Henares, Kentaro Yamada, Koji Suzuki, Daniel Citerio

(1770-7 P) Coulometric Determination of an Ion Using Thin-Layer Electrolysis Cell for Ion Transfer at the Liquid Interface YUMI YOSHIDA, Kyoto Institute of Chemistry, Mao Fukuyama, Koji Imaeda

(1770-8 P) Probing Ion Intercalation in Next-Generation Battery Interfaces Using Coupled Electromechanometry and In Situ Raman Spectroscopy NOAH B SCHROER, University of Illinois at Urbana-Champaign, Jingshu Hu, Joaquin Rodriguez-Lopez

(1770-9 P) Charge Transfer in Soluble Crosslinked Polymers for Energy Storage ELENA A MONTOTO, University of Illinois at Urbana-Champaign, Kenneth Hernandez-Burgos, Nagajyoti Gavavalkapli, Jeffrey S Moore, Joaquin Rodriguez-Lopez

(1770-10 P) Investigation of Photonic Acid Water Oxidation Surface Species on Heme Iron Using SI-SECM MIHAIL R KRUMOV, University of Illinois at Urbana-Champaign, Burton H Simpson, Joaquin Rodriguez-Lopez

(1770-11 P) Interrogation of Single Photocatalytic Nanoparticles Using Scanning Electrochemical Microscopy MATTHEW KROMER, University of Illinois at Urbana-Champaign, Zachary T Gossage, Burton H Simpson, Rodrigo Paramaci, Joaquin Rodriguez-Lopez

(1770-12 P) Interrogation of Charge Transport Within Redox Active Polymer Layers and Particles ZACHARY T GOSSAGE, University of Illinois at Urbana-Champaign, Jingshu Hu, Kenneth Hernandez-Burgos, Jeffrey S Moore, Joaquin Rodriguez-Lopez

(1770-13 P) Stripping-Based Positioning of Mercury Spheres-Cap Ultracorelectrodes (UMEs) for Scanning Electrochemical Microscopy (SECM) of Operating Battery Interfaces ZACHARY T GOSAGE, University of Illinois at Urbana-Champaign, Joaquin Rodriguez-Lopez


(1770-15 P) Development of Calibration-Free Electrochemical Sensors Using Redox Buffer Protectors XUE ZHEN, University of Minnesota, Nathaniel R Gomer, Harry R Krumova

(1770-16 P) All-Solid-State Redox Buffer Attached to Mesoporous Carbon JINBO HU, University of Minnesota, Andreas Stein, Philippe Buhlmann

(1770-17 P) New Fluorescent-Phase Ion-Selective pH Electrode for the Physiological pH Range XIN Z CHEN, University of Minnesota, Philippe Buhlmann, Maral P Mousavi

(1770-18 P) Withdrawn

(1770-19 P) Dual Function Solid State pH Sensor as a SECM Probe for Local pH Mapping above Hydrogel Biofilm PARTHA S SHEET, Oregon State University, Bruslai Joch, Karunya Vivek, Dipankar Koley

(1770-20 P) Ultrasensitive Enzymatic Biosensor for Small Molecule Biomarkers in Urine GAYAN C PREMARATNE, Oklahoma State University, Sadagopan Krishnan, Sabrina I Farias

(1770-21 P) Real-Time Monitoring of Bacterial Metabolites By Scanning Electrochemical Microscopy (SECM) VRUSHALI J JOSHI, Oregon State University, Partha S Sheat, Jens Kreth, Dipankar Koley

AWARDS Session 1780

The Coblentz Society - Williams-Wright Award
arranged by Woody Barton, Light Light Solutions

Wednesday Afternoon, Room W183a

1:30 Introductory Remarks - Woody Barton
1:35 Presentation of the 2017 Coblentz Society - Williams-Wright Award to Slobodan Sasic, SSCI/AMRI, by Woody Barton, Light Light Solutions
1:40 (1780-1) Diverse Applications of Vibrational Spectroscopy in Pharmaceutical Industry SLOBODAN SASIC, SSCI/AMRI
2:15 (1780-2) Chemometrics for Raman Imaging of Cancer Tissue YUKIHIO OZAKI, Kanazawa Gakuen University
2:50 (1780-3) Characterization of API Crystalline Forms Using Low Frequency Raman Spectroscopy PETER JOHN LARKIN, Optec Solvay
3:25 Recess
4:15 (1780-5) Raman, Mid-Infrared and Near-Infrared Spectroscopy with Handheld Instruments: Instrumentation, Applications and Future Aspects HEINZ W SIESLER, University of Duisburg-Essen

AWARDS Session 1790

The Ralph N Adams Award
arranged by Jonathan V Sweedler, University of Illinois at Urbana-Champaign

Wednesday Afternoon, Room W183b

Jonathan V Sweedler, University of Illinois at Urbana-Champaign, Presiding

1:30 Introductory Remarks - Jonathan V Sweedler
1:35 Presentation of the 2017 Ralph N Adams Award to Robert T Kennedy, University of Michigan, by Jonathan V Sweedler, University of Illinois at Urbana-Champaign
1:40 (1790-1) “Chip in Body” and “Body on Chip” Tools for Investigating Neurontransmitters and Hormones ROBERT T KENNEDY, University of Michigan
2:15 (1790-2) Chemical and Electrochemical Nitric Oxide Release/Generation: Applications to Intravascular Chemical Sensors and Other Biomedical Devices MARK E MEYERHOFF, University of Michigan
2:50 (1790-3) D-Amino Acids and D-Amino Acid Containing Neuropeptides as Cell-Cell Signaling Molecules JONATHAN V SWEEDLER, University of Illinois at Urbana-Champaign
3:25 Recess
3:40 (1790-4) The Rise (and Fall) of Hormone Secretion from Islets of Langerhans MICHAEL G ROOPER, Florida State University
4:15 (1790-5) Deciphering Neuropeptide Signaling via Mass Spectrometry-Based Peptidomic Approaches: From Discovery to Function LINGJUN LI, University of Wisconsin

SYMPOSIUM Session 1800

ACS-DAC - Analyzing Chemical Signals Across Biological Kingdoms
arranged by Ashleigh B Theberge, University of Washington

Wednesday Afternoon, Room W181a

Ashleigh B Theberge, University of Washington, Presiding

1:30 Introductory Remarks - Ashleigh B Theberge
1:35 Integrative ‘Omics to Study Human-Associated Microbial Communities KATRINE WHITESTON, University of California Irvine
2:10 (1800-1) Microengineered Systems for Recaptulating Intestinal Function NANCY ALLBRITTON, University of North Carolina Chapel Hill
2:45 (1800-3) Systems Ecology of Human-Microbe Interactions PAUL WILMES, University of Luxembourg
3:20 Recess
PITCON 2017 TECHNICAL PROGRAM

**SYMPOSIUM Session 1810**

**Advances in Raman Spectroscopy**
arranged by Sanford Asher, The University of Pittsburgh

**Wednesday Afternoon, Room W183c**
Sanford Asher, The University of Pittsburgh, Presiding

1:30  Introductory Remarks   Sanford Asher
1:35  (1810-1)  Eye-Safe Near-Infrared Trace Explosives Detection and Imaging  MARCOS DANITUS, Michigan State University, Gennady Rasskazov, Anton Ryabtsev
2:10  (1810-2)  What the Low Frequency Region of the Raman Spectrum Reveals about Chemical Bonding and Structure of Solid State Materials  DAVID TUSCHEL, HORIBA Scientific
2:45  (1810-3)  UV Raman Spectroscopy Using a Spatial Heterodyne Raman Spectrometer: Miniature Raman Instruments for Small-Sat Size Planetary Landers  S MICHAEL ANGEL, University of South Carolina Columbia, Nimai Lamsal, Patrick Barnett, Alicia Strange Fessler
3:20  Recess
3:35  (1810-4)  Recent Advances in SERS and TERS  RICHARD VAN DUYNE, Northwestern University

**SYMPOSIUM Session 1820**

**Frontiers in Metabolomics: Analytical Challenges and Advances**
arranged by Dajana Vuckovic, Concordia University

**Wednesday Afternoon, Room W178b**
Dajana Vuckovic, Concordia University, Presiding

1:30  Introductory Remarks   Dajana Vuckovic
1:35  (1820-1)  Expanding Coverage in “Omics” Technologies for Small Samples Within Vial Extraction  CONW BARBAS, Universidad San Pablo CEU, Joanna B Godien
2:10  (1820-2)  Increasing Metabolite Coverage in Untargeted Metabolomic Profiling of Human Plasma  DJANNA VUKORIC, Concordia University, Dmitri Sintiluk, Gian Monnin, Hanieh Peyman, Parsram Rarmup
2:45  (1820-3)  Metabolomics for Early Detection of Cystic Fibrosis in Affected Infants: Population-Based Screening Without Widespread Genetic Testing  PHILIP BRITZ-MCKIBBIN, McMaster University; Alicia DiBattista, Osama Aldabashi, Pranesh Chakraborty, Nathan Macintosh
3:20  Recess
3:35  (1820-4)  Recent Advances in High-Performance Chemical Isotope Labeling LC-MS for Comprehensive and Quantitative Metabolomics  LIANG LI, University of Alberta
4:10  (1820-5)  Data Processing and Compound Identification in Untargeted Metabolomics and Exposure Research  OLIVER FRIEHN, University of California Davis, Ivana Blazhenovi, Arpana Vaniya, Tobias Kind

**SYMPOSIUM Session 1830**

**Integrated Microscale Chemical Analyzers**
arranged by J Michael Ramsey, University of North Carolina at Chapel Hill

**Wednesday Afternoon, Room W179a**
J Michael Ramsey, University of North Carolina at Chapel Hill, Presiding

1:30  Introductory Remarks   J Michael Ramsey
1:35  (1830-1)  Multi-Vapor Determinations with a Belt-Mountable Gas Chromatograph  EDWARD T ZELDERS, University of Michigan, Junqi Wang, Nicolas Nunomoto, Zhijin Lin, Robert Nidetz, Katsuo Kurabayashi, William H Steinicker, Sankeet Buggwadi
2:10  (1830-2)  Hand-Portable Liquid Chromatography for Target Chemical Analysis  MILTON L LEE, Brigham Young University, Luke T Trelo, Xiaofeng Xie, Thuy X Truong, Paul B Farnsworth, H Dennis Tolley
2:45  (1830-3)  Mid-Infrared Lab-on-Chip: Progress and Perspectives  BORIS MIZAIKOFF, Ulm University
3:20  Recess
3:35  (1830-4)  Integrated Microfabricated Systems for Performing Capillary Electrophoresis – Mass Spectrometry  J MICHAEL RAMSEY, University of North Carolina at Chapel Hill
4:10  (1830-5)  Embedded Analytics and Automation Challenges and Opportunities with Miniature Field Analyzers  CHRISTOPHER DAVID BROWN, 908 Devices

**SYMPOSIUM Session 1840**

**Measurement at the Speed of Thought – New Analytical Approaches for Monitoring the Brain**
arranged by Martyn G Boulle, Imperial College London

**Wednesday Afternoon, Room W179b**
Martyn G Boulle, Imperial College London, Presiding

1:30  Introductory Remarks   Martyn G Boulle
1:35  (1840-1)  Microelectrode Array Biosensors for Neurotransmitter Detection During Motivated Behavior in Rats  KATE M WASSUM, University of California Los Angeles, Melissa Malva, Lili Feng, Harold G Mombouquette
2:10  (1840-2)  Expanding Fast Scan Cyclic Voltammetry to New Molecular Targets: Opioid Neuropeptides  LESLE A SOMBERL, North Carolina State University
2:45  (1840-3)  Using Voltammetry to Decipher the Fundamental Mechanisms that Regulate In Vivo Extracellular Serotonin  PARASTOO HASEMII, University of South Carolina
3:20  Recess
3:35  (1840-4)  Tracking the Dynamics of Oxygen Fluctuations in the Brain  R MARK WIGHTMAN, University of North Carolina at Chapel Hill
4:10  (1840-5)  Platiniized Carbon Fibers as an Electrochemical Substrate to Obtain Minimally Invasive Microelectrode Biosensors for Brain Monitoring  STEPHANE MARINESCO, University of Lyon, Charles Chatard, Anne Meiler, Andreas Sabac

**SYMPOSIUM Session 1850**

**Plasmonic Toolbox for Chemical Analysis**
arranged by Jean-Francois Masson, Universite de Montreal and Emilie Ringe, Rice University

**Wednesday Afternoon, Room W181b**
Jean-Francois Masson, Universite de Montreal, Presiding

1:30  Introductory Remarks   Jean-Francois Masson and Emilie Ringe
1:35  (1850-1)  Confining Light to the Single Atom Scale for Sensing  JEREMY J BAUMBERG, University of Cambridge
2:10  (1850-2)  Super-Resolution Imaging of Plasmonic Nanostructures: From Ligand Binding to Plasmon Coupling  KATHERINE WILLETTS, Temple University
2:45  (1850-3)  High Resolution Studies of Shape-Dependent Plasmonic Near-Field in Metal Nanoparticles  EMILIE RINGE, Rice University
3:20  Recess
3:35  (1850-4)  Engineering High Reflective Index Sensitivity Through the Internal and External Composition of Bimetallic Nanocrystals  SARA E SRABALAK, Indiana University Bloomington
4:10  (1850-5)  Nanoplasmics Sensors for Clinical Analysis  JEAN-FRANCOIS MASSON, Universite de Montreal

**SYMPOSIUM Session 1860**

**Sampling and Sample Preparation for Direct Introduction Mass Spectrometry**
arranged by Janusz Pawliszyn, University of Waterloo

**Wednesday Afternoon, Room W182c**
Janusz Pawliszyn, University of Waterloo, Presiding

1:30  Introductory Remarks   Janusz Pawliszyn
1:35  (1860-1)  Cartridge-Based Sampling Ionization Methods for Miniature POC Mass Spectrometry Analysis Systems  ZHENG QIYANG, Purdue University, Wenzeng Zhang, Fan Pu, Pengping Yu, Rui Zou, Yu Xia
2:10  (1860-2)  Digital Microfluidic Sample Processing for Direct-Injection Mass Spectrometry  AARON WHEELER, University of Toronto
2:45  (1860-3)  Open-Port Probe Sampling Interface for Mass Spectrometry  CHANG LIU, Science, Don W Arnold, Thomas R Govey

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ORAL SESSIONS

Analysis of Explosives and Chemical Weapons for Forensics Applications (Half Session)

Wednesday Afternoon, Room W476

1:30 (1910-1) Centrifugal Microfluidic Device with On-Board Reagents and Smartphone Colorimetric Detection for Explosives Identification. SHAHIUN TRAUS, University of Virginia, Victoria C Holt, Brian E Root, James P Landers

1:50 (1910-2) Improved Field Results Using Thermal Desorption with a 3-Point Stable-Isotope Curve Incorporated Prior to Sampling. MITCHELL RUBENSTEIN, USAF, Darin K Ott, Claude C Grigory, Kathy Fullerton, Garrett W Fisher

2:10 (1910-3) Real-Time Mass Spectrometry Detection of Remotely Sampled Vapors and Aerosols by Venturi-Assisted Entrainment and Ionization. THOMAS P FORBES, National Institute of Standards and Technology (NIST), Matthew Stymaster, Edward Sicso

2:30 (1910-4) Non-Spectroscopic Biomimetic Optical Sensing of Chemical Vapors in the Mid-Infrared. KEVIN J MAJOR, Sotera Defense Solutions, Menelaos K Poutos, Ishwar D Aggarwal, Jasbiner S Sanghera, Kenneth J Ewing

Molecular Spectroscopy Special Analytical Techniques

Wednesday Afternoon, Room W175c

1:30 (1950-1) Nonlinear and Ultrafast Spectroscopy of Hybrid Plasmonic Nanoparticles. LOUIS HABER, Louisiana State University

1:50 (1950-2) Charge-Induced Long Range Order in a Room Temperature Ionic Liquid. KE MA, Michigan State University, Romana Jarosova, Greg Swain, Gary Blanchard

2:10 (1950-3) Plasmon Waveguide Raman Spectroscopy for Thin Film and Monolayer Analyses. EMILY A SMITH, Iowa State University, Charles Nyamweya, Qiaoqiu Zhu, Stephen C Weibel, Jonathan Bobbitt

2:30 (1950-4) Polarizability of Pharmaceutical Cocrystal Assemblies Based on Terahertz Time-Domain Spectroscopy. TIANHAI ZHANG, University of Iowa, Mark A Arnold

ORAL SESSIONS

Developments in Forensics and Homeland Security Analyses (Half Session)

Wednesday Afternoon, Room W476

3:05 (1920-1) Sexual Offender Nodal Isolation of Cells (SONIC): Acoustophoretic Separation of Sperm Cells from Mock Sexual Assault Samples. CHARLES CLARK, University of Virginia, James P Landers

3:25 (1920-2) Spectroscopic Characterization and Comparison Between Biologics, Organics and Mineral Compounds Using a Pulsed Micro-Hollow Glow Discharge. RANDY VANDER WALL, Penn State University, Chethan K Gaddam

3:45 (1920-3) Detection of Fuel Fraud by SERS Spectroscopy - Tested and Proven in the Field. PETER WHITE, Reforensics

4:05 (1920-4) Ethanol Concentration in 63 Refillable Electronic Cigarettes Liquid Formulations Determined by Headspace Gas Chromatography with Flame Ionization Detection (HS-GE-FID). JUSTIN L POKULIS, Virginia Commonwealth University, Carl E Wolf, Michelle S Peace

ICP-MS as an Universal Tool (Half Session)

Wednesday Afternoon, Room W175a

1:30 (1930-1) An Evaluation of Unit and % Mass Correction Approaches as a Means of Minimizing the False Positives Produced by M+ Species in ICP-MS. SKYLER W SMITH, University of Cincinnati, Julio A Landero-Figueroa, Patricia A Creed, John T Creed, Kevin M Kubacka, Robert A Wilson

1:50 (1930-2) SP-ICP-MS Analysis of Size and Number Concentration in Mixtures of Monometallic and Bimetallic (Core-Shell) Nanoparticles. CHADY STEPHAN, PerkinElmer, Ruth Miermeier, Jamie Lead

2:10 (1930-3) Single Cell ICP-MS Method Development for Studying Interaction of Nanoparticles and Heavy Metals with Yeast Cells. KE L, Missouri University of Science and Technology, Honghan Shi, Wenyu Liu, Yinfa Ma, Chady Stephan

2:30 (1930-4) The Preparation and Analysis of Mineral Based Exciptents for ICH Q3D/USP <232> - Elemental Impairments by ICP-MS. JOM SIMS, PerkinElmer Inc., Aaron Hineman

ORAL SESSIONS

LC - General Interest and Food Science

Wednesday Afternoon, Room W175b

1:30 (1940-1) Considerations for Quantitative Method Transfer Across Chromatographic Systems. PAULA HONG, Waters Corporation, Patricia R McConville

1:50 (1940-2) Maximizing the Effect of Temperature on Retention of Ionogenic Solutes Through Buffer Selection in Liquid Chromatography. ANTHONY R HORNER, University of Pittsburgh, Stephen R Goskrekut, Stephen G Weber

2:10 (1940-3) Convoluted Approach to Speed Up Simulation for Various Conditions of Liquid Chromatography Including Volume Overload and Solvent Mismatch. LENNA K JEDING, Virginia Commonwealth University, Sarah C Rutan, Dwight X Stoll, Peter W Carr

2:30 (1940-4) Evaluation of Alternative Methods for Amino Acid Analysis. THOMAS EDWARD WHEAT, Waters Corporation, Patricia R McConville

2:50 (1940-5) Fabrication of Fused-Silica Capillary Columns for On-Column UV-Absorption Detection in Capillary Liquid Chromatography. XIUFENG HE, Brigham Young University, Milton J Lee, Luke T Tolley, H Dennis Tolley

3:25 (1940-6) Custom Liquid Chromatography Stationary Phases Synthesized Using the Thiol-yne Reaction. ERIN P SHIELDS, University of Pittsburgh, Stephen G Weber

3:45 (1940-7) Hydroporphic Interaction Liquid Chromatography of Phenolic Acids with UV and MS Detection. ASHLEY E RICHARDSON, Miami University, Neil D Danielson


Nano-Electrochemistry

Wednesday Afternoon, Room W176a

1:30 (1960-1) MnO2 Nanofluid Electrode for Nanoelectrofuels - Enhanced Stability, Viscosity and Electrochemical Performance. ELEA MOAZZEN, Illinois Institute of Technology; Elena Timofeeva, Carlo Sege

1:50 (1960-2) Electrodeposition with Nano-Bipolar Electrodes in 2D and 3D Geometries. GARRISON M CROUCH, University of Notre Dame, Donghoon Han, Paul W Bohn

2:10 (1960-3) Ion Selectivity Induced by Redox Cycling Within Nanopore Electrode Arrays at Weakly Supported Solution. KAYU FU, University of Notre Dame, Donghoon Han, Chaoqiong Ma, Paul W Bohn

2:30 (1960-4) Hydrazine Decomposition and Hydrogen Nanobubbles in Single Particle Collision. TIESHAN FAN, University of Washington, Bo Zhang


3:25 (1960-6) Platinum Closed Bipolar Nanoelectrodes. RUI HAO, University of Washington, Bo Zhang

3:45 (1960-7) Enabling Nanotitrations for In Situ Imaging of Reactive Adsorbed Species on Heterogeneous Catalysts Using Surface Interrogation Scanning Electrochemical Microscopy. BURTON H SIMPSON, University of Illinois at Urbana-Champaign, Mihail R Kroumov, Matthew Kraemer, Joaquin Rodriguez-Lopez

4:05 (1960-8) Electrospun Iron-Indium Oxide Nanofibers as an Enhanced Electrocatalyst for Hydrogen Evolution Reaction. SU-JIN KIM, Ewha Womans University, Hye-seung Jung, Myung Iwa Kim, Youngmok Lee

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**ORAL SESSIONS**  
Session 1990

**SERS/UVR Applications**

Wednesday, Afternoon, Room W177

1:30 (1990-1)  
**Surface-Enhanced Raman Scattering of Uranyl in Aqueous Samples:** Implications for Nuclear Forensics and Groundwater Testing  
MICHAEL TRUEJILLO, University of Notre Dame, Jon Camden, James Bradshaw, David Jenkins

1:50 (1990-2)  
**Biocompatible, Liposome-Based Surface Enhanced Raman Spectroscopy (SERS) Substrates:** LAURA SABLE, University of Cincinnati, William Lum, Ian Buzas, Sarah Unser

2:10 (1990-3)  
**Tailored SERS-Active Substrate for Forensic Trace Detection:** CHIARA DELLU, Florida International University, Bruce McCord

2:30 (1990-4)  
**UV Resonance Raman Investigation of the Solution-State Structures of Polyglutamine:** RYAN S JAKOBE, University of Pittsburgh, David Puniahaole, Riley J Workman, Jeffry Madura, Sanford A Asher

2:50 (1990-5)  
**Recess**

3:25 (1990-6)  
**Effect of Metal Types and Geometries on Planar Array Substrates Based Surface Enhanced Raman Spectroscopy:** ASHISH TRIPATHI, US Army ECBC, Erik D Emmen, Augustus W Fountain, Jason Guichetue, Steven D Christensen

**ORAL SESSIONS**  
Session 1990

**Novel Applications of Vibrational Spectroscopy (Half Session)**

Wednesday, Afternoon, Room W175a

3:05 (1990-1)  
**Optimization of Cumulative Industrial Individual Unit Process Efficiencies:** DAVID WETZEL, Kansas State University, Mark Boughwright

3:25 (1990-2)  
**Effect of Interfacial Molecular Orientation in Power Conversion Efficiency of Perovskite Solar Cells:** MINYU XIAO, University of Michigan

3:45 (1990-3)  
**In Situ Studies of Ethylene Epoxidation on Individual Ag Nanocatalysts:** XUEQIANG ZHANG, University of Illinois at Urbana-Champaign, Gayatri K Murali, Prashant K Jain

4:05 (1990-4)  
**Application Specific SERS Substrates:** HIROYUKI TAKAI, Tokyo University, Junichiro Saito, Keiko Kata, Kosuke Watanabe, Takayuki Okamoto, Armin Goethauser

**ORAL SESSIONS**  
Session 1970

**Pharmaceutical Analysis by Liquid Chromatography**

Wednesday, Afternoon, Room W475a

1:30 (1970-1)  
**Direct and Simultaneous LC/MS Quantitation of Multiple Labelled and Unlabelled Ions Species:** YONGJONG WANG, Cerno Bioscience, Don Kuehl

1:50 (1970-2)  
**Two Dimensional (2D) Liquid Chromatography for Impurity Analysis:** ZHIHUI LI, Waters Corporation, Paula Hong, Patricia R McGovern

2:10 (1970-3)  
**Enantioresolution of Several Amino Alcohol Drugs Containing Multiple Stereogenic Centers Using Immobilized Polysaccharide-Based HPLC Chiral Stationary Phases:** MOHAMED HENAWY, King Saud University

2:30 (1970-4)  
**UPLC-UV Method for Identification and Assay of Icosapent, Eicosapentaenoic Acid and Estimation of Icosapentol, Eicosapentatrienoic Acid and Eicosapentatetraenoic Acid in Next Generation Topical Spot-on Product:** JINGZHI TIAN, Merial, Abu Rustum

2:50 (1970-5)  
**Recess**

3:05 (1970-6)  
**Development of a RP-HPLC Method for Assay of Delmopinol Using Alkaline Mobile Phase and a Stable C18 Column:** QINGLIN TANG, Merial, Abu Rustum

3:25 (1970-7)  
**Analysis of Aminoglycosides Using High Performance Liquid Chromatography with Electrochemical Detection:** JUN CHENG, Thermo Fisher Scientific, Ian Liu

3:45 (1970-8)  
**Development of a RP-UPLC Method for Determination of Amaryllidaceae Alkaloids in a Topical Veterinary Drug Formulation:** RALF DOELINGER, Merial, Qinglin Tang

4:05 (1970-9)  
**Development of a Stability Indicating RP-HPLC Method for Firocoxib Oral Suspension Solution:** SIRANTHA PERERA, Merial, Abu Rustum

**ORAL SESSIONS**  
Session 2000

**Solving Biomedical Issues with Mass Spectrometry (Half Session)**

Wednesday, Afternoon, Room W176b

1:30 (2000-1)  
**Plasma-Based Ambient Mass Spectrometry for Exhaled Breath Analysis:** XIANGIN GONG, Texas Tech University, Songyue Shi, Gerardo Gamez

1:50 (2000-2)  
**Direct Picosecond Infrared Laser (PIRL) Extraction of Highly Charged Biomolecules, Native Proteins and Non-Covalently Bound Protein Ligand Complexes from Bulk Water:** YINFEI LIU, Max Planck Institute for the Structure and Dynamics of Matter, Cornelius L Pieterse, Jean-Michel Boudreaud, Frederik Busse, Wesley D Robertson, RJ Dwayne Miller

2:10 (2000-3)  
**TOF-SIMS Imaging and 13C NMR at Natural Isotopic Abundance to Investigate the Biosynthetic Pathways of Bioactive Metabolites in the Amazonian Tree Species Sextonia Rubra (Lauraceae):** CHRISTOPHE DEPLAIS, CNRS, Tingting Fu, Nadine Amssat, Emilienne Houet, David Touboul, Serge Delia-Negra, Richard J Robins, Gerald S Rémaud, Alain Brunelle

2:30 (2000-4)  
**Direct MS Analysis of Drugs of Abuse in Urine Using Biocompatible Solid Phase Microextraction (BioSPME):** EMILY R BARREY, Michigan State University, Craig Aurand, Candice Price, Sara Smith

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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. Poster sessions are on the Exposition Floor, Aisle 2500-2600.

PLEASE NOTE: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

Characterization of Polymers and Plastics

Wednesday Afternoon, Exposition Floor, Aisle 2500-2600

(2030-3 P) Determining the Release of Carbon Nanotubes from Polymer-Carbon Nanotube Composites during Accelerated Weathering ENDALKACHEW SAHLE-DEMISSIE, US Environmental Protection Agency, Chongkun Han, Heidi Greckel, Wang Jun

(2030-2 P) Rapid Measurement of Molecular Weight by a Novel GPC Column LEAH BLODGE, Shored, Showa Denko America, Jumya Kato, Hideyuki Kondo, Naoko Manako, Ritsuko Wakahama, Ron Benson

(2030-3 P) Application of ATR-FTIR Microscopy in Understanding Interlayer Migration of Automotive Coatings CHEN LING, Akalta Coating Systems, Nelson Anna, Jun Lin

(2030-4 P) Residual Monomers in Polymer Samples: High-Throughput Analysis with Automated SIFT-MS VAUGHAN S. LANGFORD, Syft Technologies, Daniel B Milligan, Barry J Prince, Murray J McEwan, Doug M Haste, Mark Perkins, Terry Wilks

(2030-5 P) New Techniques for Preparing Plastics and Polymers by Microwave Sample Preparation TINA A RESTIVO, CEM, Austin Thornton, Robert L Lockerman, Michael Howe

(2030-6 P) Synthesis and Characterization of a Acetophenone Derived Resin and its Lanthanide (III) Polychelates VIKASH WANG, Shodex, Helen Quinlan, Austin Thornton, Robert L Lockerman, Michael Howe

(2030-7 P) In Situ Evolved Gas Analysis During the 3D Printing Process by TG- GC-MS ADAM PATKIN, PerkinElmer, Peter Hua


(2030-9 P) Molecular Weight Determination of Ultra-High Molecular Weight Polymers Using Automatic Batch Mode Multi-Angle Light Scattering JINFENG WANG, Naoco, an Ecolab Company, Wang Jing, Qing He Huang, Xiu Yu Huang

(2030-10 P) Complete Characterization of Food Packaging Materials Using a Hyphenated Thermal Analysis – FT-IR System IAIN ROBERTSON, PerkinElmer Limited, Peter Muller, Jun Wang

(2030-11 P) Using Time Resolved FT-IR-ATR to Study Fuel Diffusion Through Polymer Membranes JAMES M SUOLAN, US Army Research Laboratory, Macromolecular Science

POSTER SESSION Session 2040

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600.

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Consumer Products

Wednesday Afternoon, Exposition Floor, Aisle 2500-2600

(2040-1 P) Supplements and Nutraceutical Screen by GC TIMOTHY ANDERSON, Phenomenex, Brian Rivera

(2040-2 P) GC-TOFMS for Fast Targeted Allergen Screening and Non-Targeted Characterization of Personal Care Products ELIZABETH HUMSTON-FULMER, LELO, Joseph E Blinkley

(2040-3 P) Determination of Formaldehyde by Automatic On-Line Derivatization with Pentfluorobenzylhydroxylamine in Cosmetic Products by Static Headspace GC/TOF-MS MIORA ZANABBONI, DANI Instruments, Roberta Lancia, Michela Garperini, Alessandro Casilli, Cono Sullivan

POSTER SESSION Session 2050

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. Poster sessions are on the Exposition Floor, Aisle 2500-2600.

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Food Safety

Wednesday Afternoon, Exposition Floor, Aisle 2500-2600

(2050-1 P) Accessible and Efficient Screening of Multiclass Contaminants in Food KENNETH JOHN RODNACK, Waters Corporation, Eimar McCaill, Jinjuuan Yang, Joe Romano

(2050-2 P) Analysis of Boiler Water Additives in Fuel Ethanol Distiller’s Dried Grains JAMES J MICHELS, Naoco Water

(2050-3 P) Fast Screening of Alcohol in Juice/Beverage IJUN ZHU, Coca-Cola, Zhihui Xu

(2050-4 P) Optimal Water Quality for Ion Chromatography Analyses of Foods and Beverages ESTELLE RICH, Millipore SAS, Beatrice Flocaire, Gabriela Dima, Cecilia Droux, Stephanie Mabuc

(2050-S P) UV-C Irradiation on the Quality of Green Tea: LC-MS/MS Quantitation of Cathechins MATTHEW JAY VERGNE, Lipscomb University, Kevin Flatt, Lincoln Shade, Ankita Patras


(2050-7 P) Physico-Chemical Characterization, Hygienic Practices and Sanitary Conditions of Street Vended Foods in Davos Del Sur YENCHE CAGORIO BADIG, University of the Immaculate Conception

(2050-8 P) Novel Electrochemical Biosensors for Assessing Food Safety JING ZHANG, SUNY at Binghamton

(2050-9 P) Pesticide Analysis in Agricultural Products Using QueChERS and SFC/MS KENICHIRO TANAKA, Shimadzu Scientific Instruments, Inc., Yuka Fujito, Yoshihiko Hayakawa, Yoshihiro Izumi, Takeshi Kamba

(2050-10 P) Mycotoxin Analysis in Foods by SPE-SFC-MS KENICHIRO TANAKA, Shimadzu Scientific Instruments, Inc., William A Hedgpeth, Taro Ogura

(2050-11 P) Robust LC-MS Analysis of Pesticides with 1.0 mm ID Columns Using State of the Art UHPLC Instrumentation MARKUS M MARTIN, thermo Fisher Scientific, Giorgia Greco, Oleksandr Boychenko, Remco Swart

(2050-12 P) Analysis of Aflatoxin M1 in Raw Milk by HPLC with Fluorescence Detection WILLIAM REUTER, PerkinElmer Inc, Charlie Schmidt, Jason Weissend

(2050-13 P) Cannabis Analysis Overview TIMOTHY RUPPEL, PerkinElmer

(2050-14 P) Use of Liver Homogenates for Rapid Generation of Phase I Metabolites to Facilitate Characterization of Emerging Drugs of Abuse by High Resolution Liquid Chromatography-Mass Spectrometry ANNA HÖLDERBAUM, Queens University Belfast, Elliott T Chris, Tom Buckley, Mooney H Mark

(2050-15 P) Investigation of the Primary Plasticizers Present in Polyvinyl Chloride (PVC) Products Currently Authorized as Food Contact Materials KATHERINE C CARRILLO, FDA, Lawler S de Jager, Timothy H Begley


POSTER SESSION Session 2060

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High-Throughput Chemical Analysis

Wednesday Afternoon, Exposition Floor, Aisle 2500-2600

(2060-1 P) Titration for Faster, Safer and Easier Analysis LORI CAREY, Metromath, Frederick Fiddler


(2060-3 P) Rapid and High Efficiency Chiral Liquid Chromatography Using Superficially Porous Particles DARSHAN PATEL, University of Texas at Arlington, JeongJae Yu, Zachary S Breitbach, Daniel W Armstrong

(2060-4 P) Development of an Improved Microspectrophotometer for Quantitative Bio-Applications THOMAS SPUDIC, Maryville University, Nate Rodriguez, Bradley Postier

POSTER SESSION Session 2070

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LC - General Interest

Wednesday Afternoon, Exposition Floor, Aisle 2500-2600

(2070-1 P) Evaluating Mass Overload on Superficially Porous Particles PAUL CONNOLLY, Restek Corporation, Ed Franklin, Justin V Steinling, Ty Kahler, Becky Wittig, Susan Steinke, Rob Freeman

(2070-2 P) The Potential of Under 250 nm Deep UV-LEDs in Chemical Analysis: 235 nm UV-LED Photometric Detection in Capillary Liquid Chromatography MIKEX MACCA, University of Tasmania, Yan Li, Pavel N Nesterenko, Brett Paul, Roger Stanley

(2070-3 P) Evaluation of 5 Kinds of 2 μm and Sub 2 μm C18 Columns Based on Separation Behavior NORIKAZU NAGAE, ChromAtk Technologies Inc., Tomoyasu Tsukamoto, Shun Kojima

(2070-4 P) From Booze to Mobile Phase: Ethanol Leads the Way to a Chemical Free HPLC LEE N POLITE, Axion Analytical Labs Inc, Jackson ODonnell, Nikolai L Polite, Theodore N Covello, Erick D Waite, Dennis L Polite, Mary Beth Smith

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SuperCritical Fluid Chromatography

Wednesday Afternoon, Exposition Floor, Aisle 2500-2600

(2100-1 P) Improvement of Total Analytical Work Flow by Using Online SFE-SFC KENICHIRO TANAKA, Shimadzu Scientific Instruments, Inc., Nikko Matsuruma, Hidetoshi Idena, Takakito Uchikita, Yashiro Funada

(2100-2 P) Supercritical Fluid Extraction at 1000 Bar ROLF SCHLAKE, Applied Separations

(2100-3 P) Achiral SEC: No C18 Equivalent, No Problem J P PRESTON, Phenomenex, Morgan Jacob Kramer

Undergraduate Poster Session

Wednesday Afternoon, Exposition Floor, Aisle 2500-2600

(2120-1 P) Degradation of Sertraline in Space V IRGINIA JAMES, College of Charleston, Wendy C Cory

(2120-2 P) Investigating the Potential Degradation of Levofloxacin Following Exposure to Space ALISHA LAMAS, College of Charleston, Wendy C Cory

(2120-3 P) Investigation into the Stability and Potency of Ibuprofen Stored Aboard the International Space Station KATRINA MANGARACINA, College of Charleston, Wendy C Cory

(2120-4 P) Chemical Analysis of Potency and Purity of Phenytion Capsules Stored on the International Space Station JESSICA MOON, College of Charleston, Wendy C Cory

(2120-5 P) Quantification of Adsorption of Organic Compounds by Silver Nanoparticles KATHERINE MARIE MULLAUGH, College of Charleston, Sandria Goines

(2120-6 P) Gas Separations by Mixed-Matrix Membranes and High Surface Area Carbons ZOE MANN, Cornell College, Shannon M Mahurin, Sheng Dai, Jennifer Schott

(2120-7 P) Ionic Liquid Membranes and Adsorbents Derived from Carbonated Beverages for Gas Separations CATLIN STEBER, Cornell College and Oak Ridge National Laboratory, Shannon Mahurin, Sheng Dai, Jennifer Schott

(2120-8 P) Advancements Toward Fabrication of a Modified Carbon Quantum Dot as a Bio-Capable Real-Time pH Sensor ALEXANDER P FLUEGEL, Colorado College, Murphy Brasuel

(2120-9 P) Investigating the F(II)-Binding Antioxidant Activity of Thiene and Seleno Complexes Utilizing Gel Electrophoresis, Polymersome Chain Reaction and HPLC EMILY KURFMAN, Farnam University; Julia L Brumagham, Sandra K Wheeler, John F Wheeler

(2120-10 P) Analysis of the Molecular Weight Distribution of Polyoxymethylene Biguanide Using Equilibrium Dialysis, Size-Exclusion Chromatography, Dynamic Light Scattering, and Ultra-Performance Liquid Chromatography-Mass Spectrometry RASHIDA J PRANDA, Farnam University; Ashley S Thompson, Frederick D David, Sandra K Wheeler, John F Wheeler

(2120-11 P) Identification of Cr: DNA Adducts Utilizing UPLC-ESI-MS JOHN J CORDOBA, Furman University, Andrew G Kantor, James H Wade, Noel A Kane-Maguire, Sandra K Wheeler, John F Wheeler

(2120-12 P) Sensitive Pesticide Detection in Drinking Water and Georgia Lake Waters Using HPLC-UV YASMENA DOGHAIRMAT, Georgia Gwinnett College, Xiaoping Li, Sharon Guan, Michelle Huang

PITCON 2017 TECHNICAL PROGRAM

THURSDAY, MARCH 9, 2017
MORNING

SYMPOSIUM

Session 2130

ACS-DAC - Unconventional Pipetting for Bio/Chem Analysis
arranged by Lane A Baker, Indiana University

Thursday Morning, Room W178b
Lane A Baker, Indiana University, Presiding

8:30
Introductory Remarks - Lane A Baker

8:35
(2130-1)
Nanoscale Scanning Electrochemical Microscopy of Clean Graphite Surfaces
SHIGERU ANEMIYA, University of Pittsburgh

9:10
(2130-2)
Multifunctional Scanning Ion Conductance Microscopy
PATRICK ROBERT UNWIN, University of Warwick, David Perry, Ashley Page, Minkyung Kang, Dmitry Monastenko

9:45
(2130-3)
Carbon Nanopipettes: From Sensors to Single Nanoparticle Collisions
MICHAEL V MIRKIN, Queens College - CUNY, Min Zhou, Keke Hu, Dengchao Wang, Huolin Xin, Yun Yu

10:20
Recess

10:35
(2130-4)
Towards Coupling Mass Spectrometry Imaging and Electrochemical Microscopy for Imaging of Live Biological Systems
JULIA LASKIN, Pacific Northwest National Laboratory, Son Nguyen, Venky Prabhakeran, Ruchin Yin, Andrey Lyu

11:10
(2130-5)
Imaging via Electrospray
LANE A BAKER, Indiana University

SYMPOSIUM

Session 2140

Analytical Cannabis I
arranged by Joshua M Crossney, Canna, Inc.

Thursday Morning, Room W183a
Joshua M Crossney, Canna, Inc., Presiding

8:30
Introductory Remarks - Joshua M Crossney

8:35
(2140-1)
Bridging the Gap Between Analytical Technologies and Medical Cannabis Science
KOSHLA M CROSSNEY, Canna, Inc.

9:10
(2140-2)
Research and Development of Cannabis Through Optimized Indoor Environments
AUTUMN R KARCEY, Cultivo, Inc.

9:45
(2140-3)
Batch Sample Preparation of Dried Cannabis Flowers and Trim
BARRY SCHUMBEHL, Fritsch Milling and Sizing, Inc.

10:20
Recess

10:35
(2140-4)
Pesticide Residue Analysis in Cannabis Using Modified QuEChERS and LC-MS/MS
JULIE KOWALSKI, Restek Corporation, Jeff Dahl, Derek Laine, Jack Cochran

11:10
(2140-5)
The Analytical Potential of a Compact Mass Spectrometer (CMS) for the Analysis of Cannabis-Related Samples for Composition and Adulteration
JACK HEIDRON, Advion, Inc., Nigel Soussou, Changtong Hao, Daniel Ekel, Simon Prosser

SYMPOSIUM

Session 2150

Analytical Techniques for Probing Neurochemistry
arranged by Rachel A Saylor, University of South Carolina and Thomas H Linz, Wayne State University

Thursday Morning, Room W179a
Rachel A Saylor, University of South Carolina, Thomas H Linz, Wayne State University, Presiding

8:30
Introductory Remarks - Rachel A Saylor and Thomas H Linz

8:35
(2150-1)
Microdialysis-Microchip Electrophoresis for Continuous Monitoring of Neuropeptide Levels in the Brain
SUSAN M LUNTE, University of Kansas

9:10
(2150-2)
Neurochemistry in the Intensive Therapy Unit – Faster, On-Line Multi-Analyte Analysis for Traumatic Brain Injury Patients
MARTYN G BOUTELLE, Imperial College London, Michelle L Rogers, Chi Long Leong, Isabelle C Samper, Sally A Gowers, Sharon L Jewet, Anthony J Strong

9:45
(2150-3)
Enhancements for Intracranial Microdialysis
ADRIAN C MICHAEL, University of Pittsburgh, Andrea S Jaques-Gerstl, Erk I L Ymer

10:20
Recess

10:35
(2150-4)
A Voltammetric and Behavioral Characterization of the Involvement of Serotonin in Depression
RACHEL A SAYLOR, University of South Carolina, Parasut Hashemi

11:10
(2150-5)
Prefrontal Orbital Network Dynamics in Chronic Stress and Hyperexcitable States
CONOR LISTON, Weill Cornell Medical College

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**PITTCON 2017 TECHNICAL PROGRAM**

### SYMPOSIUM Session 2160

**Evolving Spectroscopic Technologies for Point-of-Origin Detection of Diseases and Environmental Toxins**
arranged by John F Rabolt, University of Delaware

Thursday Morning, Room W179b
John F Rabolt, University of Delaware, Presiding

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors/Institute</th>
</tr>
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<tbody>
<tr>
<td>8:30</td>
<td>2160-1</td>
<td>Introductory Remarks - John F Rabolt</td>
<td></td>
</tr>
<tr>
<td>8:35</td>
<td>2160-2</td>
<td>Point-of-Need Diagnostic Testing for Infectious Diseases Using Surface-Enhanced Raman Scattering</td>
<td>MARC D PORTER, University of Utah, Nicholas A Owens, Lars B Laurensius</td>
</tr>
<tr>
<td>9:10</td>
<td>2160-3</td>
<td>Metabolic Profiling by SERS: A Diagnostic for Bacterial Infections</td>
<td>LAWRENCE ZIEGLER, Boston University</td>
</tr>
<tr>
<td>9:45</td>
<td>2160-4</td>
<td>Measuring Mineral Deficiency in Human Tissue with a Handheld LIBS Spectrometer</td>
<td>KATHERINE A BAKEEY, B&amp;AW Tek, Qun Li, Sean Wang</td>
</tr>
<tr>
<td>10:20</td>
<td>2160-5</td>
<td>Detection of Mycoplasma with SERS: Current Laboratory Results and Progress Towards Clinical Applications</td>
<td>RICHARD DLUHY, University of Alabama at Birmingham</td>
</tr>
<tr>
<td>11:10</td>
<td>2160-6</td>
<td>Structure and Morphology of Biosynthesized and Biodegradable Polymer Nanofibers, Ultratran Films and Single Crystals Using AFM-IR and Selected Area Electron Diffraction (SAED)</td>
<td>JOHN F RABOLT, University of Delaware, Liang Gong, Changhao Liu, Bruce Chase, Isao Hoda, Curt Marcott</td>
</tr>
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### SYMPOSIUM Session 2170

**Impacts of Single Cell Analysis on Biology and Medicine**
arranged by X Nancy Xu, Old Dominion University

Thursday Morning, Room W181a
X Nancy Xu, Old Dominion University, Presiding

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<th>Time</th>
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<tr>
<td>8:30</td>
<td>2170-1</td>
<td>Introductory Remarks - X Nancy Xu</td>
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</tr>
<tr>
<td>8:35</td>
<td>2170-2</td>
<td>Examining Alzheimer’s Disease at Single Cell Resolution</td>
<td>TRACY YOUNG-PEARSE, BWH, Miechen Liau, Christopher Love</td>
</tr>
<tr>
<td>9:10</td>
<td>2170-3</td>
<td>Tracking Single Cells In Vivo: The Emerging Role of Positron Emission Tomography</td>
<td>GUILLER M PRATX, Stanford University</td>
</tr>
<tr>
<td>9:45</td>
<td>2170-4</td>
<td>New Nano Tools for Real-Time Imaging of Single Cancer Stem Cells</td>
<td>NANCY XU, Old Dominion University, Preyaporn Songkiatikasik, Pavan Kittur, Asia Poudel, Sang Phan</td>
</tr>
<tr>
<td>10:20</td>
<td>2170-5</td>
<td>Imaging Transcription Dynamics in Single Cancer Cells</td>
<td>ROBERT A COLEMAN, Albert Einstein College of Medicine, Adrien Senecal, Charles Kenworthy, Robert H Singer</td>
</tr>
<tr>
<td>11:10</td>
<td>2170-6</td>
<td>Single Cell mRNA Profiling In Situ by Sequential FISH (seqFISH)</td>
<td>LON GCAI, Caltech</td>
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### SYMPOSIUM Session 2180

**Recognizing Cutting-Edge Chemistry from the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChe)**
arranged by René A S Robinson, University of Pittsburgh and Kemal Catalan, AFRINo

Thursday Morning, Room W181b
René A S Robinson, University of Pittsburgh, Presiding

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<th>Time</th>
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<tbody>
<tr>
<td>8:30</td>
<td>2180-1</td>
<td>Introductory Remarks - René A S Robinson and Kemal Catalan</td>
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</tr>
<tr>
<td>8:35</td>
<td>2180-2</td>
<td>Applications of Mass Spectrometry for an Aging Population</td>
<td>RENÁ S ROBINSON, University of Pittsburgh</td>
</tr>
<tr>
<td>9:10</td>
<td>2180-3</td>
<td>Metrology for “Stuff” — and Its Impact on Innovation, Our Economic Security, and Quality of Life</td>
<td>WILLIE E MAY, National Institute of Standards and Technology (NIST)</td>
</tr>
<tr>
<td>9:45</td>
<td>2180-4</td>
<td>The Path Toward Urine Albumin Standardization</td>
<td>ASHLEY BEASLEY GREEN, National Institute of Standards and Technology (NIST), Karen W Phinney</td>
</tr>
<tr>
<td>10:20</td>
<td>2180-5</td>
<td>New R&amp;D Technologies that Enable Growth and Profitability in the Commercial Conversion of Sugarcane and Sweet Sorghum into Advanced Products and Bioproducts</td>
<td>MARSHA COLE, US Department of Agriculture</td>
</tr>
<tr>
<td>11:10</td>
<td>2180-6</td>
<td>Recognizing Cutting-Edge Chemistry from NOBCChe</td>
<td>JUDSON L HRNES, P&amp;G</td>
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### SYMPOSIUM Session 2190

**SAS - Metallomics**
arranged by Greg Klunder, Lawrence Livermore National Laboratory

Thursday Morning, Room W181c
Greg Klunder, Lawrence Livermore National Laboratory, Presiding

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<tbody>
<tr>
<td>8:30</td>
<td>2190-1</td>
<td>Introductory Remarks - Greg Klunder</td>
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<tr>
<td>8:35</td>
<td>2190-2</td>
<td>Abstract Not Submitted at Time of Printing</td>
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</tr>
<tr>
<td>9:10</td>
<td>2190-3</td>
<td>Metal Detection at Cellular Levels by Use of Laser Ablation ICP-MS</td>
<td>NORBERT JAKUSZOWSKI, Federal Institute for Materials Research and Testing, Heike Traub</td>
</tr>
<tr>
<td>9:45</td>
<td>2190-4</td>
<td>Bio-LIBS and the Role of Trace Metals When Laser-Induced Breakdown Spectroscopy is Used to Study Biological or Biomedical Systems</td>
<td>STEVEN JAMES REHSE, University of Windsor, Dylan J Malenfant, Viron A Riberdy, Alexandra E Paulick, Siddharth Doshi, Christopher J Fredericker</td>
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<tr>
<td>10:20</td>
<td>2190-5</td>
<td>Recess</td>
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<tr>
<td>10:35</td>
<td>2190-6</td>
<td>The Development and Application of Imaging Mass Cytometry</td>
<td>SCOTT TANNER, York University</td>
</tr>
<tr>
<td>11:10</td>
<td>2190-7</td>
<td>Powerful Tools, Tricks, and Techniques for Metallometric Analysis</td>
<td>GARY MARTIN HEITITE, Indiana University, Andrew J Schwartz, Jacob T Shelley, Courtney L Walton, Kelsey L Williams</td>
</tr>
</tbody>
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### SYMPOSIUM Session 2200

**UHPLC Method Development in Pharmaceutical Analysis**
arranged by Michael W Dong, MWD Consulting

Thursday Morning, Room W183b
Michael W Dong, MWD Consulting, Presiding

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<tbody>
<tr>
<td>8:30</td>
<td>2200-1</td>
<td>Introductory Remarks - Michael W Dong</td>
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<tr>
<td>8:35</td>
<td>2200-2</td>
<td>Newer Approaches to UHPLC Pharmaceutical Separations: Core-Shell, HILIC to SFC</td>
<td>DAVY GUILLEMAINE, University of Geneva, Vincent Desfontaine, Seaboks Fekete, Jean-Luc Vehley</td>
</tr>
<tr>
<td>9:10</td>
<td>2200-3</td>
<td>New UHPLC Columns for Pharmaceutical Applications</td>
<td>THOMAS H WALTER, Waters Corporation, Jacob Fairchild, Matthew A Lauber, Stephan M Na, Bonnie Alden, Thomas Swann, Jennifer Nguyen</td>
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<tr>
<td>10:20</td>
<td>2200-5</td>
<td>Recess</td>
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<tr>
<td>10:35</td>
<td>2200-6</td>
<td>UHPLC in Quality Control of Monoclonal Antibody Therapeutics</td>
<td>TAYLOR ZHANG, Genentech</td>
</tr>
<tr>
<td>11:10</td>
<td>2200-7</td>
<td>UHPLC Method Development of New Drug Molecules with Multiple Chiral Centers</td>
<td>MICHAEL W DONG, MWD Consulting</td>
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### WORKSHOPS Session 2210

**Light Sources in Analytical Chemistry: Solid State Light Sources and Beyond**
arranged by Mirek Macka, University of Tasmania

Thursday Morning, Room W176c
Mirek Macka, University of Tasmania, Presiding

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<tr>
<td>8:30</td>
<td>2210-1</td>
<td>Introductory Remarks - Mirek Macka</td>
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</tr>
<tr>
<td>8:35</td>
<td>2210-2</td>
<td>Structured Light from LEDs Enables Unique Spectrometer Design</td>
<td>ALEXANDER SCHELLEIN, SpectoClick</td>
</tr>
<tr>
<td>9:05</td>
<td>2210-3</td>
<td>Light Emitting Diodes: New Developments in Detection and Analytical Use Beyond Optical Detection</td>
<td>MIREK MACKA, University of Tasmania</td>
</tr>
<tr>
<td>9:35</td>
<td>2210-4</td>
<td>Quantum Cascade and Interband Cascade Lasers: Changing the Game in Mid-Infrared Diagnostics</td>
<td>BORIS MIZAIKOFF, Ulm University</td>
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<td>10:05</td>
<td>2210-5</td>
<td>Recess</td>
<td></td>
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<tr>
<td>10:20</td>
<td>2210-6</td>
<td>Solid State Light Sources in Capillary Electrophoresis</td>
<td>DAN XIANG, Sichuan University, Hongyan Ji</td>
</tr>
<tr>
<td>10:50</td>
<td>2210-7</td>
<td>Detectors Interrogated by Light: Optical Fiber Strain Sensors in (Photo-) Acoustic Measurements</td>
<td>HANS-PETER LOCK, Queen’s University</td>
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<tr>
<td>11:20</td>
<td>2210-8</td>
<td>Open Discussion</td>
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ORGANIZED CONTRIBUTED SESSIONS Session 2220

SFC Chromatography for Food Analysis
arranged by David Kohler, ES Industries and Robert Clifford, Shimadzu Scientific Instruments

Thursday Morning, Room W183c
David Kohler, ES Industries, Presiding
Robert Clifford, Shimadzu Scientific Instruments, Presiding
8:30 (2220-1) Strategies for Stationary Phase Selection for the Optimized SFC Separation of Agricultural Products, Foods, Beverages and Nutritional Supplements
MATTHEW PRZYBYSZEC, ES Industries
8:50 (2220-2) Analysis of Omega 3 Fatty Acids in Fish Oil Capsules via SFC/SEC/MS
THOMAS ANDREW RUSSELL, Shimadzu, Todd Anderson
9:10 (2220-3) Pesticide Analysis of Commercial Spices via SFC/SEC/MS TODD ANDERSON, Shimadzu, Thomas Anderson Rüssel, William A Hedgpeth
9:30 (2220-4) The Use of Online SFC-SEC-MS-MS for the Analysis of Numerous Fat-Soluble Micronutrients in Food RIC R GONZALEZ, ConAgra Foods, Inc., Indrapal Singh, Kenichiro Tanaka
9:50 Recess
10:05 (2220-5) Comparison of LC-MS/MS to SFC-MS/MS for the Analysis of Multiple Water-Soluble Micronutrients in Various Food Matrices
INDRAPAL SINGH, ConAgra Foods, Inc., Ric R Gonzalez, Kenichiro Tanaka
10:25 (2220-6) On-Line Extraction and Determination of Targeted Carotenoids from Habanero Rad (Capsicum Chinense). LUIJIO MONIDELLO, University of Messina, Mariaisimone Zoccali, Daniele Giuffrida, Paola Dugo

ORAL SESSIONS Session 2230

Bioanalytical - Fluorescence/Luminescence Techniques
Thursday Morning, Room W175a
8:30 (2230-1) Development of High-Throughput Instrumentation for Single-Cell Viscometric Analysis Via Fluorescence Anisotropy VERONICA J LYONS, Texas Tech University, Dimitri Pappas
8:50 (2230-2) Structural Modified Firefly Luciferin Analogues for Bioluminescence Assays YUMA IKEDA, Keio University, Daniel Citerria, Shigeru Nishiyama, Koji Suzuki
9:10 (2230-3) Fluorescence Optical Rotary Dispersion (FOROD): A Method to Probe Interfacial Chirality
JAMES RW UCLUELEAS, Purdue University, Fengyang Deng, Garth J Simpson
9:30 (2230-4) The Enhanced Biosensing Performance of Surface Plasmon Coupled Emission Assisted by Graphene Oxide YAO-QUN LI, Xiamen University, Kai-Xin Xie, Shao-Hui Cao
9:50 Recess
10:05 (2230-5) A Label-Free Apameter Fluorescence Assembly for Highly Sensitive and Specific Detection of Cocaine DANIEL RONCAOLO, Florida International University, Haixiang Yu, Xu Xiaowen, Yi Xiao
10:25 (2230-6) Graphene Oxide-Based and Profavine-Indicated Fluorescence Polarization Model for Ligand-HIV RRE RNA Interaction Assay ZHI-QI ZHANG, Shaanxi Normal University, Liang Qi, Dan Zhang, Jing Zhang, Han-Ying Zhan
10:45 (2230-7) Developing a Universal Steric Trapping Strategy for Studying Folding and Stability of Helical Membrane Proteins in Native Environment RUIQIONG GUD, Michigan State University, Kristen Gaffney, Heecook Hong
11:05 (2230-8) Glass Capillary Based Microfluidic ELISA XIADIAN TAN, University of Michigan, Maung Kyaw Khaihg Ou, Xudong Fan

ORAL SESSIONS Session 2240

Bioanalytical - Microfluidics/Lab-on-a-Chip and Others
Thursday Morning, Room W175b
8:30 (2240-1) Surface Modified Glass/PDMS Pneumatic Valve for Electrophysiological Microfluidic Array XUEMIN WANG, University of Arizona, Christopher A Baker, Craig A Aspinwall
8:50 (2240-2) Effects of Confinement on Glucose Oxidase and Horseradish Peroxidase Kinetics Simulated in a Glass Nanofluidic Device WILLIAM R RICKERT, University of Notre Dame, Paul W Bohn
9:10 (2240-3) Analysis of Drug Binding with Soluble Proteins by Using Ultrafast Affinity Extraction and Alpha-1-Acid Glycoprotein Microcolumns SANDYA RANI BEERAM, University of Nebraska, Lincoln, Zhong Xiewel, David S Hage
9:30 (2240-4) Impact of Non-Glucose Spectral Variance on Noninvasive Glucose Predictions Over Near-Infrared Wavelengths ARIEL BÖHMANN, University of Iowa, Mark A Arnold, Gary W Small, Michael J Miller

9:50 Recess
10:05 (2240-5) High-Throughput Bioanalysis Using Supercritical Fluid Chromatography Tandem Mass Spectrometry (SFC-MS/MS) for Drug Discovery Support SADAT DING, Genentech, Xiaolin Zhang
10:25 (2240-6) Microfluidic-Based Distribution Profiling of Circulation MiRNAs and Its Potential in Cancer Diagnosis LUIS ARMANDO JIMENEZ, University of California Riverside, Kenneth Flack, Wenwan Zhong
10:45 (2240-7) Developments Toward Low Error and High Throughput Surface-Enhanced Raman Scattering Immunoassays MARC D PORTER, University of Utah, Aleksander Skuratovskiy, Lars Laurentius, Jennifer H Granger, China Y Lim, Sean Wang, Jun Zhao, Qun Li
11:05 (2240-8) SERS Sensors for Detection of Neurological Conditions BHAVYA SHARMA, University of Tennessee

Bioanalytical Electrochemistry
Thursday Morning, Room W175c
8:30 (2250-1) Noise Reduction in DNA Hybridization Assays on Gold Electrodes Using a Differential Working Electrode Potentiostat MARK D HOULT, Auburn University, Subramanian Somasundaram, Christopher J Easley
9:10 (2250-3) Plasma-Etched Cavity Carbon-Fiber Microelectrodes for Improved Sensitivity at Single Cells LARS DUWANNY, North Carolina State University, Andreas C Schmidt, James G Roberts, Gregory S McCarty, Lesa A Somers
9:30 (2250-4) Pulsed Chronopotentiometry with Asymmetric Cellulose Triacetate-Based Ion-Selective Electrodes for the Measurement of Physiologically Relative Hydrophilic Ions Via Kinetic Discrimination of Lipophilic Ions SIMON SEGAL, Northern Kentucky University, Kebede L Gemene
9:50 Recess
10:05 (2250-5) Quantitative, Simultaneous Stochastic Sensing with Multiple Protein Channels RYAN WHITE, University of Maryland Baltimore County, Florica C Maczo
10:25 (2250-6) Real-Time Electrochemical Monitoring of the Controlled Release of Cargo from Nanoparticle Carriers MARISELLA ADELA BODITR, Imperial College London, Lucia Marsi, Molly M Stevens, Martyn G Boulter
10:45 (2250-7) Carbon-Pyrolyzed Nanostuctures for Biosensing and Enzyme Electrocatalysis SADAGOPAN KRISHNAN, Oklahoma State University, Vini Singh, Kayan C Premaratne, Jinesh Ninula, James (Tom) Moulton, Asantha C Dharmaratne, Charuksha Walgama, K Sudhakaraprad, Nicolas Means
11:05 (2250-8) Label-Free Potentiometric Detection of DNA Hybridization Using Polyamino Composite Materials ZHANNA A BOEVA, Abo Akad University, Vladimir G Sereyev, Kalle Leven

Bio/Pharma Electrochemistry
Thursday Morning, Room W176a
8:30 (2260-1) Single Drop Electroanalysis for Low Cost Quality Control Testing of Oxidative Pharmaceuticals CHARUKSHA WALGAMA, Oklahoma State University, Matthew Gallman, Sadagopan Krishn
8:50 (2260-2) Rapid and Selective Determination of Acetaminophen in Serum Via Novel Single Molecule Recognition Based on Multi Hydrogen Bonding ZHE WANG, Xavier University of Louisiana
9:10 (2260-3) Non–Enzymatic Electrochemical Sensing Platforms Using –Cyclodextrin and Multi–Walled Carbon Nanotubes for Selective Detection of Uracil Acid MULUGETA BADASA WAKI, University of Richmond, Michael C Leopold, Samuel D Gillespie, Margaret A Schwarzmann
9:30 (2260-4) Peptide Mimotopes as Sensing Platforms for Label Free Biosensors XIANGQUN ZENG, Oakland University, Norman Leu, Juan Liu, Ian Archbold
9:50 Recess
10:05 (2260-5) Probing the Dose-Dependent Effects of Methamphetamine on Extracellular Catecholamine Concentrations in Behaving Rats with In Vivo Fast-Scan Cyclic Voltammetry ROHAN BHIMANI, The State University of New York at Buffalo, Jinwoe Park
10:25 (2260-6) A Voltammetric Analysis of Amphetamine’s Influence on Cortical Serotonin Neurotransmission RHIANNON ROBKE, University of South Carolina, Parastoo Hashemi

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### ORAL SESSIONS  Session 2270

**Capillary Electrophoresis of Proteins, Peptides, and Metabolites**

**Thursday Morning, Room W176b**

- 8:30 (2270-1)  
  Enhanced Capillary Electrophoresis Separations to Characterize Biopharmaceuticals  
  LISA A HOLLAND, West Virginia University; Srikanth Gattu, Candessa Ciphield, Grace Ellen Candler, Lloyd Bwlanai

- 8:50 (2270-2)  
  Capillary Electrophoresis/Electrochromatography-Mass Spectrometry for Pharmaceutical Analysis  
  ZILIN CHEN, Wuhan University

- 9:10 (2270-3)  
  Separation of Methylation via Host-Assisted Capillary Electrophoresis  
  JIYOUN LEE, University of California Riverside, Wenwan Zhong

- 9:30 (2270-4)  
  Size-Based Capillary Electrophoresis Separations of Proteins with Biocompatible Gels  
  GRACE ELLEN CANDLER, West Virginia University; Candessa Ciphield, Srikanth Gattu, Lloyd Bwlanai, Lise A Hollander

- 9:50 (2270-5)  
  Application of Protein Cross-Linking Capillary Electrophoresis to Diverse Protein-Protein Interactions  
  CLAIRE DUIMET, University of Michigan, Cara D’Amico, Mohamed Dawood, Robert J Kennedy

- 10:25 (2270-6)  
  Development of a Capillary Micromass Sampling Workflow for Mass Spectrometric Analysis of Single Embryonic Cells from Frogs and Zebras  
  CAMILLE LOMBARD-BABER, George Washington University; Reem Al-Shabeeb, Sally A Moody, Peter Nemes

- 10:45 (2270-7)  
  Capillary Electrophoresis Techniques for Highly Sensitive and Selective Assays of Endophenin and Oxytocin  
  LAURA CASTO, University of Tennessee, Christopher Saker

- 11:05 (2270-8)  
  Discovery Metabolicomic Investigation of Cell Gases in the Developing Vertebrate (Frog) Embryo  
  ROSEMARY MAUSON JIKO, George Washington University; Erika P Portero, Sally A Moody, Peter Nemes

### ORAL SESSIONS  Session 2280

**Chemometrics (Half Session)**

**Thursday Morning, Room W177**

- 8:30 (2280-1)  
  Application of Liquid Chromatography-High Resolution Mass Spectrometric Data Utilizing a Sparse Multivariate Curve Resolution Approach  
  DANIEL W COOK, Virginia Commonwealth University; Sarah C Rutan

- 8:50 (2280-2)  
  Airborne Remote Detection of Targeted Radi isotopes by Pattern Recognition Analysis of Gamma-Ray Spectra  
  BRIAN WILLIAM DESS, Kalman & Company, Inc.; Gary W Small, Robert Koutit, Jeff Stapleton

- 9:10 (2280-3)  
  Cluster Resolution-Guided Feature Selection – Where to Start?  
  JAMES HARYINK, University of Alberta, Lawrence A Adzumb, Amelia I Hall

### ORAL SESSIONS  Session 2290

**Drug Discovery (Half Session)**

**Thursday Morning, Room W177**

- 10:05 (2290-1)  
  Evaluation of Propranolol Liver Esterase and Sublingual Matrix Effects on Dipivirin HCL Using HILIC Reversed-Phase Liquid Chromatography Coupled with Photo Diode Array Detection (PDA)  
  UNA AALADY, NOUJK Abduallazit University, Mussam Qasai

- 10:25 (2290-2)  
  High-Throughput Mass Spectrometric Analysis of Monoclonal Antibodies and Antibody Drug Conjugates  
  IAIVAN CAMPUZANO, Ameen, Tisha San Miguel, Chawita Netinojanakul

- 10:45 (2290-3)  
  High-Throughput Screening Platform for Endocrine Disruptor Discovery with 3D Liver Cultures  
  MATTHEW RYAN LUCKET, University of North Carolina at Chapel Hill

- 11:05 (2290-4)  
  1-(5-Hydroxy-3-methyl-1-phenyl-1H-pyrazol-4-yl) Octadecan-1-one Iron (II): Complex: Synthesis and Anti-Prostatic Hyperplasia Activity  
  NIKE OMOSSUN, Michael Opara University of Agriculture, Mnayi Osuore

### ORAL SESSIONS  Session 2300

**Electrochemical Characterization of Corrosion and Water Oxidation (Half Session)**

**Thursday Morning, Room W184a**

- 8:30 (2300-1)  
  Electrochemical Impedance Spectroscopy of Ion-Selective Membranes: Artificats in Two-, Three-, and Four-Electrode Measurements  
  EVAN LEIGH ANDERSON, University of Minnesota, Philippe Buhmann

- 8:50 (2300-2)  
  Electrochemical Studies of Carbon Fiber Epoxy Composites: Effect of Galvanic Corrosion with Aluminum Alloys  
  BRANDON WAYNE WHITMAN, Michigan State University, Greg Swain

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### PITTCON 2017 TECHNICAL PROGRAM

**Monday Morning**

**Thursday Morning**

**Thursday Afternoon**

**Friday Morning**

**Friday Afternoon**

**Saturday Morning**

**Saturday Afternoon**
Thursday morning, Exposition floor, Aisle 2500-2600

**POSTER SESSION Session 2340**

Thursday 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. Please note: You cannot get onto the exposition floor until 9:00 AM. Posters that have not been taken down one-half hour after the designated time will be disposed of.

**Chemical Methods**

**Thursday morning, Exposition Floor, Aisle 2500-2600**

(2340-1 P) Withdrawn

(2340-2 P) Withdrawn

(2340-3 P) Comparison of Two Strategies for the Synthesis of Fluorescent Carbon Nanoparticles QIN HU, State University of New York at Buffalo

(2340-4 P) Searching Effective Extraction Methods to Utilize Citrus Peels as Functional Products YU MATSU, Toyo University, Yumiko Yoshie-Stark

(2340-5 P) A New Method for the Analysis of Total Nitrogen in Aqueous Samples WILLIAM LIPPS, Shimadzu

(2340-6 P) Comparison of Different Soluble Form of Antioxidant Activity of Colorful Beans and Soybeans LARISMA AKARI MIURA, Toyko University, Yumiko Yoshie-Stark

(2340-7 P) QuECHERS and Olive Oil: An Extraction Procedure for Determination of Minor Pesticide Compounds by Liquid Chromatography Determination ROMINA P MASTONTER, Agricultural Biologig Institute of Mendoza (IBM), Rosana Velazquez, Lucia Omo-Garcia, Adolfo Bajouo, Alejandra Carrasco Pancorbo

(2340-8 P) Aptamer Templated Bioconjugation on Membrane Protein for Cancer Cell Biomarker Identification XIAOHU PAN, University of Florida, Weihong Tan, Cheng Cui

(2340-9 P) Synthesis, Characterizations and Antibacterial Evaluation of New Aziditone Derivatives PINAKA A PATEL, K Shah Mahinarang Science College

(2340-10 P) Synthesis and Bio-Evaluation of Azetidin-2-One Containing Acetyl Pyrazoline Derivatives SHAILESHKUMAR HASMUKHIBHAI SHAH, Patel JDJ Science College, Borod

(2340-11 P) Synthesis and Study of Superparamagnetic Cobalt Ferrite Nanoparticles SIMONAS RAMANAUSKAS, Vilnius University/SRI Center for Physical Science, Arunas Jagminas

(2340-12 P) Microwave Assisted Synthesis of Novel Imaizidopyridine Compounds for its Biological Applications IERIS JAEJU WAZEURU-OIN, Clark Atlanta University, Demario Timmon, Xiu R Bu, Jaewonna Sawyer

**Microfluidics**

**Thursday morning, Exposition Floor, Aisle 2500-2600**

(2340-1 P) Increasing the Throughput of Immunoassay Techniques for Microfluidic Western Blotting System NATALIE ELIZABETH ARVIN, University of Michigan

(2340-2 P) Simulation Study on Double-Stacking Lipid Bilayer Formation by Microchannels KAN SHOJI, Tokyo University of Agriculture and Technology, Ryo Kawanou

(2340-3 P) A Precise Bead-Based Glutamate Quantification System Using Chip-Based Microfluidic Cytometry WOODYUK JANG, Seoul National University, Chang Mu Kang, Inseong Hwang, Tark Dong Chung

(2340-4 P) Sequence Specific Hybridization Capture and Fluorescent Labeling for Detecting Drug Resistance Genes Related to Seпис ROBERT HANSON, Brigham Young University, Radim Knob, Brian Peine, Janice Dark, Adam T Woolley

(2340-5 P) Low Cost and Sensitive Lab-on-Paper-Based Devices for Measurement of CYP3A4 Activity NANTANA NUCHTAWORN, Mahidol University, Mananya Laoksukkul, Jaraporn Leanpolchareanchari, Leena Suntornsuk

(2340-6 P) Microfluidic Particle Separation via Acoustic Focusing Integrated with Acoustic Flow Switching MERIDIAN E FYSEYNA, New Mexico Institute of Mining and Technology, Gaytan P. Gurtam

(2340-7 P) Digital Microfluidic Immuno-Chip for Single-Cell Exosome Analysis of Circulating Exosomes in Ovarian Cancer YUQU SHANG, University of Kansas, Yong Zheng

(2340-8 P) A Simple, Multilayer PET Microfluidic Device to Reduce Hydrophobic Molecular Absorption ABHINAV BHUSHAN, Illinois Institute of Technology, Tung Nguyen

(2340-9 P) Validation of a Low Cost Lab-on-a-Chip Platform for Enzyme-Linked Immunosorbert Assay (ELISA) AMERICA PAVIDA, Cuvellier, Istev Quinat, Rossana Aroyo

(2340-10 P) A Microfluidic Cell Culture Device for Automated Sample Preparation and Improved Biomimetic Modeling in Diabetes Metabolomics KATHERINE SANDERS, Saint Louis University

(2340-11 P) Droplet-Based Microfluidic Device for Automated Nucleosome Preparation and Chromatin Immuno Capture YI XIU, University of Michigan, Ann Arbor, Joshua Tice, Steven R Dooman, Richard Graybill, Orden Tamis, Jeong-Heon Lee, Ryan C Bailey

(2340-12 P) Continuous In-Droplet Sample Washing: An Emerging Tool for Chemistry in Picoliter Droplets STEVEN R DONOAN, University of Michigan, Ryan C Bailey

(2340-13 P) On Drastic Sensing Enhancement of Surface-Based Microfluidic Sensors with Acoustic Bubbles JIE XU, University of Illinois, Andrea De Vellis, Dmitry Gritsenko, Wei Xue

(2340-14 P) Droplet Microfluidics for Single Molecule Detection Experiment JAMY LEE, University of Michigan

(2340-15 P) Simple Surface Modification of PMMA for Highly Sensitive Multiplexed Detection of Infectious Disease Biomarkers SANJUK SHARMA TIMILSINA, University of Texas at El Paso, Moawen Dou, Xiucong Li

(2340-16 P) Microwell Device Development for the Transfer, Isolation, and PCR Validation of Whole Cells DAVEY LEE WEST, University of North Carolina at Chapel Hill, William H Hesley, John M Ramsey

(2340-17 P) Nanoelectrospray Ionization-Mass Spectrometry Analysis of Droplets Containing Ion Suppressing Matrices DANIEL JORDAN STEYER, University of Michigan, Robert T Kennedy

(2340-18 P) Development of Image Diagnostic System for Absorption Measurement on Lab on a Tablet Concept YUYI MIKAMI, Kyushu University, Hiroaki Nomada, Hiroaki Yoshikawa, Kinichi Morita, Yuji Oki

(2340-19 P) A Customizable 3D-Printed Equilibrium-Dialysis Device for Enhanced Binding Studies COYD PINGER, Michigan State University, Andrew H eller, John Bau, Scott Stanulis, Dana Spence
Please visit pittcon.org or the Pittcon2017 mobile app for complete details.
PITCON 2017 TECHNICAL PROGRAM
THURSDAY, MARCH 9, 2017
AFTERNOON

SYMPOSIUM Session 2410
Analytical Cannabis II
arranged by Joshua M Crossney, jCanna, Inc.
Thursday Afternoon, Room W183a
Joshua M Crossney, jCanna, Inc., Presiding
1:30 Introductory Remarks - Joshua Crossney
1:35 (2410-1) Contaminants Testing in Marijuana: Pesticides, Mycotoxins and Residual Solvents
OLGA I SHIMELIS, MilliporeSigma, Katherine K Stenerson, Michael Halpenny, Michael Y. Jennifer E Clauß
2:10 (2410-2) Current and Future Analytical Technologies for Cannabis Testing and Research
SCOTT KUZDEAL, Shimadzu Scientific Instruments
2:45 (2410-3) Cannabis for Pediatric Disease
TRACY RYAN, Cannakids
3:20 Recess
3:35 (2410-4) Moving Beyond the Stigmas Associated with THC Towards Total Health Care: A Physician’s View on Medical Cannabis
UMA DHANABALAN, Uplifting Health & Wellness
4:10 (2410-5) Pharmacogenomics and Therapeutic Drug Monitoring-Guided Treatment for Personalized Cannabis Therapies
KEVIN P ROSENBLATT, Integrated Biosource/Cannabis Labs

SYMPOSIUM Session 2420
Atomic Spectroscopy Instrumentation Development: A Disconnect Between the Research Laboratories and the Pittcon Floor
arranged by R Kenneth Marcus, Clemson University
Thursday Afternoon, Room W177b
R Kenneth Marcus, Clemson University, Presiding
1:30 Introductory Remarks - R Kenneth Marcus
1:35 (2420-1) Academic Research to Marketplace: Can a Better Link be Forged?
GARY MARTIN HETHTJE, Indiana University
2:10 (2420-2) A View of the Future Needs of Atomic Spectroscopy and the Role of Industry/University Relationships in Product Development
DENNIS YATES, Perkin-Elmer (retired)
2:45 (2420-3) Working with the Analytical Industry – A Case Study Success Story
DAVID W KOPPENAAAL, Pacific Northwest National Laboratory
3:20 Recess
3:35 (2420-4) Thirty Years of Glow Discharge Instrumentation Development: Commercial Successes and (Perhaps) an Untapped Pipeline
R KENNETH MARCUS, Clemson University
4:10 (2420-5) The Evolution of Mass Spectrometry from Conception to the Global Market
SCOTT TANNER, York University

SYMPOSIUM Session 2430
In Vivo Neurochemistry: Applications from Single Cells to Behavior
arranged by B Jill Venton, University of Virginia and Robert T Kennedy, University of Michigan
Thursday Afternoon, Room W181a
B Jill Venton, University of Virginia, Presiding
1:30 Introductory Remarks - B Jill Venton and Robert T Kennedy
1:35 (2430-1) Vesicular Exocytosis of Neuronal Transmitters by Endocrine Cells: The End to the “Full Fusion” Paradigm?
CHRISTIAN ANDRE AMATORE, CNRS-ENS-UPM C
2:10 (2430-2) Real-Time Measurement of Tonic Dopamine Fluctuations in Freely Moving Rats
MICHAEL HEIBN, University of Arizona
2:45 (2430-3) Advances in Microdialysis with LC-MS to Determine Chemistry Underlying Behavior
ROBERT T KENNEDY, University of Michigan
3:20 Recess
3:35 (2430-4) A Voltammetric Analysis of Serotonin’s Roles in Depression
PARASDO HASHEMI, University of South Carolina
4:10 (2430-5) The Unique Contribution of In Vivo Neurochemistry to Our Understanding of the Role of Dopamine in Brain Reward Processing and Addiction
REGINA CARRIEI, The University of North Carolina at Chapel Hill

SYMPOSIUM Session 2440
Metabolomics: Breath as a Sample for Clinical Analysis
arranged by Richard A Yost, University of Florida and Michael T Costanzo, Breathtec Biomedical
Thursday Afternoon, Room W179b
Richard A Yost, University of Florida, Presiding
1:30 Introductory Remarks - Richard A Yost and Michael T Costanzo
1:35 (2440-1) Critical Issues in Clinical Breath Analysis: Challenges and Opportunities
TERENCE H RISBY, Johns Hopkins University
2:10 (2440-2) Breath Metabolomics in Lung and Systemic Disease
RAED A DIVEIK, Cleveland Clinic
2:45 (2440-3) Pitfalls in the Analysis of Volatile Breath Biomarkers: The Need for Quantification of Single Metabolites
DAVID SMITH, Trans Spectra Ltd, Patrik Spaněl
3:20 Recess
3:35 (2440-4) Breath Biomarkers: Non-Targeted (Discovery) Measurements for Environmental and Clinical Applications
JOACHIM PLEI, US Environmental Protection Agency, Ariel Wallace, Brett Robert Winters, Michael Madden
4:10 (2440-5) Towards Point-of-Care Diagnostic Screening for Breath Analysis Using FAIMS and FAIMS/MS
MIHAEL T COSTANZO, Breathtec Biomedical, Michael S Wei, Jared J Boock, Richard A Yost

SYMPOSIUM Session 2450
Native Analysis of Biomolecules by Mass Spectrometry
arranged by Christian Bleiholder, Florida State University
Thursday Afternoon, Room W181a
Christian Bleiholder, Florida State University, Presiding
1:30 Introductory Remarks - Christian Bleiholder
1:35 (2450-1) The Transition of Native Biomolecules From Solution into the Gas Phase
EVAN R WILLIAMS, University of California Berkeley
2:10 (2450-2) Assembly of Amino Acid and Peptide Systems: Structures, Mechanisms and Applications
MICHAEL THOMAS BOWERS, University of California Santa Barbara, Thanh Du, Michael Tran, Gert von Helden, Steven Burato
2:45 (2450-3) Molecular Microscopy: Employing Mass Spectrometry to Image Biomolecules in Their Native State
RICHARD M KAPOO, Vanderbilt University
3:20 Recess
3:35 (2450-4) Top-Down Native Mass Spectrometry as a Tool for Structural Biology
JOSEPH A LOO, University of California Los Angeles
4:10 (2450-5) Ion Mobility Spectrometry – Mass Spectrometry for De Novo Protein Structure Elucidation
CHRISTIAN BLEIHOLDER, Florida State University, F Caroline Liu, Samuel Kirk, Mengqi Chai

SYMPOSIUM Session 2460
Pharmaceutical Applications of Electrochemistry
arranged by Gregory K Webster, AbbVie
Thursday Afternoon, Room W181b
Gregory K Webster, AbbVie, Presiding
1:30 Introductory Remarks - Gregory K Webster
1:35 (2460-1) Miniaturized Electrochemistry for Pharmaceutical Applications
PABLO FANJUL, DropSens S.L., María González, David Hernández, Laura Fernández, Carla Havarr, Alejandro Pérez-Junquera
2:10 (2460-2) Application of Voltammetry Techniques for Pharmaceutical Analysis
RITESH N VYAS, Metromin
2:45 (2460-3) Electrochemistry for Detection, Reaction and Synthesis
MARTYN EYSBERG, ANTEC Leyden BV
3:20 Recess
3:35 (2460-4) Critical Issues in Clinical Breath Analysis: Challenges and Opportunities
TERENCE H RISBY, Johns Hopkins University
4:10 (2460-5) Development of Electrochemical Paper-Based Devices for Diagnostics and Preventive Care
FREDERIQUE DEISS, Indiana University - Purdue University Indianapolis

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**Symposium Session 2470**

**SAS - Molecular Spectroscopy for Disease Detection**
arranged by Greg Klander, Lawrence Livermore National Laboratory

Thursday Afternoon, Room W181c

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<tr>
<th>Time</th>
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<tr>
<td>1:30</td>
<td>(2500-1)</td>
<td>Development and Optimization of a Method for HPLC Separation of Enantiomers with Poly saccharide-Based Chiral Columns BEZHAN G CHANVKETADZE, Tsillsi State University</td>
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<td>1:50</td>
<td>(2500-2)</td>
<td>Improving our Understanding of Enantioséparation in Supercritical Fluid Chromatography CAROLINE WEST, University of Orleans, Syam Khatree, Eline Lemasson</td>
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<td>2:10</td>
<td>(2500-3)</td>
<td>Enantioséparation of Compounds with Multiple Chiral Centers by 2D-LC KELLY ZHANG, Genentech, Mido Tsang</td>
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<td>2:30</td>
<td>(2500-4)</td>
<td>New Chiral Polysaccharide Phases for Supercritical Fluid Chromatography WILLIAM FARRELL, Pfizer Inc., Matthew Prebycia, Christine Aurigemma, Jeffrey Elenas</td>
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<td>Chiral HILIC! Unique Enantioselectivity Between HILIC and RP Mode Separations with Poly saccharide-Based Chiral Selectors TIVADAR FARKAS, Phenomenex, Inc., Bezhan G Chanvkvetadze</td>
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<td>3:45</td>
<td>(2500-8)</td>
<td>Using Blends of Solvents and Additives to Enhance SFC Chiral Method Development Screening THOMAS SWANN, Waters Corporation, Kenneth Berthelette, Jacob Fairchild, Jason Hill</td>
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<td>4:05</td>
<td>(2500-9)</td>
<td>Chiral Method Development for Small Scale Preparative Chromatography J P PRESTON, Phenomenex</td>
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**Organized Contributed Sessions Session 2500**

**Chiral Method Development**
arranged by Tivadar Farkas, Phenomenex, Inc. and Bezhan G Chanvkvetadze, Tsillsi State University

Thursday Afternoon, Room W181c

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**Organized Contributed Sessions Session 2510**

**Modified Carbon-Based Materials for Sensors, Arrays, and Catalysis**
ar ranged by Matthew Ryan Lockett, University of North Carolina at Chapel Hill

Thursday Afternoon, Room W184a

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<td>(2510-1)</td>
<td>Applications of Diamond Electrodes in Electroanalytical and Spectroelectrochemistry GREG SWAN, Michigan State University</td>
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<tr>
<td>1:50</td>
<td>(2510-2)</td>
<td>Stimuli-Responsive Metal Organic Frameworks KATHERINE A MIRICA, Dartmouth College</td>
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<tr>
<td>2:10</td>
<td>(2510-3)</td>
<td>Fluorescent Nanodiamonds Containing Color Centers OLGA SHERIDEROVA, Adamas Nanotechnologies, Inc., Nicholas Nunn, Marco Torelli, Gary McGuire</td>
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<tr>
<td>2:30</td>
<td>(2510-4)</td>
<td>Chemically Modified Amorphous Carbon Electrodes: New Chemicals and Applications MATTHEW RYEN LOCKETT, University of North Carolina at Chapel Hill</td>
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<td>2:50</td>
<td>(2510-5)</td>
<td>Recess</td>
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<tr>
<td>3:05</td>
<td>(2510-6)</td>
<td>Model Carbon Materials with Activity in the Oxygen Reduction Reaction for Fundamental Studies and Applications PAULA E COLANT, Trinity College Dublin</td>
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PITCON 2017 TECHNICAL PROGRAM

2:10 (2540-3) Statistical Shape Analysis of Particle Profiles and Their Sets WIDE HENNING, Thomas Science
2:30 (2540-4) Think Outside the Cone DANIEL L SWEENEY, MathSpec, Inc.
2:50 Recess
3:05 (2540-5) Development of a Predictive Model from a Simulated Artificial Clostridium Fermentation Towards Real-Time Culture Monitoring THERESAH K ZIL, ARL
3:25 (2540-6) Gastrointestinal Speciation and Mineral Bioavailability: Dietary Management of Vegetable Based Meals NICOLÁS VEIGA, Facultad de Quimica, Universidad de la Republica, Julia Torres, Carlos Kremer
3:45 (2540-7) New Approach to Computerizing Instrumentation and Processes SCOTT DAVID ABBOTT, Phoenix, Ryan Taylor, David Faries

ORAL SESSIONS

Thursday Afternoon, Room W175c
1:30 (2550-1) Scaling the Aqueous Two-Phase Separation of Carbon Nanotubes Through Countercurrent Chromatography JASON STREET, National Institute of Standards and Technology (ISTE), Jeffrey Fagan, Ming Zheng
1:50 (2550-2) Plasmid-Driven Reduction of CO on Bimetallic Au/Cu Nanoparticle Surfaces JONGU YU, University of Illinois at Urbana-Champaign, Prashant K Jain
2:10 (2550-3) Static Multiple Light Scattering to Monitor Protein Aggregation and Pigments Dispersibility CHRISTELLE TISSEBAND, Formulation, Giovanni Brambilla, Gérard Menuier, Jim Munhall
2:30 (2550-4) Modular Assembly of Surface Functionalized Core-Shell Nanoparticles as Novel Targeted Image Contrast Agents of Ovarian Cancer and Breast Cancer Cells PRANASH D NALLATHAMBY, University of Notre Dame, Ryan K Roeder, Tracy Vargo-Gogola, Karen Cowden-Dahl, Alexander Bobbs, Claudia Osipo, Tyler E Curtis, Lisa Irimata
2:50 Recess
3:05 (2550-5) A Nanoparticle Enhanced SPRi Platform for Multiplexed Analysis of Internal Organ Injury Biomarkers in Complex Matrices KRISTY S MCKEATING, University of California Riverside, Samuel S Himan, Zhiguo Zhou, Quan Cheng
3:25 (2550-6) DNA-Based Nanosensors for Sensing Light-Evoked Acetylcholine Release in the Axonot Retina JENNIFER M MORALES, Northeastern University, James Monaghan, Heather A Clark
3:45 (2550-7) Nanotoxicity Study on a Single Cell Scale Using a Novel Micro-pH Probe QINGBO ROGER YANG, Missouri University of Science and Technology, Alexandre Cristea, Charles Roberts, Hae Xiao, Honglan Shi, Yinfu Ma

Thursday Afternoon, Room W176a
1:30 (2560-1) Comprehensive Two-Dimensional GC Modulator - Next Generation ALESSANDRO CASULLI, DAAH Instruments, Michelle Gasperin, Alberto Cetti, William W Carson, Conor Sullivan
1:50 (2560-2) Quantitative Analysis of Therapeutic Drugs in Blood/plasma Samples by Coated Blade Spray Ionization-Mass Spectrometry (CBS-MS) GERMAN AUGUSTO GOMEZ-RODR, University of Waterloo, Marcos Tason, Nathaly Reyes-Garcés, Ezel Booyse, Justin J Poole, Janusz Pawliszyn
2:10 (2560-3) High-Throughput Surface-Enhanced Raman Spectroscopy Immunoassay for the Detection of Category A Pathogens JENNIFER H GRANGER, University of Utah, China Lim, Marc D Porter, Jun Zhao, Qun Li, Sean Wang, Angelos I Madonna, Brian K Bennett
2:30 (2560-4) A New Home-Made Generation System for VOC and Semi-VOC Gas Standards in Air ANIRUJA BALDAN, VSL, Dita Hekens, Stefan Persijn, Hugo Emt, Janneke van Wijk
2:50 Recess
3:05 (2560-5) Novel High-Throughput Glass Surface Modification Method for Cell Attachment and Proliferation CHARLES ROBERTS, Missouri University of Science and Technology, Yang Song, Alexandre Cristea, Qingbo Roger Yang, Hae Xiao, Yinfu Ma
3:25 (2560-6) Evaluation of Different Extraction Methodologies for the Simultaneous Determination of Pesticides and Veterinary Drugs in Bovine Milk and Kidney MARIA LUCIA PAREJA, Universidad de la Republica, Rodrigo Souza, Agustina Muela, Maria Verónica Coria, Horacio Heinzen
4:05 (2560-8) Enhanced Fluidity Liquid Chromatography Performed with Alcohol/Water/CO, Gradients RAFFEAL BENNETT, The Ohio State University, Susan Olesik

ORAL SESSIONS Session 2570

Novel Applications of Surface Analysis/Imaging

Thursday Afternoon, Room W176b
1:30 (2570-1) Mass Spectrometry Imaging of the Human Pancreas Lipidome GRANT EDWARD BARRY, University of Illinois at Chicago, Daniel Cavazos, Igor Veryovkin, Manami Hara, Grame Bell, Luke Hanley
1:50 (2570-2) Fast Relaxation Imaging of Protein Structure, Stability, and Folding in Biomaterial Environments with Variable Crowding LYDIA KISLEY, University of Illinois at Urbana-Champaign
2:10 (2570-3) Single Molecule Detection of Plasmid DNA Adorption at Chemical Gradient Modified Electrode Surfaces under Potential Control JI LI, Kansas State University, Kapesh Ashraf, Jun Li, Maryanne M Collinson, Daniel Higgins
2:30 (2570-4) Analysis of Fluid Slip at the Fluid-Solid Interface: Wettling Velocity Dependence SAMANTHA L NANA, University of Iowa, Scott K Shaw
2:50 Recess
3:05 (2570-5) Calibration-Free SHG Image Analysis for Quantification of Tissue Crystallinity within Final Dosage Forms of ASOs CASEY J SMITH, Purdue University, Garth J Simpson, Janny Dinh, Paul D Schmitt
3:25 (2570-6) Evaluation of X-Ray Fluorescence for the Quantification of Elemental Impurities in a Continuous Processing Environment MINDY B FORST, EB Lilly and Company
3:45 (2570-7) Atomistic Dynamics of an Order-Disorder Phase Transition in CuSe Nanocrystals JAEYOUNG HEO, University of Illinois at Urbana-Champaign, Sungja Yu, Prashant K Jain
4:05 (2570-8) Urban Films as Active Environmental Interfaces SCOTT K SHAW, University of Iowa, Jacob S Grant

ORAL SESSIONS Session 2580

Surface Modification/Imaging Developments

Thursday Afternoon, Room W184d
1:30 (2580-1) Extended Ordering of Ionic Liquid Films at Solid-Liquid Interface RADHAK S ANAREDDY, University of Iowa, Robert Specett, Scott K Shaw
1:50 (2580-2) Structural Hierarchical Modified Micro Spherical Surfaces (SHIMMS) KATHERINE THEREN FLYNN, Southern Illinois University, Michael D Tustison, Rajesh P Balaraman, Kexin Jiao, Chuanhong Zhou, Xiaoh S Kirkwood, Punit Kohli
2:30 (2580-4) A New Approach for High Speed, High Lateral and Spectral Resolution in Raman Imaging UTE SCHMIDT, WITec GmbH, Joachim Koenen, Harald Fischer, Liu Wei, Thomas Dieing, Olaf Hollricher
2:50 Recess
3:05 (2580-5) The Role of Electrostatic Repletions in the Self-Assembly of Two Dimensional Photonic Crystal Arrays NATASHA JYN SMITH, University of Pittsburgh, Andrew E Coulombe, Sanford A Asher
4:05 (2580-8) RISe Microscopy: Correlative Raman and SEM Imaging UTE SCHMIDT, WITec GmbH, Joachim Koenen, Harald Fischer, Wei Liu, Philippe Ayasse, Thomas Dieing, Olaf Hollricher

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EXPOSITION HOURS (The Exposition Floor will not be available to conference until 9:00 AM on Monday, March 6, 2017)

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Japan Science & Technology Agency (JST) — www.jst.go.jp
Japan Scientific Instruments Association (JSIA) — www.sia-japan.com
Jeio Tech, Inc. — www.jeioTech.com
Jelight Company, Inc. — www.jelight.com
Jenco Instruments Inc. — www.jenco.com
JEOL USA, Inc — www.jeolusa.com
Jerome® — www.azic.com/computrac
JET (Guangzhou) Bio-Filtration Co., Ltd. — www.jetbiofil.com
Jiangsu Skyray Instrument Co., Ltd. — www.skyray-instrument.com
JM Science, Inc. — www.jmscience.com
J-Science Lab Co, Ltd. — www.j-sl.com
Julabo USA, Inc. — www.julabo.us

K
Kaiser Optical Systems, Inc. — www.kosi.com
KD Scientific — www.kdscientific.com
Kett US — www.kett.com
Kewaunee Scientific Corporation — www.kewaunee.com
KIN-TEK Analytical, Inc. — www.kin-tek.com
Kitagawa America — www.kitagawa-america.com
KNAUER Wissenschaftliche Geraete GmbH — www.knauer.net
KNF Neuberger, Inc. — www.knfusa.com
Koehler Instrument Company — www.koehlerinstrument.com

L
Lab Manager — www.labmanager.com
Lab Rat Gifts — www.labratgifts.com
Labconco Corporation — www.labconco.com
PITCON 2017 EXHIBITOR INFORMATION

Labnet International — www.labnetlink.com
Laboratory Products Association — www.lpnet.org
LabSmith, Inc. — www.labsmith.com
LabSource Inc. — www.labsource.com
LabTech Hong Kong Ltd. — www.labtechgroup.com
Lab Advantage Solutions, Inc. — www.labvantage.com
LabWare, Inc. — www.LabWare.com
LabWorks — www.labworks.com
LabWrench — www.labwrench.com
LabX — www.labx.com
LaMotte Company — www.lamotte.com
Lancer Sales USA Inc. — www.lancer.com
LCGC — www.chromatographyonline.com
LECO Corporation — www.leco.com
Lee Engineering — www.lab.engineeringbylee.com
Leman Instruments SAS — www.leman-instruments.com
Leoni Fiber Optics, Inc. — www.leoni-northamerica.com
Leybold Vacuum USA Inc. — www.oerlikon.com/leyboldvacuum
LG C Group — www.lggroup.com
LG C Standards — www.lgstandards.com
LH Technologies — www.LHTechno.com
Liquid Analytical Resource, LLC — www.larlc.com
Lovibond Tintometer — www.lovibond.com
Luxfer Gas Cylinders — www.luxfercylinders.com

M
Macherey-Nagel Inc. — www.mn-net.com
Macylab Instruments, Inc.
Magritek — www.magritek.com
Malvern Instruments — www.malvern.com
MANTECH INC. — www.mantech-inc.com
Masy BioService — www.masy.com
MATHESON — www.mathesongas.com
McCron e Group — www.mccron.com
Mebius Advanced Technology Ltd. — www.mebius-at.co.jp
Medilab Exports Consortium — www.medilabexports.com
MEDO USA Inc. — www.medousa.com
MEINHARD — www.meinhard.com
Membrane Solutions, LLC — www.membrane-solutions.com
Metrohm USA — www.metrohmusa.com
Micro Essential Laboratory — www.microessentiallab.com
Miele, Inc. — www.miele-pro.com

Miles Scientific (Analtech) — www.iChromatography.com
Milestone Inc. — www.milestonesci.com
MilliporeSigma — www.milliporeSigma.com
Minitubes — www.minitubes-usa.com
MKS Instruments — www.mksinst.com
MOCON — Baseline — www.baseline-mocan.com
Modulight — www.modulight.com
Molex - Polymicro Technologies — www.molex.com/polymicro
Möller Medical GmbH — www.moeller-medical.com
Motic Instruments, Inc. — www.motic.com
Mott Corporation — www.mottcorp.com
Mott Manufacturing — www.mott.ca
Movex Inc. — www.movexinc.com
MTDI Inc. — www.mtdi.co.kr/en
Multi-Lab LLC — www.multilab.net

N
Nabertherm, Inc. — www.nabertherm.com
Nalca rai Tesque, Inc. — www.nacalai.com
Nanalysis Corp. — www.nanalysis.com
NB Corporation of America — www.nbcorporation.com
Neptune Research Inc. — www.research.com
NETZSCH Instruments N.A. LLC — www.netzsch.com
Neutec Group Inc — www.neutecgroup.com
Nev's Ink, Inc. — www.nevsink.com
New England Photoconductor Corp. — www.nepcorp.com
Nextteq, LLC — www.nextteq.com
Nichiy o America, Inc. — www.nichiyoa.com
Ningbo Tianyu Optoelectronic Technology Co., LTD — www.yujie.com
NIST/ORM — www.nist.gov/srm
Norgren Kloehn — www.norgren.com/usa
Nor-Lake Scientific — www.norlakescientific.com
North Robotics — www.northrobotics.com
NRD StaticMaster — www.nrdstaticmaster.com
NuAire — www.nuaire.com

O
o2si smart solutions — www.o2si.com
Ocean Optics, Inc. — www.OceanOptics.com
OH AUS Corporation — www.ohaus.com
Olympus — www.olympus-ims.com
PITTCON 2017 EXHIBITOR INFORMATION

Omicon Scientific – www.omicronscientific.com
Omniprint Inc. – www.omniprintinc.com
OpenIOLabs Limited – www.openiolabs.com
Optimize Technologies, Inc. – www.optimizech.com
Oriental Chemicals & Lab. Supplies Ltd. – www.orientalab.com
Oxford University Press – www.global.oup.com

P

PS Analytical – www.psalys-research.com
PAI-NET (Professionals’ Network in Advanced Instrumentation Society) - www.painet.org
PANalytical – www.panaalytical.com
Parker Precision Fluidics Division – www.parker.com/precisionfluidics/products
Particle Metrix, Inc. – www.particle-metrix.com
Particle Sizing Systems – www.pssnicomp.com
Particle Technology Labs – www.partyechtech.com
Pendar Technologies – www.pendarinstruments.com
PerkinElmer – www.perkinelmer.com
Perma Pure LLC – www.permapure.com
Petrolab Company – A business of AMETEK Oil & Gas - www.petrolab.com
Pfeiffer Vacuum – www.pfeiffer-vacuum.com
PG LifeLink – www.pgllife.com
PharmaVision (Qingdao) Intelligent Technology LTD – www.pharmavision-ltd.com
Phenomenex – www.phenomenex.com
Phoenix Glass, LLC – www.pnglass.com
Photonics Media – www.photonics.com
PHOTONIS – www.photonis.com
Photron Pty Ltd – www.photronlamps.com
Pickering Laboratories, Inc. – www.pickeringlabs.com
PIKE Technologies – www.piketech.com
Pinnacle Technology, Inc. – www.pinctech.com
Pittcon Booth – www.pittcon.org
PLAS-LABS, INC. – www.plaslabs.com
Plastec Ventilation, Inc. – www.plastecvent.net
PolyLC Inc. – www.polylc.com
PolyScience – www.polyscience.com
Polytec, Inc. – www.analysts-online.com
Postnova Analytics – www.postnova.com
Poulten & Graf GmbH – www.poulten-graf.com
Precise Automation Inc – www.preciseautomation.com
Precision Glassblowing – www.precisionglassblowing.com
Premier Lab Supply, Inc. – www.premierlabsupply.com
Princeton Chromatography, Inc. – www.psci-hplc.com
Prism Analytical Technologies, Inc. – www.prismtech.com
PRO Scientific – www.proscientific.com
Promium LLC – www.promium.com
PSL Rheotek USA, Inc. – www.psl-rheotek.com
PurityPlus Gases – www.purityplusgases.com
Pyres Ltd – www.pyres.com

Q

Qmicro B.V. – www.qmicro.nl
Qorpak, A Division of Berlin Packaging – www.qorpak.com
Qualitest USA LC – www.worldoftest.com
Quality Environmental Containers – QEC – www.qecusa.com
Quantachrome Instruments – www.quantachrome.com
Quantum Analytics – www.LQA.com
Quartz Analytics – www.quartz-analytics.com
Questron Technologies Corp. – www.qtechcorp.com

R

Rajas Enterprises (India) – www.rajasscientific.com
Raptor Photonics – www.raptorphotonics.com
RBC Bioscience Corp. – www.rbcbioscience.com/
Real-Time Analyzers, Inc. – www.rta.biz
Refining Systems, Inc. – www.refiningsystems.com
Regis Technologies, Inc. – www.registech.com
Reichert Technologies, a unit of AMETEK – www.reichertai.com
Renishaw Inc – www.renishaw.com
RepExact, LLC – www.repexact.com
Restek Corporation – www.restek.com
RheoSense, Inc. – www.rheosense.com
Ricca Chemical Company – www.riccachemical.com
Rice Lake Weighing Systems – www.ricelake.com
Richland Glass – www.richlandglass.com
Rigaku Americas Corporation – www.rigaku.com
RKL eSolutions – www.ksolutions.com
Royal Society of Chemistry – www.rsc.org
RPMC Lasers, Inc. – www.rpmclasers.com
Rudolph Research Analytical – www.rudolphresearch.com

Please visit pittcon.org or the Pittcon2017 mobile app for complete details
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S

S.E. International, Inc. – www.seintl.com
S.E.O (Surface Electro Optics) – www.s-eo.com
Saint-Gobain – www.labpure.com
Samin Science CO., LTD. – www.saminsci.com
Scientific Device Laboratory – www.scientificdevice.com
Scientific Industries, Inc. – www.scientificindustries.com
Scientific Instrument Services – www.sisweb.com
Scientific Systems, Inc. – www.ssihplc.com
SCILOGEX, LLC – www.scilogex.com
Scinics Corporation – www.scinics.co.jp
Scienceix – www.scienceix.com
SEAL Analytical – www.seal-analytical.com
Search Solution Group – www.searchsolutiongroup.com
SEDERE – www.sedere.com
SelectScience Ltd – www.selectscience.net
Sensirion, Inc. – www.sensirion.com
Shamrock Glass Co., Inc. – www.shamrockglass.biz
Shanghai Biochemical Co., Ltd.
Shanghai Bluepard Instruments Co., Ltd. – www.bluepard.com
Shanghai Dravell Scientific Instrument Co., LTD
Shanghai Jiahui Scientific Instrument Co., Ltd. – www.jki.cc
Shanghai Mapada Instruments Co., Ltd. – www.mapada.com.cn
Shanghai Metash Instruments Co., Ltd. – www.metash.com
Shanghai Rong Tai Biochemical Engineering Co., Ltd – www.rt-bio.com
Shanghai Rusull Technology Co, Ltd. – www.rusull.com
Shanghai San-Xin Instrumentation, Inc. – www.shsan-xin.com
Shanghai Sunny Hengping Scientific Instrument Co., Ltd – www.hengping.com
Shanghai Yoke Instrument Co., Ltd. – www.yoke-fac.com
Shimadzu Scientific Instruments, Inc. – www.shimadzu.com
Shodex/Showa Denko America, Inc. – www.shodexhplc.com
Shoe Inn – www.shoelnmshoecovers.com
Sibata Scientific Technology Ltd. – www.sibata.co.jp
Siemens Industry, Inc. – www.usa.siemens.com/analyticalproducts
Sierra Instruments – www.sierrainstruments.com
SIKA USA Inc. – www.sika-usa.com
SilcoTek Corporation – www.silcotek.com
Silicycle Inc. – www.silicycle.com
Sirius Automation Inc – www.siriusautomation.com
Skalar Inc. – www.skalar.com

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Teledyne CETAC Technologies — www.cetac.com
Teledyne Leeman Labs — www.teledyneleemalanlabs.com
Teledyne Tekmar — www.teledynetekmar.com
Tempshield Cryo-Protection™ — www.cryogloves.com
Tescan USA Inc. — www.tescan-usa.com
Texas Scientific Products — www.txscientific.com
The Analytical Scientist Texere Publishing Ltd — www.theanalyticalscientist.com
The Lee Company — www.theleeco.com
The Scientist — www.the-scientist.com
Thermcraft, Inc. — www.thermcraftinc.com
Thermo Fisher Scientific — www.thermofisher.com
Thomas Scientific — www.thomassci.com
Tianjin Fuji Science & Technology Co., Ltd. — www.fujikj.com
TOFWERK — www.tofwerk.com
TOMI Environmental Solutions, Inc. / SteraMist — www.tomimist.com
Tosoh Bioscience, LLC — www.tosohbioscience.com
Trajan Scientific and Medical — www.trajanscimed.com
Trespa North America — www.trespa.com
TriForest Labware — www.triforest.com
Triton Systems, Inc. — www.tritonsystems.com
TSI Inc. — www.tsi.com
TWD Kemtech — www.twdtradewinds.com

U

UCT, LLC — www.unitedchem.com
UNICO/United Products & Instruments — www.unicosci.com
United Scientific Industries — www.sinteredglass.net
US Scientific — www.us-sci.com
UTC Aerospace Systems — www.sensorinc.com

V

V&P Scientific, Inc. — www.vp-scientific.com
VACCO Industries — www.vacco-etch.com
Vacuubrand Inc. — www.vacuubrand.com
Varil, Inc. — www.varil.com
VELP Scientific, Inc. — www.velp.com
VHG Labs, Part of LGC Standards — www.vhglabs.com
Viavi Solutions — www.viavisolutions.com/micronir
VICI Valco Instruments Co. Inc. — www.vici.com
Vitl Life Science Solutions — www.vitlproducts.com
Voltage Multipliers Inc. — www.voltagemultipliers.com
VSL Dutch Metrology Institute — www.vsl.nl
VUV Analytics, Inc. — www.vuvanalytics.com

W

W.S. Tyler — www.wstyro.com
Waring Products Division — www.waringproducts.com
Waters Corporation — www.waters.com
Welch Materials, Inc. — www.welchmat.com
WHEATON — www.wheaton.com
Wiley — www.wiley.com
Wilmad-LabGlass — SP Scienceware — www.wilmad-labglass.com
WITec Instruments Corp — www.witec-instruments.com
Workrite Uniform Company — www.workrite.com
Wuxi Nest Biotechnology Co., Ltd. — www.nestscientificusa.com
Wyatt Technology Corporation — www.wyatt.com

X

Xenosep Technologies — www.xenosep.com
Xontec, Inc. — www.xontek.com
XOS — www.xos.com
XRF Scientific Americas Inc. — www.xrfscientific.com
Xylem Analytics — www.xylemanalyitics.com

Y

Yancheng Hongda Medical Instrument Co., Ltd
Yancheng Huida Imp. & Exp. Co. Ltd — www.chinahuida.cn
YMC America, Inc. — www.ymcamera.com

Z

Zaber Technologies Inc. — www.zaber.com
ZaiPut Flow Technologies — www.zaiputc.com
Zarbeco, LLC — www.zarbeco.com
Zhejiang ALWSCI Technologies Co., Ltd. — chinasepta.com
Zhejiang Gongdong Medical Technology Co., Ltd — www.chinagongdong.com
Zhejiang Value Mechanical & Electrical Products Co., Ltd — www.valuevacuum.com
ZIRCAR Ceramics, Inc. — www.zircarceramics.com
ZIRCAR Refractory Composites, Inc. — www.zrci.com
Zolix Instruments Co., Ltd — www.zolix.com.cn
### LIVE DEMOS ON THE EXPO FLOOR

Participate in this once-a-year opportunity to interact with technical experts, get valuable "how-to" information and learn from the OQA session. These dynamic 20-minute live demos will be happening on the expo floor. Please check the website for the most recent information.

<table>
<thead>
<tr>
<th>MONDAY, MARCH 6</th>
<th>Company</th>
<th>Title</th>
<th>Start Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wiley</td>
<td>Working Smarter: Improving Throughput and Outcomes</td>
<td>10:30 AM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>Medlight, Inc.</td>
<td>Biomedical Illumination System</td>
<td>10:30 AM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Anton Paar USA</td>
<td>Particle Analysis - At the Touch of a Button</td>
<td>11:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>Ibarra Photonic</td>
<td>How to Select the Right Spectrometer</td>
<td>11:30 AM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Metomak USA</td>
<td>Accurate ID and Verification Through Better Sampling (OES)</td>
<td>12:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>HORIBA Instruments, Inc.</td>
<td>Laser Diffraction: Fast, Easy &amp; Precise</td>
<td>12:30 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Brookfield AMETEK</td>
<td>Viscosity Test vs. Texture Analysis: Which Method Works Best?</td>
<td>1:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>RheoSense, Inc.</td>
<td>Automatic, High-Throughput Viscometer, VROC ii</td>
<td>1:30 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>LTI Technologies</td>
<td>Innovations in Liquid Handling</td>
<td>2:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>Teledyne Leeman Labs</td>
<td>Theory, Method Development and Maintenance for the Teledyne Leeman LAMMA</td>
<td>2:30 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Teledyne CETAC Technologies</td>
<td>High Performance Liquid Chromatography for Atomic Spectroscopy</td>
<td>3:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>BioTools, Inc.</td>
<td>High Sensitivity &amp; Fast Results with RunText Handheld Raman!</td>
<td>3:30 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TUESDAY, MARCH 7</th>
<th>Company</th>
<th>Title</th>
<th>Start Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bel-Art - SP Scienceware</td>
<td>Lab Life with Bel &amp; Art</td>
<td>10:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>Artel</td>
<td>TBD</td>
<td>10:30 AM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Milestone, Inc.</td>
<td>How to Work: Gold Standard for Microscope Sample Prep for the ICP-MS or ICP-OES Lab</td>
<td>11:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>Beckman Coulter</td>
<td>Unveiling of Beckman Coulter’s LS 13 320</td>
<td>11:30 AM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>BBF Tech</td>
<td>i-Raman Pro: Portable Real-time Monitoring</td>
<td>12:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>HORIBA Instruments, Inc.</td>
<td>Dynamic Image Analysis: Size &amp; Shape</td>
<td>12:30 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>The MicroGroup</td>
<td>Microscopy-based Answers to Contamination Problems</td>
<td>1:00 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Teledyne Telmate</td>
<td>Purge and Trap Method Optimisation: Less is More</td>
<td>1:30 PM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>Teledyne CETAC Technologies</td>
<td>Microvolume Sample Handling in a Flexible Workstation</td>
<td>2:00 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Anton Paar USA</td>
<td>The Power of Three - The Footprint of One</td>
<td>2:30 PM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>Teledyne Leeman Labs</td>
<td>ICP-OES Interfering Element Correlation Made Easy</td>
<td>3:00 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Heuristics Corp.</td>
<td>TBD</td>
<td>3:30 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>SEAL Analytical</td>
<td>Live Demo of SEAL Analytical’s Next-Generation Chemical Analyzer - AQ300</td>
<td>4:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEDNESDAY, MARCH 8</th>
<th>Company</th>
<th>Title</th>
<th>Start Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEAL Analytical</td>
<td>Live Demo of Automated Metals Digestion and Sample Preparation – DEENA II</td>
<td>10:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>Shimadzu Scientific Instruments</td>
<td>EDX: Elemental Analysis Made Easy - Solving the Complex by Simplifying the Solution</td>
<td>10:30 AM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Elementar Americas</td>
<td>Elemental Analysis Through Combustion</td>
<td>11:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>Metomak USA</td>
<td>RAMAN</td>
<td>11:30 AM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Advanced Chemistry Development, Inc. (ACD/Labs)</td>
<td>Learn How to Better Manage Impurity Life Cycle Data in Pharmaceutical Development</td>
<td>12:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>Promin</td>
<td>Online Sample Submission - Eliminating Paper COCs</td>
<td>12:30 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Comptrac</td>
<td>Chemical Free Moisture Analysis for Lubricants Oils and Greases</td>
<td>1:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>PurifyPlus</td>
<td>Learn How to Monitor Your Gas Levels Remotely &amp; Never Run Out of Gas Supply</td>
<td>1:30 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Milestone, Inc.</td>
<td>Setting the Standard for Direct Mercury Analysis with Milestone DMA-40</td>
<td>2:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>Comptrac</td>
<td>Chemical Free Moisture Analysis for Plastics</td>
<td>2:30 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Malvern Instruments</td>
<td>Rapid, Accurate Particle Size Distributions for Dry and Wet Dispersions</td>
<td>3:30 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Daylight Solutions</td>
<td>Spares Real-time Infrared Chemical Imaging</td>
<td>4:00 PM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THURSDAY, MARCH 9</th>
<th>Company</th>
<th>Title</th>
<th>Start Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermo Fisher Scientific</td>
<td>Speed and Flexibility for Food and Water Testing with Thermo Scientific™ Gallery (TM) Automated Discrete Photometric Analyzers</td>
<td>10:30 AM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
<tr>
<td>Kett US</td>
<td>Remote Handheld Moisture Measurement</td>
<td>11:00 AM</td>
<td>Demo Area 1 - Booth 2931</td>
<td></td>
</tr>
<tr>
<td>Shimadzu Scientific Instruments</td>
<td>LIGHTNIR: Real-time Brain Imaging Using Near Infrared Spectroscopy</td>
<td>12:00 PM</td>
<td>Demo Area 2 - Booth 331</td>
<td></td>
</tr>
</tbody>
</table>
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