Abstracts

Chicago, Illinois, USA
2 - 6 March 2014

Volume 1 of 3
PITCON 2014 TECHNICAL PROGRAM

SUNDAY, MARCH 2, 2014
AFTERNOON

THE WALLACE H. COULTER PLENARY LECTURE

Session 10

The Wallace H. Coulter Plenary Lecture
Sunday Afternoon, Grand Ballroom 5100a
4:45 (10-1) Quantitative Proteomics in Biology, Chemistry and Medicine
STEVEN A CARR, Broad Institute of MIT and Harvard

AWARD

Session 20

Pittcon Heritage Award -
aranged by Sarah Reisert, Chemical Heritage Foundation
Sunday Afternoon, Grand Ballroom 5100a
4:30 Presentation of the 2014 Pittcon Heritage Award to Lynnwood W Swanson, FEI Company by Carsten Reinhardt, Chemical Heritage Foundation President

SYMPOSIUM

Session 30

ACS DAC: Analytical Advances in Clinical Diagnostics -
aranged by Barbara Bojko, University of Waterloo
Sunday Afternoon, Room 5401a
Barbara Bojko, University of Waterloo, Presiding
1:30 Introductory Remarks - Barbara Bojko
1:35 (30-1) Solid Phase Microextraction and Clinical Medicine - What is the Next Step?
MARCIN WARSZOWICZ, Toronto General Hospital/University of Toronto
2:10 (30-2) Population Based Omics
JONAS BERGQUIST, Uppsala University
2:45 (30-3) Searching for Metabolite Biomarkers of Neurological Disorders Using LC-MS Based Metabolomics
LIANG LI, University of Alberta
3:20 Recess
3:35 (30-4) Solid Phase Microextraction – Multipurpose Tool for Clinical Analysis
BARBARA BOJKO, University of Waterloo, Janusz Pawliszyn
4:10 Open Discussion

SYMPOSIUM

Session 40

ALMA: Attracting, Developing and Maintaining a Lab’s Greatest Asset, Its Staff
arranged by Dennis Swijter, IFF R&D
Sunday Afternoon, Room 5401bc
Dennis Swijter, IFF R&D, Presiding
1:30 Introductory Remarks - Dennis Swijter
1:35 (40-1) Recruiting and Onboarding New Staff
SCOTT HANTON, Intertek
2:10 (40-2) Staffing Considerations for the Unique Career Path of Core Laboratory Support
ERIC MARTIN, Harvard Center for Nanoscale Systems
2:45 (40-3) Development and Application of Competencies via Functional Teams
JAMES J SCOBBO, SABIC
3:20 Recess
3:35 (40-4) High-Performing and Happy: Team Development in a Research and Development Analytical Testing Lab
STEPHANIE A MABRY, Atton Chemical Corporation
4:10 (40-5) Attracting, Developing and Maintaining a Lab’s Greatest Asset, Its Staff – A Public Utility Perspective
NIRMELA ARSEM, EBMUD

SYMPOSIUM

Session 50

Controlled Nanopores for Chemical Separations and Sensing
arranged by Takashi Ito, Kansas State University and Lane A Baker, Indiana University
Sunday Afternoon, Room 5401d
Takashi Ito, Kansas State University, Presiding
1:30 Introductory Remarks - Takashi Ito and Lane A Baker
1:35 (50-1) Cylindrical Domain Alignment and Molecular Diffusion in Block Copolymer Films Studied with Single Molecule Tracking
TAKASHI ITO, Kansas State University, Khanh-Hoa Tran-Ba, Daniel A Higgins
2:10 (50-2) Electroanalytical Opportunities of Nanoscale Liquid-Liquid Interfaces Formed in Nanopores
DAMIEN ARROGAN, Curtin University
2:45 (50-3) Block Polymer Routes to Nanoporous Materials
MAR C HILLMYER, University of Minnesota
3:20 Recess
3:35 (50-4) Separation of Ions Using Electrical Potentials in Nanoporous Membranes
MERLIN BRUENING, Michigan State University; Jason Armstrong, Yaroshchuk Andry
4:10 (50-5) Nanoscale Squeezing in Tunable Nanochannels Linearize DNA and Chromatin
SHUCHI TAKIRIIMA, University of Michigan

SYMPOSIUM

Session 60

NSF Centers for Advancing Instrument Development and Analytical Research
arranged by Alan G Marshall, Florida State University and Zeve Rosenzweig, University of Maryland Baltimore County
Sunday Afternoon, Room 5402a
Zeev Rosenzweig, University of Maryland Baltimore County, Presiding
1:30 Introductory Remarks - Alan G Marshall and Zeev Rosenzweig
1:35 (60-1) Advancing Chemical Measurement and Imaging in Centers
ZEEV ROSENZWEIG, University of Maryland Baltimore County
2:10 (60-2) A Center Approach for Creating and Studying Real World Chemical Complexity in the Laboratory in the NSF Center for Aerosol Impacts on Climate and the Environment
KIMBERLY A PRATHER, University of California, San Diego, Vicki Grassian
2:45 (60-3) Chemistry at the Space-Time Limit
ERIC O POTMA, University of California, Irvine
3:20 Recess
3:35 (60-4) Analytical Chemistry at the Center for Physics of Living Cells
TAEKJIP HA, University of Illinois at Urbana-Champaign
4:10 (60-5) NSF National High Field Fourier Transform Ion Cyclotron Resonance User Facility: Instrumentation, Science Drivers, Structure, and Operation
ALAN G MARSHALL, Florida State University, Greg T Blakney, Nathan K Kaiser, Amy M McKenna, Ryan P Rodgers, Chad R Weinbrord, Nicolas L Young

SYMPOSIUM

Session 70

Quantitative Microfluidic Molecular and Cellular Analysis Towards Systems Biology
arranged by Yong Zeng and Susan Lunte, University of Kansas
Sunday Afternoon, Room 5402b
Yong Zeng, University of Kansas, Presiding
1:30 Introductory Remarks - Yong Zeng and Susan Lunte
1:35 (70-1) Arrayed Nanopore Cell Stimulation and Analysis
DI NO DI CARLO, University of California, Los Angeles
2:10 (70-2) Nanowell-Based Technology for Single-Cell Analysis
CHRISTOPHER LOVE, Koch Institute at MIT
2:45 (70-3) On-Chip Diagnostic System for Circulating Tumor Cells
TAKEHIKO LEE, Massachusetts General Hospital, Jae-hoon Chung, Huilin Shao, Ralph Weissleder
3:20 Recess
3:35 (70-4) Single Molecule Protein and Nucleic Acid Assays for Single Cell Analysis
HAKHO LEE, Massachusetts General Hospital, Jae-hoon Chung, Huilin Shao, Ralph Weissleder
4:10 (70-5) Quantitative Biomedical Analyses Enabled by Microfluidic Molecular
BIOTECHNOLOGY
YONG ZENG, University of Kansas

Pitcon is pleased to offer webcasts of selected symposia and award sessions. Look for the icon to identify the webcasted sessions.
**PITTCON 2014 TECHNICAL PROGRAM**

**SYMPOSIUM Session 80**

*The Science and Impact of Transformative Technologies on Forensic Science*
arranged by David R Walt, Tufts University and Christian Hassell, FBI Laboratory

Sunday Afternoon, Room S404bc

- **1:30** Introductory Remarks - David R Walt and Christian Hassell
- **1:35** Balancing Analytical Rigor and Expediency in Forensics - CHRISTIAN HASSELL, FBI Laboratory
- **2:10** Ambient Ionization and Miniature Mass Spectrometers in Forensic Science - ROBERT G CODIS, Purdue University; Ryan Espy, Pu Wei, Christopher J Pulliam, Zheng Ouyang
- **2:45** Advancements in Explosives Detection Technology - ERIC HOUSER, Department of Homeland Security
- **3:20** Recess
- **3:35** Science and Impact of Illumina Technology on Forensic Genomics - CYDNE HOLT, Illumina, Joseph Varyan, Kathryn Stephens
- **4:10** Statistical Aspects of the Forensic Identification Source Problem - CHRISTOPHER P SAUNDERS, South Dakota State University, JoAnn Buscaglia, Joshua R Dettman

**WORKSHOPS Session 90**

*CACA: How to be Successful in Your Career*
arranged by Xiang Zhang, University of Louisville and Michael Ye, Supelco/Sigma-Aldrich

Sunday Afternoon, Room S404a

- **1:30** Introductory Remarks - Michael Ye
- **1:35** How Pittcon Helped Me to Build Up My Career - PERRY G WANG, US FDA
- **2:05** Working in Research and Development at a Global Company - XIAODONG LIU, Thermo Fisher Scientific
- **2:35** Recess
- **2:50** How to Turn Your Dreams into Reality – A Personal Experience - TAO JIANG, Mallinckrodt Pharmaceuticals
- **3:20** How to Face Challenges at Different Stages of Our Career – Lessons Learned - VAN-BO YANG, BioPharmaDev, Inc.
- **3:50** Open Discussion

**ORGANIZED CONTRIBUTED SESSIONS Session 100**

*Infrared Spectroscopy (Well Beyond) the Diffraction Limit*
arranged by Ellen V Miseo, Analytical Answers, Inc. and Peter Griffiths, University of Idaho

Sunday Afternoon, Room S404d

- **1:30** Expanding Applications for AFM-Based Infrared Nanospectroscopy - CRAIG B PRATER, Analys Instruments, Kevin Kjoller, Qichi Hu, Michael Lo, Curtis Marcott
- **1:50** Introducing nano-FTIR – Imaging and Spectroscopy at 10nm Spatial Resolution - ANDREAS HUBER, Nexspec GmbH
- **2:10** High-Resolution Mid-Infrared Micro-Spectroscopic Imaging with a Broadly Tunable Quantum Cascade Laser - ROHIT BHARGAVA, University of Illinois Urbana-Champaign, Kevin Yeh
- **2:30** Characterization of Materials Using AFM-Based Nanomechanical, Nanothermal, and Nanoscale Infrared Spectroscopy and Imaging - CURTIS MARCOTT, Light Light Solutions, Michael Lo, Qichi Hu, Eoghan Dillon, Kevin Kjoller
- **2:50** Recess
- **3:05** Surface-Enhanced Photothermal Induced Resonance (SE-PTIR): A New Method for Imaging Near Field Hot Spots and Dark Plasmonic Modes - ANDREA CENTRONE, National Institute of Standards and Technology
- **3:25** Infrared Nanoimaging and Nano-FTIR Spectroscopy - From Nanoscale Chemical Identification of Polymers to Real-Space Imaging of Graphene Plasmons - RAINER HILLENBRAND, CIC nanoGUNE
- **3:45** Structure and Morphology in Triaxial Electrospun Fibers - BRUCE CHASE, University of Delaware, John Rabolt, Wenwen Liu
- **4:05** Probing Low Frequency Vibrational Excitations and Their Effect on Electron and Proton Transport in Proteins - PAUL M CHAMPION, Northeastern University

**ORGANIZED CONTRIBUTED SESSIONS Session 110**

*Orthogonal and Risk-Based Sensing Systems for Homeland Security Applications -*
arranged by Samar K Guharay, MITRE and Eric Houser, Department of Homeland Security Science & Technology

Sunday Afternoon, Room S405a

- **1:30** Task-Specific Information and Compression Imaging - MARK NEIFELD, University of Arizona
- **1:50** Adaptive Management of Multi-Modality Screening - LAWRENCE CARIN, Duke University
- **2:10** Data Fusion Methodologies for Information Exploitation and Situational Awareness - PRAMOD K VARSHNEY, Syracuse University
- **2:30** Risk-Aware Model-Based Planning and Execution - DAVID CWANG, Massachusetts Institute of Technology (MIT), Masahiro Ono, Brian C Williams
- **2:50** Recess
- **3:05** Orthogonal Sensing Framework - SAMAR K GUHARAY, MITRE
- **3:25** Measurement Bounds for Sparse Signal Ensembles via Graphical Models - MARCO F DUARTE, University of Massachusetts Amherst
- **3:45** Automatic Detection of Unknown Explosive Materials - RICHARD ROBEHR BILJANI, Quantus

**ORGANIZED CONTRIBUTED SESSIONS Session 120**

*Specialty Gas*
arranged by Tracey Jacksier, Air Liquide and Jorge Perez, CIC photonics, Inc.

Sunday Afternoon, Room S405b

- **1:30** Analysis of HF Impurities: Further Analysis Impurities - JORGE E PEREZ, CIC photonics, Inc., David Schafer, Richard T Meyer
- **1:50** Validation Strategy Accuracy Profile for Interferences Analysis in Low Levels - ANGELIQUE GUILLOTEAU, Air Liquide
- **2:10** A New Atmospheric Sulfur Hexafluoride Gas Standard Suite - JENNIFER CARNEY, NIST, George Rhoderick
- **2:30** Setting the Foundation for Zero Gas Standards - ANNARITA BALDAN, VSL B.V., Stefan Persijn, Gerard Nieuwenkamp, Jeroen van Wijk
- **2:50** Recess
- **3:05** Direct Sensing of Trace Oxygen Using Continuous-Wave Cavity Ring-Down Spectroscopy - FLORIAN ADLER, Tiger Optics, LLC
- **3:45** Latest Advances in Gas-Phase Raman Analyzers and Applications - IAN R LEWIS, Kaiser Optical Systems, Inc., Ron Fairchild, Joe Slater, David J Strachan, Jim Tedesco, Peter van Vuuren, Pat Wiegand
- **4:05** UHP Ammonia Analysis - ALEX LOWE, Peak Laboratories, LLC
**ORAL SESSIONS**  
**Session 180**

**Fluorescence/Luminescence: Bio and Nano**  

**Sunday Afternoon, Room 5302b**

Gary L Emmert, University of Memphis, Presiding

1:30  (180-1) Investigating Molecule-Surface Interactions with Stimulated Emission Depletion (STED)-Based Microscopy  
**FANG CHEN, North Carolina State University, Bhanu Hegde, Gufeng Wang**

1:50  (180-2) Rhodamine B Conjugated Core–Shell Nanocomposite Cell Labels  
**MEICONG DONG, Texas Tech University, Dimitri Pappas, Yu Tian**

2:10  (180-3) Characterization of Solute Distribution Following Drug Administration by Iontophoresis  
**DOUGLAS C KIRKPATRICK, University of North Carolina, Martin Edwards, R Mark Wightman**

2:30  (180-4) Tracking Surfactant-Assisted Wetting of Hydrophobic Nanoporous Silica with Confocal Fluorescence Imaging  
**RACHEL L SEurer, University of Iowa**

2:50  Recess

3:05  (180-5) Ensemble and Single Molecule Fluorescence Studies of Molecular Diffusion in One-Dimensional Micromamis of Cylinder-Forming Polystyrene-Poly(ethylene oxide) Di-Block Copolymer Films  
**KHANH-HOA TRAN-BA, Kansas State University, Daniel A Higgins, Takashi Itto**

3:25  (180-6) High Signal Gain of Intracellular mRNA Imaging using DNA Circuit Amplifier  
**CUICHEN WU, University of Florida, Da Han, Weihong Tan**

3:45  (180-7) Luminescence Quenching by Photoinduced Charge Transfer between Metal Complexes in Peptide Nucleic Acids  
**XING YIK, University of Pittsburgh, Jing Kong, Arie De Leon, Yongle Li, Emil Wierzbinski, Catalina Achim, David Waldack**

4:05  (180-8) In Situ Monitoring of CdSe/ZnS Quantum Dot Growth During Microwave Synthesis  
**ANDREW ZANE, The Ohio State University, Prabir Dutta, James Waldman, Debbie Knight, Christie McCracken**

**ORAL SESSIONS**  
**Session 190**

**Gas Chromatography: Analytical Methods, Theoretical Considerations**  

**Sunday Afternoon, Room 5303a**

William Barber, Agilent Technologies, Presiding

1:30  (190-1) Uncertainty of Blood Alcohol Concentration (BAC) Results as Related to Instrumental Conditions: Optimization and Robustness of BAC Analysis Parameters  
**RALEIGH BOSWELL, The Pennsylvania State University, Frank Dorman**

1:50  (190-2) Development of a Modernized Capillary Gas Chromatography Assay Test for Fatty Alcohol Monographs in the National Formulary and Food Chemicals Codex  
**CLAIRE N CHISOLM, US Pharmacopeia, Eduardo Lim, Fatkhulla K Tadjimukhamedov, Karen V Gilbert, Natalia Koznetsova**

2:10  (190-3) Comparison of Headspace Sampling and Polymer Precipitation for Determination of Residual Solvents in Polymer Films  
**RACHA SEEMAMAHAHINOP, Brewer Science Inc., Darin Collins, Thomas Brown**

2:30  (190-4) Measurement of Gaseous Impurities in Hydrogen Fuel  
**RANDALL BRAMSTON-COOK, Lotus Consulting**

2:50  Recess

3:05  (190-5) Partition Coefficient in Static Headspace Single Drop Micro Extraction of Aromatic Hydrocarbons from Water using Ionic Liquids  
**RAMKUMAR DHANDAPANI, Seton Hall University, Nicholas H Snow, Chopra Shilpi**

3:25  (190-6) Thermodynamic Modeling of Gas Chromatographic Retention Times – A Round Robin Trial  
**JAMES J HARYNUK, University of Alberta, Teague M McGintie, Heshmatollah Ebrahiminiajafari, Alessandro Casilli, Jean-Marie D Dimandja, Frank Dorman, Philip J Marriott, H Dennis Tolley, Milton L Lee**

3:45  (190-7) A Novel Wall Coated Open Tubular Column for Analysis of Sulfur Compounds Using SCD  
**GARY LEE, Agilent Technologies, Yun Zou, Allen K Vickers, Kenneth G Lynam**

4:05  (190-8) Enhancing Separation Performance of Microfabricated Gas Chromatography Using Temperature Gradients  
**ANZI WANG, Brigham Young University, Aaron R Hawkins, B Dennis Tolley, Milton L Lee**

**PITCON 2014 TECHNICAL PROGRAM**

**ORAL SESSIONS**  
**Session 200**

**Methods for Metabolomics, Lipidomics, and Proteomics**  

**Sunday Afternoon, Room 5303b**

Rabib E Jabbour, Private Citizen, Presiding

1:30  (200-1) Lipidomic Profiling Using Sub-2µm Particle C2D Based Supercritical Chromatography Mass Spectrometry  
**GIORGOS ISAC, Waters Corporation, Michael D Jones, James Langridge**

1:50  (200-2) Comprehensive Qualitative and Quantitative Proteomics Analysis of Single Xenopus Laevis Embryos at Early Stages of Development  
**LIANQIANG SUN, University of Notre Dame, Michelle M Berks, Matthew M Champion, Paul W Huber, Guijie Zhu, Norman J Dovichi**

2:10  (200-3) Untargeted Analysis of Human Urine Using Fast Online Comprehensive Two Dimensional Liquid Chromatography (LC x LC)  
**BRIAN B BARNES, University of Minnesota, Peter W Carr**

2:30  (200-4) In Vivo Solid-Phase Microextraction Sampling for Chemical Exploration of Underwater Ecosystems  
**VINCENT BESSEONNEAU, University of Waterloo, Barbara Boje, Janusz Pawliszyn**

2:50  Recess

3:05  (200-5) Feature Selection for Chemometric Treatment of Metabolomics Data – A Comparative Study  
**JAMES J HARYNUK, University of Alberta, A Paulina de la Mata, Nikolai A Sinkov, Aiko Barsch, Ana Dominguez-Vidal**

**ROBERT S PLUMB, Imperial College London**

**ORAL SESSIONS**  
**Session 210**

**Novel Teaching Strategies for Analytical Chemistry (Half Session)**  

**Sunday Afternoon, Room 5304a**

Susan Zawacky, Sewickley Academy, Presiding

1:30  (210-1) The Use of Online Response Systems for Content Review in Analytical Chemistry  
**JAMES P GRINIAS, University of North Carolina at Chapel Hill, James W Jorgenson**

1:50  (210-2) Pittcon as a Curriculum  
**BILL ANDERSON, Hampden Sydney College, Herbert J Sipe**

2:10  (210-3) Analytical Method Transfer (AMT): Development of Laboratory Experiments and Related POGIL Activities  
**KIMBERLY CHICHESTER, St. John Fisher College, Irene Kimaru, Kristina Lantzy, Fang Zhao, Marta Koether**

2:30  (210-4) Application of Recent Developments in Commercial HPLC Technology to Teach Liquid Chromatography in Large-Enrollment Undergraduate Laboratories  
**CHRISTOPHER P PALMER, University of Montana, Adams R Earle, Holly Thompson**

**ORAL SESSIONS**  
**Session 220**

**Nuclear Power Plant Chemical Analysis (Half Session)**  

**Sunday Afternoon, Room 5304a**

Garry J Lynch, Bechtel Marine Propulsion Corporation, Presiding

3:05  (220-1) Determination of Polyacrylic Acid and Trace Anions in Nuclear Power Plant Pressurized Water Reactors  
**CHEN YONGJING, Thermo Fisher Scientific, Brian De Borba, Jeffrey Rohrer**

3:25  (220-2) Graded Spectroscopic Approaches to Monitoring Plutonium Reprocessing  
**ROBERT LASCOLA, Savannah River National Laboratory, Edward A Kyser, Patrick E O’Rourke**

3:45  (220-3) Quantification of Radioactive Strontium-90 Using ICP-QMS with On-Line Serial Separation and its Application to Radioactive Contamination Survey  
**YOSHIKAGE TAKAGAI, Fukushima University, Makoto Furukawa, Kameo Yutaka, Kiwamu Tanaka, Katz Suzuki**

4:05  (220-4) Capillary Ion Chromatographic Determination of Trace-Level Anions in Nuclear Power Plant Waters  
**YUN LUI, Thermo Fisher Scientific, Victor Barreto, Christopher Pohl**
### PITTCON 2014 TECHNICAL PROGRAM

**MONDAY, MARCH 3, 2014**

**MORNING**

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<tr>
<th>Session 290</th>
<th>AWARDS</th>
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<tbody>
<tr>
<td><strong>Chromatography Forum of the Delaware Valley Dal Nogare Award</strong></td>
<td>Presentation of the 2014 Chromatography Forum of the Delaware Valley Dal Nogare Award to Mary J Wirth, Purdue University, by Mary Ellen McNally, El Du Pont de Nemours and Company</td>
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**Monday Morning, Room S401a**

- Mary Ellen McNally, El Du Pont de Nemours and Company, Presiding

- **8:30** Introductory Remarks - Mary Ellen McNally

- **8:35** Monoclonal Antibody Separations Using Submicrometer Silica Particles
  - MARY J WIRTH, Purdue University

- **8:40** (290-1) Challenging GC-MS Applications Achieved with Cold EI
  - NORMAN SCHMIDT, Tabor College, Zachary Willems

- **9:15** (290-2) Packing Capillary LC Columns with Sub-2 Micron Particles
  - JAMES W JORGENSEN, University of North Carolina at Chapel Hill, Justin Godinho, Edward Franklin, James Ginnis

- **9:50** (290-3) Pack-Count-Low-Resolution Spectroscopy Reveals Molecular-Scale Detail in Ion-Exchange Protein Separations
  - CHRISTY LANDES, Rice University

- **10:25** Recess

- **10:40** (290-4) The Changing Relationship Between the Column and the Instrument in Modern HPLC/UHPLC
  - RONALD E MAJORS, Advanstar/LCGC

- **11:15** (290-5) Fluorescence Imaging of Single-Molecule Retention Trajectories in Reversed-Phase Chromatographic Particles
  - JOEL M HARRIS, University of Utah, Justin T Cooper, Eric M Peterson

**Session 300**

**Pittsburgh Conference Achievement Award**

- **8:30** Introductory Remarks - Joseph Grabowski

- **8:35** Presentation of the 2014 Pittsburgh Conference Achievement Award to Benjamin A Garcia, University of Pennsylvania School of Medicine, by Heather L Izwa, Chair, Society for Analytical Chemists of Pittsburgh

- **8:40** (300-1) In Vivo Histone Post-Translational Modification Dynamics
  - BENJAMIN A GARCA, University of Pennsylvania School of Medicine

- **9:15** (300-2) Phosphoproteomics and Cancer
  - SCOTT A GERBER, Geisel School of Medicine at Dartmouth University

- **9:50** (300-3) Characterization of Proteins by Ultraviolet Photodissociation Mass Spectrometry
  - JENNY BRODBELT, University of Texas at Austin

- **10:25** Recess

- **10:40** (300-4) Biomimetic Reagents Empower Mass Spectrometric Glycan and Glycoprotein Structure Determination
  - JAMES L THOMAS, California Institute of Technology

- **11:15** (300-5) Surface Induced Dissociation/Ion Mobility for Characterization of Protein/Protein and Protein/RNS (DNA) Complexes
  - VICKY H WYSOCKI, Ohio State University
## PITTCON 2014 TECHNICAL PROGRAM

### SYMPOSIUM \  
**Accurate Mass Analysis of Environmental Compounds with Both LC and GC/Q-TOF-MS**
- **arranged by Earl Michael Thurman and Imma Ferrer, University of Colorado**
- **Monday Morning, Room 5402a**
- **Earl Michael Thurman, University of Colorado, Presiding**

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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>8:30</td>
<td>310-1</td>
<td>Introductory Remarks - Earl Michael Thurman and Imma Ferrer</td>
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<tr>
<td>8:35</td>
<td>310-2</td>
<td>Overview of LC/MS Techniques and Mass Spectral Fragmentation Applied to Environmental Analysis</td>
<td>MICHAEL HOLCAPEK, University of Pardubice, Robert Jirasko, Miroslav Lisa</td>
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<td>9:10</td>
<td>310-3</td>
<td>Application of TOF Mass Spectrometry and Sample Profiling Techniques to Water Analysis</td>
<td>SYLVAIN MEREL, University of Arizona, Tarun Anamol, Shane Snyder</td>
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<td>9:45</td>
<td>310-4</td>
<td>High Resolution Mass Spectrometry (LC/Q-TOF-MS) for the Identification of Contaminants in Water</td>
<td>IMMA FERRER, University of Colorado</td>
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<td>10:35</td>
<td>310-5</td>
<td>Accurate Mass Tools to Identify Hydroxyl Radical Products of UV Oxidation of Pharmaceuticals</td>
<td>EARL MICHAEL THURMAN, University of Colorado</td>
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### SYMPOSIUM \  
**Applied Nonlinear Spectroscopy**
- **arranged by Megan C Thielges, Indiana University**
- **Monday Morning, Room 5402b**

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<td>320-1</td>
<td>Introductory Remarks - Megan C Thielges</td>
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<td>8:35</td>
<td>320-2</td>
<td>Liquid Crystal Isotropic Phase Dynamics - 2D IR Vibrational Echo Experiments on Natural Abundance 13CN and Extended Lifetime Probes</td>
<td>MICHAEL D FAYER, Stanford University, Kathleen F Sokolowsky</td>
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<td>9:10</td>
<td>320-3</td>
<td>Supercontinuum Multi-Dimensional Spectroscopy ELAD HAREL, Northwestern University</td>
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<td>10:35</td>
<td>320-5</td>
<td>Two-Dimensional Infrared Spectroscopy of DNA ANDREI TONKINAKOFF, University of Chicago</td>
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<td>11:10</td>
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<td>Characterization of Protein Dynamics and Conformational Heterogeneity with Two-Dimensional Infrared Spectroscopy</td>
<td>MEGAN C THIELGES, Indiana University</td>
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### SYMPOSIUM \  
**Molecular Analysis of Human Disease**
- **arranged by Michael A Johnson, University of Kansas**
- **Monday Morning, Room 5404a**

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<td>Introductory Remarks - Michael A Johnson</td>
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<td>8:35</td>
<td>330-2</td>
<td>Biomarker Identification for the Tracking of Infectious Disease States</td>
<td>KIM D JANDA, The Scripps Research Institute</td>
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<td>9:10</td>
<td>330-3</td>
<td>Single Molecule Arrays for Early Disease Detection</td>
<td>DAVID R WALT, Tufts University, Danlu Wu, Stephanie M Schubert, Shazia Baig, Sooyoung Hwang, Trinh Dinh</td>
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<td>9:45</td>
<td>330-4</td>
<td>Microchip Electrophoresis of Serum N-Glycans for Cancer Profiling</td>
<td>STEPHEN C JACOBSON, Indiana University, Indranil Mitra, Christa M Snyder, William R Alley, Milos V Novotny</td>
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<td>10:35</td>
<td>330-5</td>
<td>Circulating Tumor Cell Sub-Populations: Tools for Quantitative Expression Analysis of Rare Cells</td>
<td>STEVEN A SOFER, University of North Carolina</td>
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<td>11:10</td>
<td></td>
<td>Altered Mechanisms of Dopamine Regulation in Huntington's Disease</td>
<td>MICHAEL A JOHNSON, University of Kansas, Sam Kaplan, Rachel Gehininger, Andrea N Ortiz, Ryan Limbocker</td>
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### SYMPOSIUM \  
**New Wave of Gas Chromatography**
- **arranged by Milton L Lee, Brigham Young University**
- **Monday Morning, Room 5404bc**

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<th>Time</th>
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<tr>
<td>8:30</td>
<td>340-1</td>
<td>Introductory Remarks - Milton L Lee</td>
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<tr>
<td>8:35</td>
<td>340-2</td>
<td>Changing Faces of Gas Chromatography</td>
<td>MILTON L LEE, Brigham Young University</td>
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<tr>
<td>9:10</td>
<td>340-3</td>
<td>Resistively Heated Gas Chromatography</td>
<td>STANLEY D STEARNS, Valco Instruments, Huamin C</td>
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<tr>
<td>9:45</td>
<td>340-4</td>
<td>Advances in Instrumentation and Data Analysis Methods to Improve Peak Capacity in GC – TOFMS and GC x GC – TOFMS ROBERT E SYNOVEC, University of Washington</td>
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<td>10:20</td>
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<td>Recess</td>
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<td>10:35</td>
<td>340-5</td>
<td>Microfabricated Comprehensive Two-Dimensional Gas Chromatograph μGC x μGC EDWARD T ZELLERS, University of Michigan</td>
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<tr>
<td>11:10</td>
<td></td>
<td>Properites of Thermal Gradient GC Separations</td>
<td>H DENNIS TOLLEY, Brigham Young University, Samuel E Tolley, Anzi Wang, Matthew C Asplund, Milton L Lee</td>
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### SYMPOSIUM \  
**SAS: Mass Cytometry: An In-Depth View of Cell Heterogeneity and Signaling**
- **arranged by Scott D Tanner, DVS Sciences Inc**
- **Monday Morning, Room 5404d**

<table>
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<th>Time</th>
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<tr>
<td>8:30</td>
<td>350-1</td>
<td>Introductory Remarks - Scott D Tanner</td>
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<tr>
<td>8:35</td>
<td>350-2</td>
<td>Expanding the Capabilities of Mass Cytometry SCOTT D TANNER, DVS Sciences Inc, Alexander Loboda, Bandura R Dmitry, Vladimir I Buranov, Olga I Omatksky</td>
<td></td>
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<tr>
<td>9:10</td>
<td>350-3</td>
<td>Mass Cytometry Reveals Cellular Heterogeneity Within and Across Autoimmune Diseases ALICE LONG, Bennamya Research Institute, Ian Frank, Jane Buckner</td>
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<td>9:45</td>
<td>350-4</td>
<td>Revealing the Cellular Organization of Human Cancers with Mass Cytometry ERIN F SIMONDS, University of California, San Francisco</td>
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<td>Recess</td>
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<tr>
<td>10:35</td>
<td>350-5</td>
<td>Highly Multiplexed Tissue Imaging of Tumors and Their Microenvironment by Mass Cytometry CHARLOTTE GIESSEN, University of Zurich, Hao Wang, Zsuzsanna Varga, Bodo Hattendorf, Peter Wild, Detlef Gunther, Bernd Bodenmiller</td>
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### SYMPOSIUM \  
**SEAC: Electroanalysis in Unusual and Extreme Environments**
- **arranged by Shelley Minteer, University of Utah**
- **Monday Morning, Room 5405a**

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<th>Time</th>
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<tr>
<td>8:30</td>
<td>360-1</td>
<td>Introductory Remarks - Shelley Minteer</td>
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<tr>
<td>8:35</td>
<td>360-2</td>
<td>Microelectrode Detection of Cholesterol Efflux from the Human Buccal Mucosa JIM BURGESS, Case Western Reserve University, Xiaochun Yu</td>
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<tr>
<td>9:10</td>
<td>360-3</td>
<td>In-Situ Electrochemical Analysis of Martian Soil: Implications for Mars and Earth SAM KOUNAVES, Tufts University</td>
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<tr>
<td>9:45</td>
<td>360-4</td>
<td>Bioelectrocatalysis for Electroanalysis in Aqueous Waste Streams SHELLEY MINTER, University of Utah</td>
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<td>10:20</td>
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<td>Recess</td>
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<tr>
<td>10:35</td>
<td>360-5</td>
<td>Fast-Metal Voltammetry for Real-Time Environmental Trace Metal Analysis PARASTOO HASHemi, Wayne State University, Shawn McElmurry, Yuanyuan Yang, Pavithra Pathiratna</td>
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<tr>
<td>11:10</td>
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<td>Electrochemical Readout of Cellular Physiometry for Organs-on-a-Chip DAVID E CLIFFE, Vanderbilt University, Jennifer R Mckenzie, Danielle W Kimmel, Andrew Gognata</td>
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PITTCON 2014 TECHNICAL PROGRAM

ORAL SESSIONS Session 420
Bioanalytical Electrochemistry: Assorted Applications and Methods
Monday Morning, Room 5501bc
Stephen Gozo, Celgene Corporation, Presiding
8:30 (420-1) High Throughput Assay of Secretory Granule Catecholamine Content Based on Electrochemical Cytometry NICHOLAS D LAUDE, University of Arizona, Richard F Veeland, Michael L Heien
8:50 (420-2) Design of New Method for Study of Embryonic Stem Cells LAUREN M BROWNING, Old Dominion University, Feng Ding, Tao Huang, X Nancy Xu
9:10 (420-3) Amperometric Nitric Oxide Sensors with Enhanced Selectivity Over Carbon Monoxide for Potential Monitoring of NO in Exhaled Nasal Breath ZHENG ZHENG, University of Michigan, Gary C Jensen, Mark E Meyerhoff
9:30 (420-4) Carbon Nanotube Fibers for Neurotransmitter Detection ALEXANDER G ZESTOS, University of Virginia, B Jill Venton
9:50 Recess
10:05 (420-5) Voltammetric and Computational Evidence for Two Neurochemical Serotonin Uptake Mechanisms In Vivo KEVIN M WOOD, Wayne State University, Janet Best, Reed C Michael, Parastoo Hashemi
10:25 (420-6) The Combination of Resistance and Spectroscopic Measurements for Analytical Measurements with Metallic Nanostructures FRANCIS P ZAMORINII, University of Louisville, Nidhi Shah, Aqin Fang
10:45 (420-7) High-Resolution Scanning Electrochemical Microscopy (SECM) Studies of Dissimilarity Metal Reduction Pathways of Shewanella oneidensis DAVID CRISOOSTOMO, Vanderbilt University; Gongqing Chen, Evan A Gizzie, Sean J Elliott, David E Cliffe
11:05 (420-8) A Label-Free Impedimetric Immunosensor for Detection of 1-Aminohydantoin Residue in Food Samples Based on Sol-Gel Embedding Antibody YANG GONG-JUN, China Pharmaceutical University

ORAL SESSIONS Session 430
Capillary and Micro-Free-Flow Electrophoresis
Monday Morning, Room 5501d
Eugene Barry, University of Massachusetts Lowell, Presiding
8:30 (430-1) Nano-Liquid Chromatography Coupled with Micro Free-Flow Electrophoresis for Multi-Dimensional Separations of Peptides MATTHEW L GEIGER, University of Minnesota
8:50 (430-2) Development of a Multi-Dimensional Liquid Chromatography-Capillary Electrophoresis-Electrospray Ionization Separation Platform WILL BLACK, University of North Carolina at Chapel Hill; J S Mellors, J Michael Ramsey
9:10 (430-3) Fungal Biomarker Identification with Phospholipid Nanogel in Microfluidic Devices TYLER DAVIS, West Virginia University; Lisa A Holland, Brandon C Duney
9:30 (430-4) Multichannel Chip for High Throughput Capillary Ioselective Focusing Analysis with Concentration Gradient Detection Based on Schlieren Optics ATEEFH SADAT ZARABADI, University of Waterloo; Janusz Pawlizyn
9:50 Recess
10:05 (430-5) CE-MS Determination of Morphine and Its Isobaric Glucuronide Metabolites THERESA A SWANSON, Wake Forest University, Christa L Golter, Gregory McIntire, Erin Stickland; Jennifer Hitchcock
10:25 (430-6) Extraction of Phenolic Compounds Using a Surfactant-Based Ionic Liquid PAUL MAGUT, Louisiana State University; Fangzhi Huang, Paula Berton, Chengfeng Lu, Nourseen Siraj, Chun Wang, Isiah M Warner
10:45 (430-7) Coupling Micro Free-Flow Electrophoresis with Desorption Electrospray Ionization Mass Spectrometry (DESI-MS) for Proteomic Analysis SARAH K ANCAUX, University of Minnesota, Michael T Bowser

ORAL SESSIONS Session 440
Environmental: Analysis of Pollutant (Half Session)
Monday Morning, Room 5501a
David Benanou, Veolia Environment Research and Innovation, Presiding
10:05 (440-1) A Multilayer Paper Analytical Device for Measuring Toxic Metals in Air Pollution DAVID M CATE, Colorado State University, John Volkens, Charles S Henry
10:25 (440-2) Photolytic Conversion for Ambient NO Measurements THOMAS A MCKARN, Eco Physics, Inc., Matthias Kutter
10:45 (440-3) Composite Adsorption SERPIL EDEBALI, Sercel University, Errol Pehlivan

ORAL SESSIONS Session 450
GC/MS Analysis of Fuels
Monday Morning, Room 5502a
Timothy A Poliecek, BWX Technologies, Presiding
8:30 (450-1) Comparison of Pyrolysis Products of Prairie Cordgrass at Different Temperatures By Accelerated Solvent Extraction and GC-MS ERIK A BOAKYE, South Dakota State University, Douglas Raynie
8:50 (450-2) Liquid Extraction and Thermodesorption to Quantify Volatile Organic Compounds by Gas Chromatography Associated to a Mass Spectrometer – GC-MS ONY RABETSIMAMANGA, GDF SUEZ - CRIGEN, Jean-Philippe Leininger
9:50 Recess
10:05 (450-5) Withdrawn

ORAL SESSIONS Session 460
LC: Column Technology
Monday Morning, Room 5504a
Olujide T Akimoto, Butler University, Presiding
8:30 (460-1) Characterization and Optimization of Organic Monolith Morphology for Improved Chromatographic Performance PANKAJ AGGARWAL, Brigham Young University, H Dennis Tolley, John S Lawson, Dean R Wheelie, Brian Mazzera, Milton L Lee
8:50 (460-2) Sub-2 μm Macroporous silica Particles for Capillary UPLC JAMES P GRINIAS, University of Science and Technology, Racha Seemamahon, Subshender Kapila
10:45 (460-7) PLOT Column Technology Development Enhances Operation with Integrated Particle Trapping GARY LEE, Agilent Technologies, Yun Zou, Kenneth G Lynn

ORAL SESSIONS Session 470
Electrochemical Sensors and Devices
Monday Morning, Room 5505
Andrew Patterson, Stanford University, Presiding
8:30 (470-1) Electrochemical Detection of Amino Acids in Human Serum for Early Disease Diagnosis KEVIN DE JONG, Stanford University, Robert S Langer, Charles M Lieber
8:50 (470-2) Single-Walled Nanotube Arrays for High-Resolution, Ultra-Sensitive, Electrochemical Detection of Small Molecules ALEXANDER TUMANOVA, Stanford University, John A Rogers
9:10 (470-3) Electrokinetic and Electromigration in Capillaries for Ultracompact, Ultra-Parallel Analytical Systems ANTONIO NADOLDA, Stanford University, Michael S Biggers
9:30 (470-4) Nanodiamond/Silica Microsphere Composites as Stationary Phases for High Performance Liquid Chromatography ZUQIN XUE, University at Buffalo - SUNY, Luis A Colon
9:50 Recess
10:05 (460-5) Preparation and Characterization of a Lauryl Acrylate Porous Polymer Monolithic Stationary Phase via HPLC CHARILSA R DANIELS, Trinity University, Nicholas J Kulkinski, Michelle M Bushey

10:25 (460-6) Analyte Diffusion Behavior on a Lauryl Acrylate Porous Polymer Monolith Stationary Phase KELLY A HWEWS, Trinity University, Xiaaolin Deng, Brandon W Iba, Rohit Sampat, Charista R Daniels, Michelle M Bushey

10:45 (460-7) Development of a C60-Fullerene Bonded Open-Tubular Capillary Using a Photo/thermal Active Agent for Liquid Chromatographic Separations TAKUYA KUBO, Kyushu University, Munakuma Yoshiki, Koji Otsuka

11:05 (460-8) Synthesis and Characterization of 1.1 Micron Superficially Porous Particles for Biological Separations JAMES W TREADWAY, University of North Carolina at Chapel Hill, James W Jorgenson

ORAL SESSIONS Session 470

LC: Pharmaceutical Analysis

Monday Morning, Room S504bc

Dwight Stoll, Gustavus Adolphus College, Presiding

8:30 (470-1) Reverse Phase Chromatography of Proteins Using Submicron Silica Particles in Stainless Steel Columns OYELEYE A ALABI, Purdue University, Mary J Wirth

8:50 (470-2) Super/Cruciform Fluid Chromatography Chiral Separations with Cyclooctacin Based Stationary Phases ZACHARY S BRETTSCH, The University of Texas at Arlington, Jonathan Smuts, Daniel W Armstrong

9:10 (470-3) Size Exclusion Chromatography of Polysaccharides with Reverse Phase Liquid Chromatography YAN HE, Pfizer, Michael D Jones

9:30 (470-4) RPCL of Small Molecules Using Sub 0.5um Particles NATALYA KHANINA, Purdue University, Mary J Wirth

9:50 Recess

10:05 (470-5) UHPLC Analysis of Therapeutic Protein Charge Heterogeneity by Ion Exchange Chromatography Using Sub-2 Micrometer Non-Porous Particles XIANG CAO, Purdue University, Robert Birdal, Zhaoruo Zhang

10:25 (470-6) 1.3 µm Core-Shell Particles for Fast, Ultra-High Resolution Separations A CARL SANCHEZ, Phenomenex, Mike Chitty, Tivadar Farkas

10:45 (470-7) Characterization of Fulleren-modified Silica as a Complement to Existing Alkyl Bonded and Graphite-like Phases for Liquid Chromatography DWIGHT STOLL, Gustavus Adolphus College, Tuan Tran, John Danforth, Paul Young, Ian Gibbs-Hall, Jon Thompson

ORAL SESSIONS Session 480

Nanotechnology: Sensors and Electrochemistry

Monday Morning, Room S504d

David Pensenstadler, The Pittsburgh Conference, Presiding

8:30 (480-1) Effect of Synthesis Method and Electrode Material on the Oxidation Potential of Metal Nanoparticles RAFAEL MARSTAS, University of Louisville, Irima Khabian, Bryan Bill, Francis P Zamborini

8:50 (480-2) Investigation of Varying Modes and Degrees of Nanof confinement Studied by Fluorescence Correlation Spectroscopy DANE A GRISMER, University of Notre Dame, Sneh Polisetty, Lawrence Zaino, Paul W Bohn

9:10 (480-3) Fluorescence Correlation Spectroscopy in Nanofluidic Channels: Effects of Confinement and Macromolecular Crowding on Molecular Transport SNEHA POLISSETTI, University of Notre Dame, Dane A Grismer, Paul W Bohn

9:30 (480-4) Hybrid Nanoporous Carbon - Metal Oxide Supports for Electrocatalytic Oxidation of Fuels IWONA A RUTKOWSKA, University of Warsaw, Pawan J Kulesza

9:50 Recess

10:05 (480-5) Single-Nanoparticle Electroanalysis on Nanoscale Electrodes STEPHEN J PENCZRAL, University of Washington, Noah E Vartanian, Bo Zhang

10:25 (480-6) Electrochemical Studies of Catalyst Free Carbon Nanotube Electrodes and Its Potential Applications in Eu3+- and Dopamine Detections TINGTING WANG, University of Cincinnati, Bill L Riehl, Jaime Corna, William R Heineman

10:45 (480-7) Electron Transfer In < 2 nm Au Nanoclusters TESSA M CARDUCCI, University of North Carolina at Chapel Hill

PITTCON 2014 TECHNICAL PROGRAM

ORAL SESSIONS Session 490

Pharmaceutical: GC, LC/MS, Raman Spectrometry, Capillary Electrophoresis and Separation Sciences

Monday Morning, Room S505a

Emil Ciurczak, Doramax Consulting, Presiding

8:30 (490-1) FID Method for the Control of the GTI, 4-chlorobutanol - Overcoming High Accuracy Bias in a Drug Substance and Dealing with Difficult Matrices in the Drug Products MOHAN KANTHASAMY, Bristol-Myers Squibb, John Castoro, Emma Quirk

8:50 (490-2) Electrochemiluminescent Microchip and LC-MS/MS for Organ-Specific Reactive Metabolite Profiling DHANUJA PAKALATHANTHRI, University of Connecticut, Danand Li, Zhifang Zheng, Dharamiander Choudhury, Ivelga Jansso, John B Schenkm, James F Rusing

9:10 (490-3) Exccptibility Compatibility and Degradation Studies of a Small Molecule Pharmaceutical Compound by HPLC and Mass Spectrometry JANE LI, Genentech, Christine Gu, Hong Lin, Stefanie Geo, Priscilla Mantik, Pite Yeh, Nik Chevrolet


9:50 Recess

10:05 (490-5) Transmission Raman Spectroscopy – A Practical Alternative Method to Content Uniformity by HPLC DARREN ANDREWS, Cobalt Light Systems, Andrew Owen, Matthew Bloomfield, Pawel Matousek

10:25 (490-6) Analysis of Heparin Impurities Using Capillary Electrophoresis CHRISTA A CURRIE, College of Mount St Joseph

10:45 (490-7) Investigations on Prep Supercritical Fluid Chromatography Concentrating on Overall System Performance and Its Correlation to CO2 Recycling Operation and Efficiency JOHN WHIELAN, Waters Corporation, John Baugher

11:05 (490-8) Raw Materials Identification of Incoming Pharmaceutical Goods through Unopened Non-Transparent Containers DARREN ANDREWS, Cobalt Light Systems, Andrew Owen, Matthew Bloomfield, Pawel Matousek

ORAL SESSIONS Session 500

Sampling and Sample Preparation for the Food Sciences

Monday Morning, Room S505b

Scott Hazard, Oil Analytical, Presiding

8:30 (500-1) Comparison of Green Solvents During Chemical Extraction by Diffusion Studies SHANMUGAPRIYA DHARMARAJAN, South Dakota State University

8:50 (500-2) Extraction of Caffeine from Tea and Water Using QuECHERS with Gas Chromatography/Mass Spectrometry Detection MICHELLE L SCHMIDT, Seton Hall University, Nicholas H Snow

9:10 (500-3) An Automated Technique for the Solid Phase Extraction and Analysis of Multiple Organochlorine Pesticide Residues from Wine JIM C FENSTER, Horizon Technology, Marc Hamel, Vinson Leong, Brian LeBrecht

9:30 (500-4) Headspace Versus Direct Immersion Solid Phase Microextraction (SPME): Investigation of Inter-Analyte Displacement Phenomenon and Consideration for Food Matrices EMANUELA GIONFRIDO, University of Waterloo, Erica A Souza Silva, Janusz Pawliszyn

9:50 Recess

10:05 (500-5) Investigating Selective Displacement Phenomena in SPME Solid Coatings EMANUELA GIONFRIDO, University of Waterloo, Erica A Souza Silva, Janusz Pawliszyn

10:25 (500-6) Analytical Pyrolysis: Optimizing Pyrolysis Conditions HELENA JOENSSON, Pyrolylab

10:45 (500-7) Benefits of Dynamic Headspace Enrichment for Enhanced Volatile Fraction Extraction of Caffeine from Tea and Water Using QuEChERS with Gas Chromatography/Mass Spectrometry Detection JANE LI, Genentech, Christine Gu, Hong Lin, Stefanie Geo, Priscilla Mantik, Pite Yeh, Nik Chevrolet

11:05 (500-8) Advanced System for the Analysis of Bioactive Compounds in Natural Products: Integrating Sample Preparation and Chromatography MAURICIO A ROSTAGNO, Integrating Sample Preparation and Chromatography
PITCON 2014 TECHNICAL PROGRAM

POSTER SESSION Session 510

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Electrochemistry: Methods and Applications
Monday Morning, Exposition Floor, Back of Aisles 1000-2500

(510-1 P) The Use of Microelectrode Voltammetry to Determine n-Octanol / Water Distribution Ratio of Electroactive Species TIAGO L FERREIRA, Universidade Federal de São Paulo, Jéssica S Silva, Gabriel G Faura

(510-2 P) In Vivo Voltammetric Monitoring Dopamine Transmission in the Rat Brain Evoked by Electrical Stimulation of Noradrenergic Neurons JINWOO PARK, University at Buffalo - SUNY

(510-3 P) Organic Semiconductors for Rapid Electrochemical Neurotransmitter Identification ADAM R MEIER, University of Arizona, Richard F Vreeland, Michael L Heien

(510-4 P) Withdrawn

(510-5 P) Surface-Enhanced Light Absorption and Photoelectrochemistry Using Metallic Nanostuctures JIE WANG, University of Alabama, Shunlin Pan

(510-6 P) Electrochemical Fabrication of SERS-Active Metal Nanostuctures for In-Situ Examination of Electrochemical Reactions JONGWON KIM, Chungbuk National University, Suhee Choi, Moin Ahmed, Jeong Hwa Jeong

(510-7 P) Direct Electrochemistry of Horseradish Peroxidase Based on Hierarchical Porous Calcium Phosphate Microspheres QIN XIU, Yangzhou University, Longyun Jin, Xiao-Ya Hu

(510-8 P) In-Situ Imaging of Ion Battery Reaction Heterogeneity by Scanning Electrochemical Microscopy with an Amperometric Ion-Responsive Electrode ZACHARY J BARTON, University of Illinois at Urbana-Champaign, Joaquim Rodrigues-Lopez

(510-9 P) Atmospheric Corrosion Study of Metals in an Industrial Environment of Ahmedabad SUNILKUMAR PUNAMBHAI, University of Science College

(510-10 P) Hydrogen Peroxide Detection by Ion Chromatography and Electrochemical Detection SHEETAL BHARDWAJ, Thermo Fisher Scientific, Rong Lin, Kannan Srinivasan, Christopher Pohl

(510-11 P) Detection of Thioles by o-quinone Nanocomposite Modified Electrodes AMILA M DEVASURENDRA, University of Toledo, Tania Zhu, Jon Kirchoff

(510-12 P) Electrochemical Detection and Quantification of Quercetin in Some Tropical Fruits and Vegetables WESLEY O OKEI, University of Lagos, Modupe Mabel Ogunlesi, Boluwatife Awoyainke

(510-13 P) Optimizing the Electrochemical Proximity Assay for Effective Multiplexed Quantitation of Proteins SUBRAMANIAM SOMASUNDARAM, Auburn University, Li Zhang, Xiangpeng Liu, Curtis Shannon, Christopher J Easley

(510-14 P) Selective Detection of Pyrocinin in Biological Samples Using Disposable Electrochemical Sensors THADDAEUS A WEBSTER, Northeastern University, Edgar D Goluch

(510-15 P) Cysteine, an Essential Determinant of Protein Tertiary Structure, Is Also a Targe for Electrochemical Manipulation IAN N ACWORTH, Thermo Fisher Scientific, Qi Zhang, Bruce Bailey

(510-16 P) Pyranose-2-Oxidase Mutants with Decreased Hydrogen Peroxide Production for Application in Enzymatic Biofuel Cells DAGMAR BRUGGER, University of Natural Resources and Life Sciences, Vienna, Clemens R Peterbauer, Dietmar Haltrich

(510-17 P) Determination of Stannous Ion in MDI Radiopharmaceutical Cold Kits by Differential Pulse Polarography (DPP) Using Quality by Design (QbD) Methodology ROBERT KINDYA, Pharmalucence, Inc.

(510-18 P) Enhancement of Surface Properties of Carbon Electrode via the Modification with Schiff Bases ZIYA EROEG, KOC, Selcuk University, Yasemin Oztekin

(510-19 P) Conductivity Measurements Can Estimate Oxidation of Solutions During Magnesium Corrosion KOLADE O OJO, University of Cincinnati, Julia Kuhlmann, Sarah K Pieley, William R Heineman

(510-20 P) Non-Enzymatic Glucose Sensor Based on 1-10 Phenantroline 5,6 Dione Modified Glassy Carbon Electrode YASEMIN ÖZTEKRIN, Selcuk University, Mutahine Tok, Zafar Yazicioglu, Etra Bilici

(510-21 P) Investigation of Enzymatically Synthesized Conducting Polymer Nanoparticles ARUNUS RAMANAVIČIUS, Vilnius University, Asta Kausaite-Minkštienė, Lina Mikoliunaitė, Yasemin Oztekin, Viktor Maceiko, Anton Popov, Almira Ramanavičienė

(510-22 P) Anodic Stripping Voltammetry of Cadmium After a Ligandless Cloud Point Extraction CORY ALLEN RUSNIK, University of Cincinnati, William R Heien, Ian Papautsky, Adam Bange

(510-23 P) Development of a Reductometric Assay for Sodium Oxalate THOMAS VETTER, NIST, Kenneth Pratt


POSTER SESSION Session 520

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Fluorescence/Luminescence/UV-VIS Bio and Nano
Monday Morning, Exposition Floor, Back of Aisles 1000-2500

(520-1 P) Laser Excited Time-Resolved Shpol'skii Spectroscopy for the Analysis of High-Molecular Weight Polymeric Aromatic Hydrocarbon Isomers BASSAM ALFARHANI, University of Central Florida, Walter B Wilson, Cristiana B Bisson, Andres D Campiglia

(520-2 P) A Turn-On Fluorescent Genosensor for the Detection of MicroRNA in Prostate Cancer Patient AMIRI FANG-JU JOU, National Taiwan University, Jian-an Annie Ho, Richard H Curtis, Rachel Parshley

(520-3 P) A Preliminary Investigation of the Effects of Metal Ions on the Fluorescence of Known Iron (II) Chelators: Analytical Utility for Determination of Iron MARK THOMAS STAUFFER, University of Pittsburgh at Greensburg, Brittany E Playso

(520-4 P) Construction of Novel Luminescence Papers Based on the Basic Peptides of HPV Capid Proteins/Polyamidomaleate and the In-Vitro Receptor Screening for Virus Attachment on Cell Surface YOUNG WU, Jin University

(520-5 P) Cetyltrimethylammonium Bromide/ Imidazolium Bromide Tetradecane Synergistic Sensitized Spectrofluorimetry for Speciation of Cr (VI)/Cr (III) ZHU XIAISHI, Yangzhou University, Wang Wenjun

(520-6 P) Analytical Pipetting of Serum JOHN THOMAS BRADSHAW, Arell, Leah Flumerfelt, Richard H Curtis, Rachel Parshley

(520-7 P) The Development of Polarization and Fluorescence Spectroscopic Methods for Ratiometric Fluorescent Ion Indicators DEANNIA M SILVA, University of New Hampshire, John Cosron, Justin Macgivin, Roy Planulap, Shawn Burdette, W Rudolf Setz

(520-8 P) Millions of Shallow CMOS Pixels and the Art of Spectroscopy ALEXANDER SCHELINE, SpectroClick, Thu A Bui


(520-10 P) Solvent-Solute Interactions For P-Phenylenediamine and Its Methylated Derivative MUHAMMAD ZEHRID, University of Agriculture Faisalabad, Asim Mansha, Guenter Grampp, Patrice Jacques, soda Asim, hae N Bhattacharyya

(520-11 P) Low-Temperature Synchronous Fluorescence Spectroscopy with Fiber Optic Probes for the Analysis of High Molecular Weight Polymeric Aromatic Hydrocarbons ANTONY F MOORE, University of Central Florida, Barbara Formbosa, Andres D Campiglia

(520-12 P) Rapid Testing of Bacterial Endotoxins in Water Using Bioluminescence SATOSHI ARUKAWA, DKK TOA Corporation, Satoshi Yokawa, Kenichi Noda, Akiro Kudou, Hiromitsu Hachisuka

(520-13 P) Construction of Transcription-Type Imprinted Polymers Using Immobilized Proteins for Selective Fluorescence Detection of Target Proteins TAKAHIRO KIWAYA, Kobe University, Satoshi Yoshizawa, Yukia Kitayama, Tooru Ooya, Toshifumi Takeuchi

(520-14 P) Fluorimetric Nanosensors for Ion Detection KATARZYNA KULCII SIA, Warsaw University, Anna Kiel, Krzysztof Maksymik, Agata Michalak

(520-15 P) Self-Assembled Synthesis of Water-Soluble Anthracenophane and Its Functionality RYOHEI MIYAKE, Kobe University, Yukia Kitayama, Tooru Ooya, Toshifumi Takeuchi
PITTCON 2014 TECHNICAL PROGRAM

POSTER SESSION Session 530
All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Fuels, Energy and Petrochemicals Analyses
Monday Morning, Exposition Floor, Back of Aisles 1000-2500

(530-1 P) New Applications Using a GC BID Detector ZHIANGZHI "MAX" WANG, Shimadzu Scientific Instruments, Clifford M Taylor, Nicole M Lock, Laura Chambers, Richard R Whitney

(530-2 P) Continuous Monitoring and Calorific Power Calculation of Natural Gas with Standalone Micro-GC Full MENS Based FILIPPO BARAVELLI, Pollution, Carlo Bruno

(530-3 P) Electrochemistry of Fuels: A Perspective on the Analysis of Contaminants LEONARDO L OKUMURA, Federal University of Vicosa, Adelir A Saczk, Marcelo F de Oliveira

(530-4 P) Correlation of True Boiling Point Distillation Data of Upgraded Crude Oils with High Temperature Simulated Distillation LAURA OLIVIA ALEMAN-VAZQUEZ, Instituto Mexicano del Petróleo, Jose-Luis Cano-Dominguez, Jose Luis Garcia-Gutierrez

(530-5 P) Isomer Distribution Analysis for Improved Hydrocarbon Mixtures Characterization IVAN AMIRAU, Tel Aviv University, Alexander Fialkov, Tal Alon

(530-6 P) Decomposition of Aromatic Amines in a Jet Fuel Surrogate DAVID W JOHNSON, University of Dayton, Matthew Rohaly

(530-7 P) Cyanide Analysis of Wastewater Samples from Fluid Catalytic Cracking (FCC) and Hydrocracking Operations WILLIAM C LIPPS, Xylem/OI Analytical, Libby A Badgett, Clifford M Taylor

(530-8 P) Contamination Robust Multimineralic El Ion Source Design MATTHIAS FEINDT, Hamburg University of Technology, Andreas Behn, Gerhard Matt, Sven Kruse

(530-9 P) Analysis of Fracking Flowback Water from the Marcellus Shale Using In-Line Conductivity, Automated Dilution, and Ion Chromatography CARL FISHER, Thermo Fisher Scientific, Linda Lopez

(530-10 P) High Temperature Potentiometric Oxygen Sensors for Optimizing Combustion Processes MAX R MULLEN, The Ohio State University

(530-11 P) Preparation of Nitrogen-Doped Porous Carbon Nanofibers and Their Textual Effect on Their Oxygen Reduction Performance JONG-SUNG YU, Korea University, Dae-Soo Yang, Kizhakke Palleri Rajesh

(530-12 P) Investigation of Nanoporous Copper Catalyst for CO2 Electroreduction JOSHUA BILLY, The Ohio State University, Jared B Steed, Anne Co

(530-13 P) Comprehensive Ion Analysis of Various Water Matrices in Hydraulic Fracturing Process JAY GANDHI, Metrohm USA, Anne Shearow, Jay Shaffer

(530-14 P) Pushing the Temperature Threshold for Potentiometric Based NOx Sensors MAX R MULLEN, The Ohio State University

(530-15 P) Study of Laser Induced Breakdown Spectroscopy of Gas Mixtures CHARLES GHANT, Mississippi State University, Jagdish Singh, Fang Yueh

(530-16 P) Combustion Ion Chromatography- Improved Sensitivity via Automated In-Line Sample Pre-Concentration SHELDON BERNARD, Thermo Fisher Scientific

(530-17 P) CIC – Combustion Ion Chromatography – Old Wine in a New Bottle JAY GANDHI, Metrohm USA, Anne Shearow, Jay Shaffer


(530-19 P) Determination of Polyacrylic Acid in Boiler Water Using Size-Exclusion Chromatography with Charged-Aerosol Detection IAN N ACWORTH, Thermo Fisher Scientific, Bruce Bailey, Xiaodong Liu, Mark Tracy


(530-21 P) A Smart Phone of Potentiometric Titration Has Now Arrived KATE BARNES, GR Scientific

(530-22 P) Determination of Corrosion Inhibitor/Lubricity Increasing(CIL) Additives in Jet Fuel by Liquid Chromatography/Mass Spectrometry DAVID W JOHNSON, University of Dayton, Milissa M Flame, Steven Zabarnick, Zachary J West, Richard C Stiebich

(530-23 P) Withdrawn

(530-24 P) Comprehensive Analysis of the Co-Products from Lurgi Gasifier XIADONG TANG, AIR LIQUIDE Frankfurt Research and Technology Center, Daniel Reiser

(530-25 P) Improving Accuracy of Infrared Spectroscopy Determination of Soot in Engine Oils for Condition Monitoring DAN WALSH, Spectro, Randi Price

(530-26 P) Microfluidic Kinematic Viscosity Measurement DAN WALSH, Spectro, Ken Caldwell

(530-27 P) Improving SAW Sensor Measurement of Volatiles (Fuel Dilution) DAN WALSH, Spectro, Randi Price

(530-28 P) A New Approach to Detecting Abnormal Wear Debris Using Filter Particle Quantification and X-Ray Florescence Spectroscopy DAN WALSH, Spectro

POSTER SESSION Session 540
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Microscopy
Monday Morning, Exposition Floor, Back of Aisles 1000-2500


(540-2 P) Study of Cladunin Interaction with Scanning Ion Conductance Microscopy (SIMC) LUSHAN ZHUO, Indiana University, Yi Zhou, Chao-Chen Chen

(540-3 P) Comparing Flow Cytometry, Fluorometry, and Confocal Microscopy Methods for Determining the Phagocytic Ability of Macrophages Pre-Exposed to Gold and Silica Nanoparticles KATHERINE TYNER, FDA, Simona Bancos, David Stevens

(540-4 P) Analysis of Interactions Between E-Spun Collagen-Silk Composite Fibers and Stem Cells in Neural Differentiation BOFAN ZHU, Illinois Institute of Technology, Wen Li, Carlo Segre, Randy Lewis, Rong Wang
PITCON 2014 TECHNICAL PROGRAM

POSTER SESSION  Session 550

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**Nanotechnology: Fluorescence, Extraction, Electrophoresis and Electrochemistry**

Monday Morning, Exposition Floor, Back of Aisles 1000-2500

- **(550-1 P)** Quantum Dot Enabled Immunosassay for Multiplex Detection of Atherosclerosis Biomarkers
  KRISTEN S WILLIAMS, University of New Orleans, Matthew A Tarr

- **(550-2 P)** Controllable Assembly of Spherical Gold Nanoparticles into One-Dimensional (1-D) Nanochains via Utilization of a Zwitterionic Surfactant and Associated Cloud Point Extraction Step
  HUE TINH TRAN, Fukushima University, Yoshitaka Takagai, Willie L Hinze

- **(550-3 P)** Electrochemical Biosensing Systems Based on the Entrapment of Glucose Oxidase in Polymer Film
  HILAL INCEBAY, Nebiye University; Omar Sengoz, Bahri Yukel, Ahmet Okudan, Zafer Yazicioglu, Esra Bilici, Yasemin Oztekin

- **(550-4 P)** Development of an Electrochemical Sensing System
  YASEMIN OZTEKIN, Selcuk University, Mihriban Aydin

- **(550-5 P)** Separation of Carbon Nanodots by Size-Exclusion High Performance Liquid Chromatography
  KARINA M TIRADO GONZALEZ, University at Buffalo - SUNY, Zuqin Xue, Luis A Colon

- **(550-6 P)** Fluorescamine-Based Screening of Nanomaterial-Biomolecular Interactions
  JONATHAN ASHBY, University of Riverside, César Liganis, Wenyuan Zhong

- **(550-7 P)** Functional Nanostructures on Injection Molded Plastic
  ALICIA JOHANSSON, DTU - Technical University of Denmark, Emil Sogstad, Nis Andersen, Lin Sun, Rafael Taborisky

- **(550-8 P)** In Situ, One-Pot Synthesis of Reduced Graphene Oxide/Metal (Oxide) Nanocomposites Using Glucose and Its Electrocatatptic Activity: Application
  XU WU, University of North Dakota, David Pierce, Julia Xiaojuan Zhao

- **(550-9 P)** Fabrication of Highly Fluorescent Graphene Quantum Dots Using L-glutamic Acid for In Vitro/In Vivo Imaging and Sensing
  XU WU, University of North Dakota, Jiao Chen, Julia Xiaojuan Zhao, Min Wu

POSTER SESSION  Session 560

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**Nanotechnology: Lab-On-A-Chip, Imaging, and Spectroscopy**

Monday Morning, Exposition Floor, Back of Aisles 1000-2500

- **(560-1 P)** Three-Dimensional Silver Nanostructure for SERS Sensing
  RYOEHI HARA, Laboratory of Advanced Science and Technology, Utsumi Yuichi

- **(560-2 P)** Topographic Characterization of Nanostructures on Curved Polymer Surfaces
  NIKOLAI A FEDOHNANS’I, DTU - Technical University of Denmark, Rafael J Taboryski, Jan C. Petersen

- **(560-3 P)** Nanoscale Chemical Imaging of Membrane Receptors by Tip Enhanced Raman Spectroscopy
  HAO WANG, University of Notre Dame, Zachary D Schultz, Jan C Petersen, Anne Jurek, STEINECKER, VGC Chromatography, Gilbert E Pacey

- **(560-4 P)** Antireflective Silicon Nanocores Arrays in Small Molecules Analysis
  NAM LU LVU, Jilin University

- **(560-5 P)** Analytical Evidence of Ligand-Controlled Stabilization of Semiconductor Nanocrystals Surface Occupied Orbitals: MEGHATEINFIS, Indiana University - Purdue University Indianapolis, Sukanta Dalai, Rajesh Sardar

  ALEXANDER MACLIN, University of Memphis, Mariya Kim, Chris Brown, Eugene Pinkhasik, Emo Lindner

- **(560-7 P)** Patterned Superhydrophobic/phobic Substrates as a Universal Platform for Various Surface-Enhanced Spectroscopic Techniques
  HIROYUKI TAKEI, Tokyo University

- **(560-8 P)** Quantitative Evaluation of Stored Blood for Use in Transfusion Medicine with 3D-Printed Fluidic Devices
  CHEN CHENGQING, Michigan State University, Wang Yimeng, Dana Spence

  RACHEL M FEENEY, Colorado State University, Charles S Henry

- **(560-10 P)** Microfluidic Assays for Long-Term Perfusion Culture and Chemical Monitoring of Living Cells
  SHUSHENG LU, University of Michigan, Robert Kennedy

- **(560-11 P)** Investigating the Effects of Surface Ligand Chemistry on Electronic Coupling of Ultrasmall Semiconductor Nanocrystals
  KATIE N LAWRENCE, Indiana University - Purdue University Indianapolis, Rajesh Sardar

- **(560-12 P)** Separation of Bacterial Species Using Microfluidic Devices
  NIL TANDOGAN, Northeastern University, Edgar D Golub

- **(560-13 P)** Integrating Electrochemistry and Electrokinetic Flow in Arrays of Embedded Annular Nanoband Electrodes
  LAWRENCE ZAINO, University of Notre Dame, Paul W Boho

- **(560-14 P)** A Nano Based Novel Biomedicine for Iron Deficiency
  ANAMIKA MUBAYI, University of Allahabad, Saqunta Chatzeri, Prashant K Rai, Geeta Watal

- **(560-15 P)** Measurement of Particle Size Distribution in the sub-100 nm Range with the Ultrasound Pulsed Doppler (USPD) Method
  STEVEN A AFRICK, Prodiyne Corporation, Clark K Colton

- **(560-16 P)** Developments in Ultrafast Raman Imaging for Nanotechnology Applications
  TIM BATTEN, Renishaw plc

- **(560-17 P)** An Easy to Use Atomic Force Microscope
  ÜMIT CELIK, NanoMagnetics Instruments Ltd, Ahmet Oral

- **(560-18 P)** Green Biosynthesis of Silver Nanoparticles Using Triticum durum Extract and Its Antimicrobial Activities
  KUBRA ERENK, Hacettepe University Institute of Graduate Studies, Dënert Erdenism, Sami Mustaf, Sabri Gökmen, Nedemet SaÜam

- **(560-19 P)** Electrochemical Microfluidic Biosensor for Sub-Femto Molar Detection of DNA Without Amplification
  AURELIEN GIMÉNEZ, Dublin City University, Robert J Forster, Anita Venkataranayanan, Ee T E Keys

- **(560-20 P)** Portable Microanalyser Using a Pyroelectric Crystal
  SUSUMU IMASHUKU, Kyoto University, Insei Ohtani, Jun Kawai

- **(560-21 P)** Novel Pressure-Controlling Valve of Centrifugal Microfluidics
  MASAKI ISHIZAWA, Laboratory of Advanced Science and Technology

POSTER SESSION  Session 570

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**Ongoing Enhancements to Chromatographic Methods**

Monday Morning, Exposition Floor, Back of Aisles 1000-2500

- **(570-1 P)** Analysis of Multiple Pesticides by Supercritical Fluid Chromatography/Tandem Mass Spectrometry with a Sub-2 Micron Particle Column - A Feasibility Study
  JINGCHUAN YANG, Waters Corporation, Brian Tyler, Jennifer Burgess,Joe Romano

- **(570-2 P)** Withdrawn

- **(570-3 P)** Analysis of Additives in Lubricants Using Thermal Sampling Techniques
  KAREN SAA, CDS Analytical, Thomas Wampler, Gary Deget, Steve Wesson, Ben Peters

- **(570-4 P)** Tetraaryl Phosphonium-Based Ionic Liquids as High Thermal Stability Stationary Phases for Gas Chromatography
  ALI NAJAFI, The University of Toledo, Gady G Caserty, James H Davis, Jared L Anderson

- **(570-5 P)** How to Recognize and Eliminate Ghost Peaks in Gas Chromatography
  JAP DEZELJN, Restek

- **(570-6 P)** Applications for Variable Geometry Columns in GC and GC-MS
  WILLIAM H STEINECKER, VGC Chromatography, Gilbert E Pacey

- **(570-7 P)** Decrease GC Run Time with a New Column Phase Geometry
  LAWRENCE ZAINO, University of Notre Dame, Paul W Boho

- **(570-8 P)** Optimizing Resolution in Reversed-Phase UPLC Methods Development with Automatic pH Selection
  APARNA CHAVALI, Waters Corporation, Thomas E Wheat, Ambarish Ghosh, William H Steinecker

- **(570-9 P)** HILIC Mode and Stationary Phase for Alternative UHPLC Analyses
  WILLIAM JOHN LONG, Agilent Technologies, Anne Mack

- **(570-10 P)** Mixed Mode Mechanisms in LC: Curse or Cure?
  MERLIN BICKING, ACCTA, Inc., William John Long, LONG, Agilent Technologies, Anne Mack
A Refractive Index Detector for UPLC PATRICIA R McCONVILLE, Waters Corporation, Charles H Phoebe, Tanya Jenkins

Determination of Urea in the Presence of Thioglycolic Acid and Triethanolamine in Cosmetics by HPLC-HILIC (Hydrophilic Interaction Chromatography) CAROLINA LUCIA MENDEZA FOREDO, Belcorp

Comparison of UHPLC and Superficially Porous Particles in HPLC LEE N POLITE, Avion Analytical Labs, Inc., Robert W McCoy, Mary Beth Smith, Richard E Pauls


POSTER SESSION Session 580

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Teaching Methods and Regulatory
Monday Morning, Exposition Floor, Back of Aisles 1000-2500

Environmental Education Using Acid Rain in Sapporo, Northern Japan, During 2006-2013 MASAHIKO KAN, Hokkaido University

Do Apps Really Help Students Learn Chemistry ENRIQUE ARCE-MEDINA, ESIQIE

Rapid Determination of Ten Colorants in Lipstick Samples by Ultra High Performance Liquid Chromatography Coupled with Triple Quadrupole Mass Spectrometry Utilizing Transitions from Doubly Charged Precursor Ions ZHAO QISHEING, Shimadzu (China) Co., Ltd., Ye Ying

Lessons from the First-Time Flip: Tips, Observations and Assessment from the Implementation of the Inverted-Classroom Model in a General Chemistry Course JARED S BAKER, Elmsford College

Microcontrollers in the Analytical Chemistry Teaching Lab GARY A MABBOTT, University of St. Thomas

Use of Passive Air Sampler for Cultivating Sense of Environmental Forensics in Practice of Environmental Education YOSHIKA SEKINE, Tokai University, Ayano Azuma, Yuki Nagaoa, Botsugan Michio

Using Technology to Flip an Undergraduate Analytical Chemistry Course NEIL FITZGERALD, Marist College, Luna Li

What Medical Device Manufacturers Should Know about RoHS 2 JOE LANGLETON, Intertek

The Updated EN 61010-1 Standard: Challenges and Solutions SCOTT PETERSON, Intertek

Synthesis, Antibacterial and Antifungal Activities of 5-imidazolinone Derivatives DINESHKUMAR B BALDARYA, M G Science Institute

Applying Acting, Personal Demonstrations, and Visual Exhibits as a New Method of Science Education with the Carnegie Science Center of Pittsburgh AMANDA E DUMI, Seton Hill University

Measuring Dissolution Rate of Tablets: An Experiment for Teaching Quantitative Analysis ERIK S CHAN, University of Hawaii at Hilo

Integration of Authentic Chemical Separation Research Projects into Analytical Chemistry Curriculum YUEGANG ZUO, University of Massachusetts Dartmouth

AWARDS Session 590

SEAC - Charles N Reilley and Young Investigators Award
arranged by Mark Ratner, Northwestern University

Monday Afternoon, Room 5402a
Mark Ratner, Northwestern University, Presiding

1:30 Introduction Remarks - Mark Ratner

1:35 Presentation of the 2014 SEAC - Charles N Reilley Award to Joseph Hupp, Northwestern University, by Mark Ratner, Northwestern University

1:40 (590-1) Interfaces for Photoelectrochemical Energy Conversion JOSEPH HUPP, Northwestern University

2:15 (590-2) Photoelectrochemical Investigation of Outersphere Redox Shuttles in Dye Sensitized Solar Cells THOMAS HAMANN, Michigan State University

2:50 (590-3) Some Science for Joe MARK RATNER, Northwestern University

3:25 Recess

3:40 Presentation of the 2014 SEAC - Young Investigators Award to Stephen Maldonado, University of Michigan, by Mark Ratner, Northwestern University

3:45 (590-4) New Ideas for Liquid Metal Electrodes STEPHEN MALDONADO, University of Michigan

4:20 (590-5) Spectroelectrochemical Studies of Energy Materials Interphases and Interfaces KEITH STEVENSON, The University of Texas at Austin

SYMPOSIUM Session 600

Advanced Mass Spectrometry for Food Safety and Cosmetics – Challenges and Validation
arranged by Perry G Wang, U.S. Food and Drug Administration and Xiaogang Chu, China Academy of Inspection and Quarantine

Monday Afternoon, Room 5402b

Perry G Wang, U.S. Food and Drug Administration, Presiding
Xiaogang Chu, China Academy of Inspection and Quarantine, Presiding

1:30 Introductory Remarks - Perry G Wang and Xiaogang Chu


2:10 (600-2) Study to Monitor Chemical Contaminants in Foods STEVEN LEHOTAY, USDA Agricultural Research Service

2:45 (600-3) On-Site Screening for Plasticizers, Maleic Acid, Melamine, and Residual Pesticides in Tainted Foods via Mobile Ambient Mass Spectrometry (MAMS) JENTAI HEE SHEA, National Sun Yat-Sen University, Min-Zong Huang, Sy-Chyi Cheng, Christopher Sheia

3:20 Recess

3:35 (600-4) Mass Spectrometry: Shifting the Landscape of Allergen Analysis BERT POPPING, Eurofins, Carmen Diaz-Amigo

4:10 (600-5) Ultra-High Performance Liquid Chromatography Electrospray Ionization Q-Orbitrap Mass Spectrometry for Analysis of Pesticide and/or Antibiotic Residues in Food: Method Development and Validation JIAN WANG, Canadian Food Inspection Agency
PITTCON 2014 TECHNICAL PROGRAM

SYMPOSIUM  Session 610
Advances in Diamond Based Sensing and Analysis
arranged by Julie V MacPherson, University of Warwick
Monday Afternoon, Room S404a
Julie V MacPherson, University of Warwick, Presiding
1:30  Introductory Remarks - Julie V MacPherson
1:35  (610-1) Recent Development on Electrochemical Application of Boron-Doped Diamond Electrodes YASUARI ENAGA, Keio University
2:10  (610-2) Nanoscale Magnetic Imaging Using Diamond RONALD WALSWORTH, Harvard University
2:45  (610-3) Nanodiamond for Environmental Tracking ROBERT J HAMERS, University of Wisconsin-Madison, Marco Torelli, Ian Gunwako, Christy L Haynes, Rebecca D Klaper, Gustavo Dominguez, Granger Fraser, Chang-Soo Lee, Maddy Meyer, Joel A Pedersen, Min Yan, Gaia Orr
3:20  Recess
3:35  (610-4) Diamond Microelectrodes for Neurochemical Studies in Human Tissues GREG M SWAIN, Michigan State University, Marion France, James J Galligan
4:10  (610-5) Electrochemical X-Ray Fluorescence (EC-XRF): A New Technique for Heavy Metal Detection at Sub-ppb Levels JULIE V MACPHERSON, University of Warwick, Laura Hutton, Mark E Newton

SYMPOSIUM  Session 620
Advances in Raman Spectroscopy
arranged by Sanford A Asher, University of Pittsburgh
Monday Afternoon, Room S404bc
Sanford A Asher, University of Pittsburgh, Presiding
1:30  Introductory Remarks - Sanford A Asher
1:35  (620-1) Using Deep-UV Resonance Raman Spectroscopy to Monitor Protein-Lipid Interactions RENÉE D JUll, University of Missouri Columbia, Jian Xiong, Michael K Eagleburger, Anahita Zare, Mai C Brown, Jason W Gooley
2:10  (620-2) Low-Wavenumber Stokes and Anti-Stokes Raman Microscopy for Pharmaceutical Tablet Characterization MICHAEL J PELLETIER, Pfizer, Shawn M Mehrens, Christine C Pelletier
2:45  (620-3) Ultrafast Plasmonics: Surface-Enhanced Femtosecond Stimulated Raman Spectroscopy RICHARD P VAN DJUYNE, Northwestern University
3:20  Recess
4:10  (620-5) Raman Characterization of Critical Biological Reactions in Dilute Aqueous Solutions, in Single Crystals and in Living Cells PAUL CAREY, Case Western Reserve University, Joanna Antonopoulou, Tao Che, Hossein Hadiari Torkabadi

SYMPOSIUM  Session 630
Applications of Capillary Electrophoresis in Vaccine, Virus, and Biological Particles -
arranged by Richard Rianto Rustandi, Merck Co
Monday Afternoon, Room S404d
Richard Rianto Rustandi, Merck Co, Presiding
1:30  Introductory Remarks - Richard Rianto Rustandi
1:35  (630-1) Capillary Electrophoresis as a Tool to Trace the Internalization of a Virus into a Cell ERNST KENNOLER, University of Vienna
2:10  (630-2) A New Approach to Capillary Based Western Analysis in Vaccine Development MELISSA HAMM, Merck
2:45  (630-3) Measurement of Individual Mitochondrial Membrane Potential by Capillary Electrophoresis EDGAR A ARRAGA, University of Minnesota, Gregory Wolken
3:20  Recess
3:35  (630-4) Design of a Capillary Electrophoresis Charge Heterogeneity Method K STEVEN COOK, Pfizer, Michael R Schlichter, Michele R Bailey-Platchek, Michael D Jones
4:10  (630-5) Capillary Electrophoresis in Vaccine Development RICHARD RIANTO RUSTANDI, Merck Co, Melissa Hamm, Feng Wang, Sha Ha
PITCON 2014 TECHNICAL PROGRAM

POSTER SESSION  
Session 800

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ACS DAC Poster Session  
Monday afternoon, Exposition Floor, Back of Aisles 1000-2500

[800-1 P] Development of Paper-Based Colorimetric Assays for Metal Ions Using Gold Nanoparticles  
CONNOR J NEVILLE, Creighton University, Kalani A Parker, Jennifer L Lambrecht, Asia A Inagaki, Erin M Gross

[800-2 P] Investigation of Carbon Paste Microelectrodes for Electrochemiluminescence Detection of Biogenic Amines on a Microfluidic Chip  
EMILY R LOWRY, Creighton University, LeAnn V Schaffer, Erin M Gross, John B Wydallis, Meghan M Mensack, Rachel M Feenig, Charles S Henry

[800-3 P] Development of a Carbon Paste Microfluidic Biosensor with Electrogenenerated Chemiluminescence Detection  
ERIN M GROSS, Creighton University, Laura R Anderson, Nicholas R Studebaker, Sarah E Rozsahart, Sarah R Wirth, John B Wydallis, Meghan M Mensack, Charles S Henry

[800-4 P] Analysis of Human Scent for Potential Forensic Use  
DOUGLAS BEUSSMAN, St. Olaf College, Bifan Chen

[800-5 P] Tetrazythyma Thermophila Proteomics Using MALDI-TOF/TOF Mass Spectrometry  
DOUGLAS BEUSSMAN, St. Olaf College, Paul Benz

[800-6 P] Characterization of Protein Dynamics and Conformational Heterogeneity with Linear and 2D Infrared Spectroscopy  
JAMES SPEARMAN, Indiana University

[800-7 P] Synthesis and Characterization of Multifunctional Polymeric Nanoparticles for Targeted Sonodynamic Therapy  
FEIXAN, North Carolina Central University, Michelle S Smith, Yum Shrestha

[800-8 P] Hydrophilic Interaction HPLC Determination of Creatinine, Urate and Ascorbic Acid in Bovine Milk and Orange Juice  
YUEJANG ZOU, University of Massachusetts Dartmouth, Ruiting Zuo, Si Zhou, Yiyue Deng

[800-9 P] Promoting Undergraduate STEM Education at a HBCU through Research Experience  
SAYO O FARAYIODE, North Carolina A&T State University, Cameron Abel, David A Pollard, Abdul K Mohammed, Olasumbo M Adeyeye, Mamodu Yakubu

[800-10 P] Pure Amorphous Silica SFC Columns from Calcedonic Acid-Leached Rice Husk  
LANNY FEI, University of Surabaya, Andika Pramudita, Livia B Widjaja

RACHEL J PARISE, East Stroudsburg University, Christopher M Stangl, Richard S Kelly

POSTER SESSION  
Session 810

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Gas Chromatography  
Monday afternoon, Exposition Floor, Back of Aisles 1000-2500

[810-1 P] Gas Chromatography  
OGOLARA AGBEKE BAMGBOYE, Lagos State University, Hassan O Adebesin, Modinat O Oduyia


[810-3 P] Implementation of Analysis Method by Simdis Haig Temperature Technique, to Method Development for Analysis of Pesticides Using Nano Stationary Phase Gas Chromatography  
ERIN M GROSS, Creighton University, Laura R Anderson, Nicholas R Studebaker, Sarah E Rozsahart, Sarah R Wirth, John B Wydallis, Meghan M Mensack, Rachel M Feenig, Charles S Henry

[810-4 P] Analysis for Organochlorine Pesticides and Polycyclic Aromatic Hydrocarbons Residues in Water Samples of Lagos Lagoon, Nigeria  
ADEYEMI D KEHINDE, University of Lagos

[810-5 P] Carrier Gas Selection for Capillary GC. There is More Than One Right Answer  
L N POLITE, Axion Analytical Labs, Inc., Jackson H ODonnell, Nikolai L Polite, Dennis L Polite, Mary Beth Smith

(810-6 P) Development of a New Gas Chromatographic Column Set for the Analysis of Blood Alcohol Concentration  
AMANDA RIDGON, Restek Corporation, Kristi Sellers, Jarl Snider, Rick Morehead, Gary Stidsen

(810-7 P) Application of Ionic Liquid GC Columns for the Analysis of Aromatic Mixtures  
RICHARD E PAULS, Axion Analytical Labs, Inc., Mary Beth Smith, Robert W McCoy, Lee N Polite

REHARD VAN LOON, Agilent Technologies, Coen Duvekot

(810-9 P) New Developments in Fast Portable Micro Gas Chromatography – Application Benefits by Using Column Temperature Programming  
REHARD VAN LOON, Agilent Technologies, Coen Duvekot

(810-10 P) Characterizing the Performance of Surface Modifications that Enhance Sensitivity, Reliability, Reproducibility and Accuracy of Analytical Instruments  
GARY BARONE, SilcoTek Corporation, David Smith

(810-11 P) CHA Balance Argon Study Using a Micro GC  
ASHLEY ELLIUS, Matheson Gas

(810-12 P) Two-Dimensional Gas Chromatography with Microfabricated Components  
WILLIAM R COLLIN, University of Michigan, Dibyadeep Paul, Amy Bondy, Katsuuro Kurabayashi, Edward T Zellers

(810-13 P) Recent Advances to Ensure Simple, Leak Free GC Column Connections  
KENNETH G LYNAM, Agilent Technologies, Lilly Miller, Ponna Pa

(810-14 P) A Polymer Microcolum for Gas Separation  
JACQUELINE M RANKIN, University of Illinois at Urbana-Champaign, Kenneth Suslick

(810-15 P) Large Volume Injection of Polycyclic Aromatic Hydrocarbons  
ANNIE JUERG, EST Analytical, Lindsay Pyron, Justin Murphy, Doug Meece

(810-16 P) Application of Evolving Factor Analysis and Alternating Least Squares to Overlapping Peaks from a Microsensor-Arry GC Detector  
JONATHAN BRYANT-GENEVER, University of Michigan, Sun K Kim, Kee Scholten, Edward T Zellers

(810-17 P) A Universal Vacuum Ultraviolet Detector for Gas Chromatography  
DOUG D CARLTON, University of Texas at Arlington, Ian Sawicki, Kevin A Schag, Harold McNair, Phillip Walsh, Dale Harrison

(810-18 P) Advances in a New Methodology for Sampling and Analyzing Elemental Sulfur in Natural Gas  
ALEJANDRO JOSE GONZALEZ, DigiPartnership

(810-19 P) Freedom from the Flame: Using an Argon Ionization Detector instead of a Flame Ionization Detector  
MATTHEW MONAGLE, Advanced Industrial Chemistry LLC

(810-20 P) Saving Helium on the 5890, 6890 and 7890 GC  
MATTHEW MONAGLE, Advanced Industrial Chemistry LLC

(810-21 P) Total Hydrocarbon Analysis as a Second Channel on Your GC  
MATTHEW MONAGLE, Advanced Industrial Chemistry LLC

(810-22 P) Simultaneous Analysis of ppb and % Level Components by Headspace GC and Total Hydrocarbon Analysis as a Second Channel on Your GC  
MATTHEW MONAGLE, Advanced Industrial Chemistry LLC

(810-23 P) Measuring Contents of Impurities in Biogas: Silicones and Ammonia  
JANNIKE VAN WUIJ, YSL, Adrian van de Veen, Jianrong Li, Katarina Hafner

POSTER SESSION  
Session 820

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

High Throughput Chemical Analysis  
Monday afternoon, Exposition Floor, Back of Aisles 1000-2500

(820-1 P) Amperometric Folic Acid Quantification Using a Supramolecular Tetraruthenated Nickel Porphyrin μ-π Matrix Modified Electrode Associated to Batch Injection Analysis  
LUIS MARCO S FERREIRA, Universidade de Sao Paulo, Mauro Sergio F Santos, Lucio Angnes

(820-2 P) Accurate Determination of Moisture Content of Soft Contact Lenses by Near-Infrared (NIR) Spectroscopy  
JEFF PARISH, Shimadzu Scientific Instruments

(820-3 P) Superficially Porous Particles: Considerations of Particle Size  
TIMOTHY J LANGLOIS, Advanced Materials Technology, Barry Edward Boyes, Joseph J DeStefano, Robert S Bichitem;William L Johnson, Stephanie Schuster

(820-4 P) Method Development for the Analysis of Impurities in Silicon Tetrachloride Using Gas Chromatography  
SRIKANTH KAVURI, Matheson Gas
Pharmaceutical Applications of Sub-2-µm, Solid-Core Particle Columns

(840-5 P) Solid Matrix Assisted LDLI (SMALDI) - MS and UPLC Using Tunable Nanoporous Silica RESHMA SINGH, University of Alberta, Zhen Wang, Abebaw B Jemere, Michael Herron, Jeff Harrist

(840-6 P) New Applications and Fine Tuning Tips for a GC Inert Flow Path KENNETH G DYKAM, Agilent Technologies, Lindy Miller

(840-7 P) A Broadly Tunable Surface Plasmon-Coupled Waveguide Filter for Wide-Field Visible and Near Infrared Hyperspectral Imaging AJAYKUMAR ZALAVADHA, Cleveland State University, John F Turner

(840-8 P) High Throughput Method Development WILLIAM HEDGEPETH, Shimadzu Scientific Instruments, Kenichiro Tanaka

(840-9 P) Proposal of a Lab-on-a-CD for Immunoassay Using Nonmechanical Pump and Valves YASUTOMO ARISUE, University of Hyogo

(840-10 P) Rapid Stability Analyses of Concentrated Dispersions JONATHAN DENS, Formulation Inc, Matthias Fleury, Gérard Meunier

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. Location of the afternoon posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Magnetic Resonance
Monday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(830-1 P) Droplet Size Distribution, NMR VS Microscopy GABRIELA SERIOGAN, Bunge NA, Tiffanie West, Kathryn Reihel

(830-2 P) High-Performance Quantitative 1H-NMR is an Important Tool for the Certification of Organic Certified Reference Materials (CRM), Providing Traceability and Low Measurement Uncertainty ALEX RUECK, Sigma-Aldrich, Christine Hellriegel, Robert Sauermoser, Juerg Wuethrich, Michael Weber

(830-3 P) Probing Micelle Structure and Aggregation in Bile Salts NICHOLAS J DOYLE, Bucknell University, Thomas H Mann, David Ravnyak, Timothy G Stein

(830-4 P) Analysis of Ethyl Acetocetate Using HMBC, A 2-D NMR Technique JAMES MCSALLY, St. John Fisher College

(830-5 P) MR Spectroscopic Imaging Detects Brain Lithium Changes After a Missed Dose SUBBAROJA RAMAPRASAD, University of Nebraska Medical Center, Lindsay Rice, Melvin Lyon

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. Location of the afternoon posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Pharmaceutical: LC and Data Analysis
Monday Afternoon, Exposition Floor, Back of Aisles 1000-2500


(840-2 P) Validated Selective HPLC-DAD Method for the Simultaneous Determination of Diclofenac Sodium and Lidocaine Hydrochloride in Presence of Four of Their Related Substances and Potential Impurities TAREK S BELAL, University of Alexandria, Mona Bedair, Azza Gazy, Karin M Gurguis

(840-3 P) Evolution of UHPLC Column and Instrument Designs RICHARD A HENRY, Supelco/Sigma-Aldrich, David S Bell, Hugh M Cramer, Gaurang Parmar

(840-4 P) Determination of Lithium in Pharmaceutical Products by HPLC Analysis with CAD Detection LU LU DAI, Genentech, Kelly Zhang, Larry Wigman, Nik Chetwyn

(840-5 P) Pharmaceutical Applications of Sub-2-µm, Solid-Core Particle Columns KENNETH BERTHELETTE, Waters Corporation, Mia Summers, Kenneth J Fountain

(840-6 P) Greater Loading Capacity and Resolution for Improved Process-Scale Peptide Purification RENO T NGUYEN, Grace Discovery Sciences, Mark Jacyno, Joe Bystron, Melissa Wilcox

(840-7 P) High-Purity Purification Method for Ecocapstanic Acid Ethyl Ester (EPA-EE) by a Newly Developed Reveresed-Phase Packing Materials TAKASHI SATO, YMC Co., Ltd., Ernest J Sokkow, Noriko Shoji, Takamoto Takai, Naohiro Kuriyama


(840-9 P) Packaging Selection for Stability Studies and Bulk Storage of Hygrosopic Compounds YANING MA, Pfizer, Brent Maranzano, Yong Zhou, Elise Clement, Laura Douglass, Robert Timpano, Julie Lippke, George Reid

(840-10 P) Peak Deconvolution Analysis with Photo Diode Array Detector TOSHINOBU YANAGISAWA, Shimadzu Corporation, Yasuhiro Mito, Minori Nakashima, Yusuke Osaka, Junichi Masuda, Oikyuki Kumihito, Masami Tomita

(840-11 P) Efficient Methods Development Combing Simultaneous Mass and UV Detection with Flexible Software for Mobile Phase Formulation PAULA HONG, Waters Corporation, Patricia R McCorvill

(840-12 P) Optimized Gradient and Isocircal Semi-Preparative HPLC Purification Profiles of Large and Small Molecules Using Semi-Automated Continuous Serial Large Volume Fraction Collection From High Capacity Column Loading TONI HOFHINE, Gilson, Inc., Luke Roenneburg, Tony Pleva, Greg Robinson, Michael D McGinley

(840-13 P) HPLC Method Development and Validation for USP Norfloxacin Monograph Modernization ASHRAF Z KHAN, US Pharmacopeia, Shane Tan, Natalia Kouznetsova

(840-14 P) A New Saccharide Analysis Column for Charged Aerosol Detector NAKAYAMA, Showa Denko KK, Melissa Turcotte, Ronald Benson

(840-15 P) Rapid Purification of a Diverse Range of Peptides Using Flash Chromatography with ELSD and UV Detection and a New Wide-Pore C18 Media MELISSA WILCOX, Grace Discovery Sciences, Mark Jacyno, Joe Bystron, Chitra Sundararaman

(840-16 P) Fast and Efficient Isolation of Botanical Ingredients Using Automated Flash Chromatography MELISSA WILCOX, Grace Discovery Sciences, Mark Jacyno, Joe Bystron, James Neal-Kababic, Paula Brown

(840-17 P) Comparative Evaluation of Automated Flash Chromatography and Preparative HPLC for Bench-Scale Purification of a Broad Range of Sample Types MELISSA WILCOX, Grace Discovery Sciences, Mark Jacyno, Joe Bystron, Chitra Sundararaman

(840-18 P) Simultaneous Determination of In-Vitro Release Profile of PB-1301 (a Drug Candidate) and a Controlling Excipient in Capsule Formulation by HPLC with Dual Wavelength Detection WEI DAO, Prinbury Biopharm Co., Ltd, Rui He, Yun Tian, David Zhao, Paul Fan, Luke Wang, Eric W Tsai


(840-20 P) Using Selectivity Data to Demonstrate a Simple but Powerful Solid Core UHPLC/ HPLC Method Development Platform ALAN P MCKEOWN, Advanced Chromatography Technologies Ltd, Geoffrey Faden

(840-21 P) Exploring the Selectivity and Performance of a New Extended pH Range Stable Core UHPLC/HPLC Column Family with SuperC18 and SuperPhenylHexyl Bonded Phases ALAN P MCKEOWN, Advanced Chromatography Technologies Ltd, Geoffrey Faden
PITCON 2014 TECHNICAL PROGRAM

POSTER SESSION  Session 850

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Pharmaceutical, LC: Separation Sciences, Sensors and Data Analysis

Session 850

Monday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(850-1 P) Scale-Up Determination of Column Diameter and Load Capacity for Automated HPLC Purification Without Sacrificing Performance or Productivity TONI HOFHINE, Gilson, Inc., Luke Roeneneburg, Michael D McGinley, Marc Jacob

(850-2 P) Analysis of Phospholipids in Natural Samples by Normal Phase HPLC and Corona Charged Aerosol Detection MARC PLANTE, Thermo Fisher Scientific, Bruce Bailey, Ian N Acworth, David Thomas, Qi Zhang

(850-3 P) Analysis of Polyphenols in Bark Extract of Stryphnodendron adstringens (Mart.) Coville (Fabaceae) by 1D and 2D Liquid Chromatography CRISTINA D VIANNA-SOARES, University of Minnesota, André M Nascimento, Rachel G Castilho, Peter W Carr


(850-5 P) A High Capacity 150Å Reversed-Phase Silica Gel for the Purification of Oligonucleotides REN T NGUYEN, Grace Discovery Sciences, Mark Jacyna, Joe Bystron, Melissa Wilcox

(850-6 P) Enantiomeric Separation of Chiral Phosphates and Sulfonates Using Barium Complexed Cyclofructan Stationary Phases ZACHARY S BREITBACH, The University of Texas at Arlington, Jonathan Smuts, Daniel W Armstrong

(850-7 P) Exploring Unique Chemically Modified Carbohydrate Based Chiral Stationary Phases to Improve Chiral Separations MATTHEW PRZYBYCIEL, ES Industries, David Kohler

(850-8 P) Taste Masking Optimization of an Active Principle Using Taste Assessment by Electronic Tongue Instrument JOHN SHEA, Alpha MOS, Jean-Christophe Mifoud, Arash Rachtschian, Marion Bonnefille, Herve Lechat, Fatma Ayouni, Valerie Vabre

(850-9 P) Extending the Linear Dynamic Range of Photo Diode Array Detector TOSHIYUKI YAMAGISHI, Shimadzu Corporation, Yasuhisa Mitoh, Minoru Nakashima, Yusuke Osaka, Junichi Masuda, Okuyuki Kumihito, Masami Tomita

(850-10 P) Synthesis and Applications of Novel Sulfopropyl ether U-cycloadextrins Polymers as Chiral Selectors FEIFEI JIA, Tianjin University, Li Youxin, Bao J James


(850-12 P) ATR-FTIR Spectroscopic Imaging and Modeling of Drug Release from Swelling Tablets JAMES A KIMBER, Imperial College London, Sergii G Razarian, Frankistle Stepanek

(850-13 P) Employing Design of Experiments (DoE) to Evaluate the Robustness of an Automated Content Uniformity Methodology for the Triple Fixed Dose Combination Tablets IRENA MAKSIMOVIC, Bristol-Myers Squibb, Dongsheng Bu, David R Lloyd

(850-14 P) Isolation, Identification, and Determination of Designer Anabolic Steroids Commonly Found in Dietary Supplements SARAH E VOLEKER, U.S. Food and Drug Administration, Forensic Chemistry Center, Mary B Jones, Lisa M Lorenzo, Travis M Falconer, Jonathan J Ucacz

(850-15 P) Application of Unique Stationary Phases for Effective RPLC Method Development THOMAS J WAEGHE, MAC-MOD Analytical, Carl L Zimmerman, Geoffrey Faden

Pittcon 2014 welcomes the Congresso Analtica 2013 Poster Award recipient. The award provides travel arrangements to Pittcon 2014. Rafael Sutti, Faculdade de Ciencias Medicas da Santa Casa de Sao Paulo

POSTER SESSION  Session 860

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Undergraduate Students Only Poster Session

Session 860

Monday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(860-1 P) Probing Adsorption of Molecular Dyes to ZnO Nanoparticles Using Second Harmonic Generation Spectroscopy AMANDA AL NOSIF, Ball State University, Kevin Shane, Chris Nelson, Mahamud Subr

(860-2 P) Determination of Removal Efficiency of Organic Pollutants by Magnetic Particles Using Surface Selective Laser Spectroscopy GORY A DIELEER, Ball State University, Amanti Al-Nossif, Mahamud Subr

(860-3 P) Correlating Enzymatic Turnover with Post-translational Modification of Cysteine Dioxygenase ANDREW G ROTH, Calvin College, David E Benson, Taylor R Hegg

(860-4 P) Separation and Chromatometric Analysis of FAMEs in Biodiesel Blends MARIEL E FLOOD, College of the Holy Cross, Mary P Connelly, Amber M Hupp

(860-5 P) Classification of Feedstock Source in Biodiesel-Diesel Blends MARY P CONNOLLY, College of the Holy Cross, Mariel E Flood, Amber M Hupp

(860-6 P) Toward the Development of a Portable Device for the Analytical Characterization of Whiskey Samples HILLARY ANDALUZ AGUILAR, Elmira College, Jared S Baker

(860-7 P) Employing Capillary Electrophoresis as a Characterization Tool for the Post-Synthesis Treatment of Acetic Acid-Derived Carbon Nanoparticles MORGAN J KRAMER, Elmira College, Jared S Baker

(860-8 P) Systematic Investigation of Benthic Macronutrients as Biomarkers for Petroleum-Hydrocarbon Pollution TYLER MYERS, Elmira College, Jared S Baker

(860-9 P) Characterizing and Quantifying Binding Interactions of Photoactive Cr(III) Diimine Systems with DNA WILLIAM D NETTERVILLE, Furman University, Margaret A Gauklin, Morgan M Sparkle, Noel A Kane-Maguire, Wheeler K Sandra, John F Wheeler

(860-10 P) Investigation of the DNA Interaction of Novel Photoactive Diimine Complexes of Cr(III) Using LC-MS FREDERICK D DAVID, Furman University, Andrew G Kantor, Noel A Kane-Maguire, Sandra K Wheeler, John F Wheeler

(860-11 P) Analysis of Cr(III)-Based DNA Photochelating Agents Using CZE, PCR and Gel Electrophoresis YASMIN R ALVAREZ GARCIA, Furman University, Sarah M Duff, Ying Wei, Christopher D Zachurski, Kane-Maguire A Noel, Sandra K Wheeler, John F Wheeler


(860-13 P) Optical Detection of pH with Gold Nanorod-Infused Hydrogels LUCAS B THOMPSON, Gettysburg College, Andrea J Sitton

(860-14 P) Quantifying the Partitioning of Hydrophobic Solutes into the Surfactant Bilayer on Gold Nanoparticles LUCAS B THOMPSON, Gettysburg College, Ida M DiMucci, Bryan V Stokes-Cawley

(860-15 P) Electrodepodisation of Nanoparticles at Nano-Liquid/Liquid Interfaces GARRETT HOPKIKER, University of Illinois at Urbana-Champaign, Mei Shen, Joaquin Rodriguez-Lopez


(860-17 P) Wetting CTB—Modified Nanoporous Silicon Particles with β-Cyclodextrin BINBIN LIN, University of Iowa, Angeline S Morris, M Lei Geng

(860-18 P) Fate of Halocaric Acids in Bulk Sodium Hypochlorite Solutions JOHN W DECKER, University of Memphis, Christina M Henson, Gary L Emmert, Paul S Simone

(860-19 P) Rapid, On-Site Analysis of Trihalomethanes and Haloacetic Acids in Drinking Water Using Standard Addition and a Portable Kit Automated by Flow Injection Analysis ROBYN A SNOW, University of Memphis, Aaron W Brown, Thomas E Watts, Paul S Simone, Gary L Emmert
PITCON 2014 TECHNICAL PROGRAM

TUESDAY, MARCH 4, 2014
MORNING

AWARDS Session 870

Pittsburgh Analytical Chemistry Award
arranged by Annette S Wilson, University of Pittsburgh

Tuesday Morning, Room S401b

Annette S Wilson, University of Pittsburgh, Presiding

8:30 Introductory Remarks - Annette S Wilson

Pittsburgh Analytical Chemistry Award
RICHARD M CROOKS, The University of Texas at Austin, by Heather L Juzwa, Chair, Society for Analytical Chemists of Pittsburgh

8:40 (870-1) Fundamentals and Applications of Bipolar Electrodes

9:15 (870-2) Detection of Short-Lived Electrode Reaction Intermediates with the Scanning Electrochemical Microscope – Sn(+3) and Others

9:50 (870-3) Autonomous Bio/chemical Analytical Microsystems for Space Science: \( \text{Sn} \rightarrow \text{Sn}^{2+} \)

10:20 Recess

10:40 (870-4) Real-Time Gas Analysis as Powerful Tool to Study the Volatile Metabolome of the Airway Microbiome in Cigarette Smoking Induced Chronic Obstructive Pulmonary Disease (COPD)

11:15 (870-5) Analysis of Molecular Orientation in a Poly-3-Alkylthiophene Thin Film Using Infrared p-MAPS Spectroscopy

AWARDS Session 880

The Coblentz Society/ABB - Bomem-Michelson Award
arranged by Michael 'Micky' L Myrick, University of South Carolina

Tuesday Morning, Room S402a

Michael 'Micky' L Myrick, University of South Carolina, Presiding

8:30 Introductory Remarks - Michael 'Micky' L Myrick

8:35 (880-1) New Development of Far-Ultraviolet Spectroscopy in Solids and Liquids

8:40 (880-2) Variable-Temperature and Polarization FT-IR/FT-NIR Spectroscopic Imaging of Polymers

9:15 (880-3) Vibrational Circular Dichroism Microsampling of Teflons and Tissues

9:50 (880-4) Sampling for Success with Raman Spectroscopy

10:25 Recess

10:40 (880-5) Analysis of Molecular Orientation in a Poly-3-Alkylthiophene Thin Film Using Infrared p-MAPS Spectroscopy

11:15 (880-6) High-Resolution FT-IR Imaging of Single-Leukocyte-Chromosome Morphology

SYMPOSIUM Session 890

ACS DAC: Advances In Our Understanding of Complex Aerosols at the Individual Particle Level
arranged by Kimberly A Prather, University of California, San Diego and Vicki Grassian, University of Iowa

Tuesday Morning, Room S401a

Kimberly A Prather, University of California, San Diego, Presiding

8:30 Introductory Remarks - Kimberly A Prather and Vicki Grassian

8:35 (890-1) Challenges in Measuring the Chemical Complexity of Individual Atmospheric Particles

9:10 (890-2) Heterogeneous Reactivity of Mineral Dust and Sea Spray Aerosol Particles Using Micro-Raman Spectroscopy and Other Single Particle Methods

9:45 (890-3) Probing Phase Transitions within Individual Particles

10:20 Recess

10:35 (890-4) Chemical Microscopy of Individual Submicrometer Particles

11:10 (890-5) Single Particle Variability in Heterogeneous Reaction Kinetics as Determined by X-Ray Microscopy and Mass Spectrometry

SYMPOSIUM Session 900

Advanced Surface and Materials Analysis by XPS, Spectroscopic Ellipsometry, Nano- and ToF-SIMS, RBS, and Helium Ion Microscopy: The Power of These Techniques Individually and Combined
arranged by Matthew R Linford, Brigham Young University

Tuesday Morning, Room S402b

Matthew R Linford, Brigham Young University, Presiding

8:30 Introductory Remarks - Matthew R Linford

8:35 (900-1) Application of Combined X-ray Photoelectron Spectroscopy (XPS) and Processing Capabilities in Surface Characterization of Novel Catalysis, Nanostructured, and Battery Electrode Surface Films

9:10 (900-2) Backscattering and Helium Ion Microscopy as Powerful Probes for Both In-Depth and High Resolution Surface Characterization of Materials and Thin Films

9:45 (900-3) Material Characterization by Spectroscopic Ellipsometry: Exploiting the Optical Response of Matter

10:20 Recess

10:35 (900-4) Secondary Ion Mass Spectrometry: From Depth Profiling to Nanoscale Chemical Imaging

11:10 (900-5) The Blind Men and the Elephant as Metaphor for the Multi-Technique Analysis of Surfaces and Materials

SYMPOSIUM Session 910

Analysis of Microbiome Contributions to the Human Biomarker Metabolome
arranged by Joachim Dieter Pleil, US EPA and Wolfram Miekisch, Medical University Rostock

Tuesday Morning, Room S404a

Joachim Dieter Pleil, US EPA, Presiding

8:30 Introductory Remarks - Joachim Dieter Pleil and Wolfram Miekisch

8:35 (910-1) The Airway Microbiome in Cigarette Smoking Induced Chronic Obstructive Pulmonary Disease (COPD)

9:10 (910-2) Real-Time Gas Analysis as Powerful Tool to Study the Volatile Metabolome

TUESDAY, MARCH 4, 2014
RECESS


LAURENCE A NAFIE, Syracuse University

Presentation of the 2014 Coblentz Society/ABB - Bomem-Michelson Award to Richard M Crooks, The University of Texas at Austin, by Heather L Juzwa, Chair, Society for Analytical Chemists of Pittsburgh

10:20 Recess

11:15 (910-5) Single Particle Variability in Heterogeneous Reaction Kinetics as Determined by X-Ray Microscopy and Mass Spectrometry


12:10 (910-7) The Blind Men and the Elephant as Metaphor for the Multi-Technique Analysis of Surfaces and Materials

TUESDAY, MARCH 4, 2014
9:45 (910-1) A Critical Review on the Comparison of Volatiles in Breath, Urine, Blood, Milk, Saliva, Skin and a Comparison of Volatiles in Stool from Healthy and Diseased Human Volunteers NORMAN M RATCLIFFE, University of the West of England

10:20 Recess

10:35 (910-4) Rapid (<30 sec.) Detection of Bacterial Pathogens Using Breath JANE E HILL, Dartmouth College, Heather D Bean, Jaime Jimenez, Jiangjiang Zhu

11:10 (910-5) Contributions to the Human Exposome from Inhalation and Ingestion JONATHAN BEAUCHAMP; Fraunhofer IVV, Andrea Buettnet, Maria Wagenmettre, Frauke Kirch

SYMPOSIUM Session 920
Applications of Live Cell RNA Detection

Tuesday Morning, Room S405b
David Giljohann, AuraSense LLC, Presiding

8:30 Introductory Remarks - Chad A Mirkin and David Giljohann

8:35 (920-1) Live Cell RNA Expression Detection in Single Cells DON WELDON, EMD Millipore, Grace Johnston, Yulo Williams, Alex Ko

10:20 Recess

9:10 (920-4) Cancer Stem Cell Isolation Using Nanoflare Sensors DAVID GILJOHANN, AuraSense LLC, Tiffany Halo

11:10 (920-5) Advanced Molecular Probes for Intracellular mRNA Monitoring WEIHONG TAN, University of Florida

SYMPOSIUM Session 930
Design and Application of Smart Materials for Chemical Sensing and Analysis - arranged by Joel M Harris, University of Utah

Tuesday Morning, Room S404bc
Joel M Harris, University of Utah, Presiding

8:30 Introductory Remarks - Joel M Harris

8:35 (930-1) Chemical Sensing Platforms Based on Tailored Nanoporous Xerogels FRANK V BRIGHT, University at Buffalo - SUNY

10:20 Recess

9:45 (930-3) Fluorescent and Photoacoustic Based Nanosensors for In Vitro and In Vivo Chemical Analysis RAOUl KOPELMAN, University of Michigan

11:10 (930-5) Particles Designed for 105 -fold Preconcentration and Confocal Raman Microscopy Detection in Femtoliter Volumes JOEL M HARRIS, University of Utah, Jay P Kint, Christopher Hardcastle, Jonathan Schaefer

SYMPOSIUM Session 940
Imaging Mass Spectrometry of Biological Tissues and Cell Cultures

Tuesday Morning, Room S406d
Amanda B Hummon, University of Notre Dame, Presiding

8:30 Introductory Remarks - Amanda B Hummon

8:35 (940-1) Desorption Electrospray Ionization Mass Spectrometry Imaging of Biological Tissues and Cell Cultures ROBERT G COOKS, Purdue University, Christina Feirera, Alan Jarmuch, Valentina Piro


9:45 (940-3) High-Resolution Imaging of the Cholesterol and Sphingolipid Distribution in the Plasma Membrane with Secondary Ion Mass Spectrometry MARY L KRAFT, University of Illinois at Urbana-Champaign

10:20 Recess

10:35 (940-4) Silver Assisted LDI for High Spatial Resolution Imaging MS of Olfens from Thin Tissue Sections: Application to Atherosclerosis PIERRE CHAURAND, University of Montreal

11:10 (940-5) Imaging Mass Spectrometry of 3D Cell Cultures AMANDA B HUMMON, University of Notre Dame, Huo Li, Eric Weaver, Xin Liu, Dorothy Ahlf

SYMPOSIUM Session 950
Integrated Microfluidics

Tuesday Morning, Room S405a
R Scott Martin, Saint Louis University, Presiding

8:30 Introductory Remarks - R Scott Martin

8:35 (950-1) Integrated Microfluidic Devices for Studying Adhesion and Aging of Individual Bacteria STEPHEN J JACOBSON, Indiana University, Seth M Madren, Joshua D Baker, David T Nyselis, Yves V Brun

9:10 (950-2) Micro- Chromatim Immunoassay (µChI): A Platform for Automated Detection of Protein-Nucleic Acid Interactions in Small Cell Samples RYAN C BAILEY, University of Illinois at Urbana-Champaign, Joshua D Tise, Mallika Modak, Jeong Heon Lee, Tams Orbog

9:45 (950-3) 3D-Printed Microfluidic Devices: Initial Results, Thoughts, and Potential DANA SPENCE, Michigan State University, Sarah Y Lockwood, Jayda Erkal, Chengpeng Chen, Bethany Gross

10:20 Recess

10:35 (950-4) Microfluidic Paper-based Analytical Devices for Personal Exposure Assessment CHARLES S HENRY, Colorado State University

11:10 (950-5) Polystyrene-Based Microfluidic Devices with Integrated Electrodes for Monitoring Cellular Systems R SCOTT MARTIN, Saint Louis University

SYMPOSIUM Session 960
JAIMA: The State-of-the-Art Technologies that Support Safety and Security in Future (1)

Tuesday Morning, Room S505b
Koichiro Matsuda, Japan Analytical Instruments Manufacturers’ Association (JAIMA), Presiding

8:30 Introductory Remarks - Shigeiako Hattori

8:35 (960-1) Terahertz Technology for Safety and Security in Daily Life MASANORI HANGYO, Osaka University

9:10 (960-2) MeV Gamma Imaging by Fully Reconstructing Compton Scattering ATSUHI TAKADA, Kyoto University, Tora Tanimori

9:45 (960-3) Development of Scintillation Materials having Nanometer- Scale Structure MASANORI KOSHIMIZU, Tohoku University

10:20 Recess

10:35 (960-4) Automated Nuclear Emulsion Readout System and Its Applications TOSHIYUKI NAKANO, Nagoya University

11:10 (960-5) New MS Methods for New Problems…and Old Ones ROBERT B CODY, JEOL USA, Inc.

In Situ Spectroelectrochemical Investigation of the Reactive Aqueous Cyclic Voltammetry of Lanthanides at Boron-Doped Diamond Electrodes

Application of Ion-Selective Electrodes Based on Fluorous Matrixes for Sensing Electrocatalyst Screening with Bipolar Electrochemistry

Johna Leddy, University of Iowa, Presiding

Organized Contributed Sessions: SEAC: The First Student Session in Electroanalysis

Electrochromatography on Monolith in Thermoplastic Microchip: A Robust and Easy-To-Use Technology

Separation and Analysis of Proteins and Metabolites in Microchip Devices

Tuesday Morning, Room 550a

8:30
Introductory Remarks - Adam T Woolley

8:35
Solid-Phase Extraction of Proteins and Nucleic Acids: Programmable Microfluidics Using Molded Supports

9:10
Development of and Applications for a Ceramic Microfluidic UHPLC System

9:45
Integrated Solid-Phase Extraction, Fluorescence Labeling, and Electrophoretic Separation in Microfluidic Systems

10:20
Recess

10:35
Electrochromatography on Monolith in Thermoplastic Microchip: A Robust and Easy-To-Use Technology

11:10
Separation and Analysis of Proteins and Metabolites in Microchip Devices

Organized Contributed Sessions: Environmental Analysis of Non-Metals in Water (Half Session)

Tuesday Morning, Room 550b

8:30
Electron Transfer/Ion Transfer Mode of Scanning Electrochemical Microscopy (SECM): A New Tool for Imaging and Kinetic Studies

8:50
Electrocatalyst Screening with Bipolar Electrochemistry

9:10
A Kinetic Evaluation of NADH Oxidation at Nitrogen-Doped Carbon Nanotubes and Detection of Dehydrogenase Turnover

9:30
Application of Ion-Selective Electrodes Based on Fluorous Matrixes for Sensing Environmental Contaminants

9:50
Recess

10:05
Cyclic Voltammetry of Lanthanides at Boron-Doped Diamond Electrodes

10:25
In Situ Spectroelectrochemical Investigation of the Reactive Aqueous Electrodeposition of Crystalline III-V Semiconductor Thin Films

10:45
Photoelectrochemistry Tools for Characterization of Emerging Solar Materials: GaAs Thin-Films Deposited by Close-Spaced Vapor Transport

11:05
Open Discussion

Organized Contributed Sessions: Environmental Analysis of Non-Metals in Water (Half Session)

Tuesday Morning, Room 550c

8:30
Environmental Forensics of Wastewater Samples for Determination of Emerging Contaminants

8:50
Microengineered Tools for Cell-Based Detection of Environmental Water Toxictants

9:10
Determination of Total Nitrogen and Phosphorus in Environmental Waters by Using Alkaline Persulfate Digestion and Ion Chromatography with Suppressed Conductivity Detection

9:30
Determination of UV Filter and Biocide Compounds in Surface Water Samples Using High-Throughput Solid Phase Microextraction System Coupled with Liquid Chromatography–Tandem Mass Spectrometry

10:05
Auto-sampling Explosives Trace Detection Systems Using Mass Spectrometry

10:25
Cluster Analysis of Smokeless Powders and Classification by Discriminant Analysis

10:45
Chemical Profiling of Tetrachloro-octanoic Acid (TCCA) Based Explosives for Forensic Attribution

11:05
Auto-sampling Explosives Trace Detection Systems Using Mass Spectrometry

ORAL Sessions: Analysis of Bioagents and Explosives

Tuesday Morning, Room 550a

8:30
Trace Chemical Profiling of Laboratory Grown and Naturally Cultivated Pathogens

8:50
Chemical Profiling of Forensically Relevant Bacterial Threat Agents with Direct Analysis in Real-Time Mass Spectrometry (DART-MS)

9:10
Measurements of Bioagents at Military Facilities by Using a Field Portable SERS Assay

9:30
Cell Surface Fatty Acid Methyl Ester (FAME) Analysis

ORAL Sessions: Environmental Analysis of Non-Metals in Water (Half Session)

Tuesday Morning, Room 550b

8:30
Environmental Forensics of Wastewater Samples for Determination of Emerging Contaminants

8:50
Microengineered Tools for Cell-Based Detection of Environmental Water Toxictants

9:10
Determination of Total Nitrogen and Phosphorus in Environmental Waters by Using Alkaline Persulfate Digestion and Ion Chromatography with Suppressed Conductivity Detection

9:30
Determination of UV Filter and Biocide Compounds in Surface Water Samples Using High-Throughput Solid Phase Microextraction System Coupled with Liquid Chromatography–Tandem Mass Spectrometry

ORAL Sessions: Food and Consumer Products Quality: Analysis Enhancements (Half Session)

Tuesday Morning, Room 550d

8:30
Novel NMR Technology to Assess Food Quality and Authenticity

8:50
Development and Characterization of Sugar-Based Deep Eutectics

9:10
Single Reaction Chamber Microwave Digestion Studies and Optimized Performance of High Organic Matrices for ICP-OES/ICP-MS Analysis

9:30
Development and Validation of Dietary Supplement Procedures to Satisfy Section 21 CFR 111.320 cGMPs
PITTCON 2014 TECHNICAL PROGRAM

ORAL SESSIONS  Session 1020
Imaging: Advances and Applications (Half Session)
Tuesday Morning, Room 5502a
John P Auses, University of Pittsburgh, Presiding

8:30  (1020-1)  PHOTON for Super-Resolution Imaging of Efflux Functions of Single Membrane Transporters in Single Live Cells  X NANCY XU, Old Dominion University; Kerry J Lee, Tao Huang, Prakash D Nallathamby, Feng Ding

8:50  (1020-2)  Molecular Imaging of Bacterial Biofilms by Confocal Raman Microscopy  RACHEL N MASYUKO, University Of Notre Dame; Sarah Melton, Jennifer Morrell-Falvey, Michael Dobrycz, Paul W Bohn

9:10  (1020-3)  Multiphoton Imaging of Inelastically Scattered Light Using a Digital Micro-Mirror Device  RAJESH MORAMPUDI, Cleveland State University; John F Turner

9:30  (1020-4)  Radial and Linear Concentration Gradients in Cellulose Paper  VEERENDRANATH DEWDOOKARV, Virginia Commonwealth University; Maryanne Gollison, Karl Norquist

ORAL SESSIONS  Session 1030
Liquid Chromatography/Mass Spectrometry: Bioanalytical and ‘Omics Applications
Tuesday Morning, Room 5502b
Richard A Henry, Consultant, Presiding

8:30  (1030-1)  Ultra-Sensitive Simultaneous LC-MS/MS Quantification of Human Insulin, Glargine, Lispro, Aspart, Detemir and Glulisine in Human Plasma Using 2D-LC and a Novel High Efficiency Column  ERIN CHAMBERS, Waters Corporation; Kenneth J Fountain

8:50  (1030-2)  Trace Level Neuropeptide Detection by Capillary LC-MS  YING ZHOU, University of Michigan, Robert A Edwards

9:10  (1030-3)  96-Blade SMPE Coating Evaluation for Bacterial Metabolomics Studies  FATEMEH MOUSAVI, University of Waterloo; Ianaz Pawlischyn

9:30  (1030-4)  Nano-LC-MS of Intact Proteins with High Efficiency and Good Repeatability Using Sub-0.5 μm Particles  ZHEN WU, Purdue University; Mary J Wirth

9:50  Recess

10:05  (1030-5)  Utilization of Fluorous Maleimide in Separation and Identification of Thiol Metabolites  CAROLINE ESCH, Saint Louis University; James I Edwards

10:25  (1030-6)  Bioanalysis of Teraparadite Using a Prototype 150 μm ID Micro-Fluidic Device  ERIN CHAMBERS, Waters Corporation; Mary E Lame, Kenneth J Fountain

10:45  (1030-7)  100% Efficient, Millisecond ESI/LC/MS Sample Introduction and Analysis  DREW SAUTER, nanoLiter LLC

11:05  (1030-8)  LC-MS of Glycans Derived from Glycopeptides and Nude Mouse Tissue Sections  YUNLI HU, Texas Tech University; Shiyue Zhou, Tarek Shihab, Sarah I Khalil, Calvin L Tran; Yehia Mechef

ORAL SESSIONS  Session 1040
Microfluidics: Bioanalytical
Tuesday Morning, Room 5504a
Michelle Bushey, Trinity University, Presiding

8:30  (1040-1)  Development of a Microfluidic Segmented Flow Based Viscosity Sensor  MICHAEL F BELANARO, University of Illinois; Kari Norquist

8:50  (1040-2)  Thin-Film Microfabricated Nanofluidic Arrays for Size-Selective Protein Fractionation  SURESH KUMAR, Brigham Young University; Jie Xuan, H Dennis Tolley, Milton L Lee, Aaron B Hawkins, Adam T Wooley

9:10  (1040-3)  Chip-Hybrid Blotting for Multiplexed Operation  SHI JIN, University of Michigan; Robert Kennedy

9:30  (1040-4)  Fluorescent Linear DNA Sequencing by Use ofShear Flow Stretching in Mass Produced Polymer Devices  PETER F BISTERSGAARD, DTU - Technical University of Denmark; Rodoplie Marie, Rafael J Talborsky

9:50  Recess

10:05  (1040-5)  Integrating Microfabrication with Nanoscale Self-Assembly for Membrane Receptor-Based Biomimetic Sensors  CHRISTOPHER A BAKER, University of Arizona; Leonard K Bright, Craig A Aspinwall

10:25  (1040-6)  On-Line Microdialysis-Microchip Electrophoresis with Electrochemical Detection for the Study of the L-DOPA Metabolic Pathway  RACHEL A SAYLOR, University of Kansas; Susan M Lunte
PITTCON 2014 TECHNICAL PROGRAM

ORAL SESSIONS  Session 1070

Sample Preparation: Environmental Water Analysis
Tuesday Morning, Room 5S05a
Chang Hsu, Florida State University, Presiding

8:30  (1070-1) Extraction of Ultra-Trace Level Concentrations of Organic Acids Using Fabric Phase Sorptive Extraction with HPLC-UV Analysis  ABUZAR KABIR, Florida International University, Rodolfo Mesa, Linda Maiben, Kenneth G Fortune

8:50  (1070-2) New Method US EPA 625 with Solid Phase Extraction for Challenging Wastewaters  DAVID GALLAGHER, Horizon Technology, Michael Edtion, Zoe Groesser

9:10  (1070-3) Ultraviolet Photoinitiated On-Fiber Copolymerization of Ionic Liquid Sorbent Coatings for Headspace and Direct Immersion Solid-Phase Microextraction  TIEN D. The University of Toledo, Honglan Yu, William T Cole, Jared L Anderson

9:30  (1070-4) On-Line Preconcentration of Haloacetic Acids for Analysis by Post-Column Reaction-Ion Chromatography with Nicotinamide Fluorescence in Drinking Water  CHRISTINA M HENSON, The University of Memphis, Patricia Ranania, Gary L Emmert, Paul S Simone

9:50  Reces

10:05  (1070-5) A Simple Preconcentration Protocol for Semi-Automated Analysis of Total Trihalomethanes and Total Haloacetic Acids in Drinking Water  THOMAS E WATTS, University of Memphis, Yin Yee Choo, Paul S Simone, Gary L Emmert

10:25  (1070-6) Evaluation of Fiber/Water Partition Coefficient and Ultra Trace Analysis of Steroids Using Solid Phase Microextraction (SPME) with GC-MS-MS  SHILPI CHOPRA, Seton Hall University, Ramkrishan Dhandapani, Nicholas H Snow

10:45  (1070-7) A Solid Phase Microextraction Coating Based on Ionic Liquid Sol-Gel Technique for Determination of Benzene, Toluene, Ethylbenzene and O-xylene in Water Samples Using Gas Chromatography Flame Ionization Detector  ALI SARAFRAZ VAZDI, Ferdowsi University of Mashhad

10:50  (1070-8) Thin-Film Microextraction Coupled to LC ESI-MS/MS for Determination of Quaternary Ammonium Compounds in Water Samples  EZEL BOYACI, University of Waterloo, Janusz Pawliszyn, Chris Sparham

POSTER SESSION  Session 1080

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Clinical Chemistry and Toxicology
Tuesday Morning, Exposition Floor, Back of Aisles 1000-2500

(1080-1 P) Bioavailability of Metals in Some Selected Plants Grown on an Abandoned Coal Mine Overburden Using Energy Dispersive X-Ray EDMUND OKORIE, Federal Polytechnic Ibadan, Joseph N Egba

(1080-10 P) Trace Analysis of Glycine and its Methyalted Derivatives in Small Volume of Plant Fluids by Surface-Enhanced Raman Scattering with a Cylindrical SERS Substrate  HONGCHEN EMILIE YEN, National Chung Hsing University, Pannerselvam Rajapandiyan, Jyoti Yang

(1080-11 P) Quantitative Analysis of the Most Commonly Used Pain Medications in Urine by Headspace  SHIANGZHI “MAX” WANG, Shukla, Vijaya R Nadagauda, Hyacinth N Highland

(1080-12 P) Dried Spots Technique for Quantitative Determination of Pain Management Drugs in Human Oral Fluid Using Liquid Chromatography-Tandem Mass Spectrometry  JUN HEE, Veritas Laboratories, LLC, Congying Gu, Patrick Rainey, Marion Lee, Beth Bowen, Cyntara Davis

(1080-13 P) Analysis of Herbal Remedy Using Various Analytical Techniques to Identify Any Potential Toxic Compounds  HANG P HUYEN, St. John Fisher College, Irene Kimaru

(1080-14 P) Simultaneous Determination of 17 Drugs of Abuse and Organophosphorus Pesticides in Human Blood by GC-MS/MS  SUN QIAN, Shimadzu (China) Co., Ltd., Dong Hengtao

(1080-15 P) Quantitative Analysis of the Most Commonly Used Pain Medications in Urine by Using a Reliable Sample Preparation Technique in Combination with an API 5000 LC-MS-MS  J PRESTON, Phenomenex, Shahana Huq, Seyed Sadjadi, Jeff Layne

(1080-16 P) Enhanced Resolution and Matrix Interference Reduction for the Analysis of Vitamin D Metabolites  CRAIG R AURAND, Supelco/Sigma-Aldrich, David S Bell, Hugh M Cramer
POSTER SESSION  Session 1100
All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Food Science: Analytical Methods
Tuesday Morning, Exposition Floor, Back of Aisles 1000-2500

**POSTER SESSION  Session 1110**
All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

FIIR/Raman/NIR Applications
Tuesday Morning, Exposition Floor, Back of Aisles 1000-2500

**POSTER SESSION  Session 1120**
All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

New Products at Pittcon 2014
Tuesday Morning, Exposition Floor, Back of Aisles 1000-2500

**POSTER SESSION  Session 1110**
All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

FIIR/Raman/NIR Applications
Tuesday Morning, Exposition Floor, Back of Aisles 1000-2500

**POSTER SESSION  Session 1120**
All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.
PITTCON 2014 TECHNICAL PROGRAM

TUESDAY, MARCH 4, 2014
AFTERNOON

AWARDS

Session 1140

Pittsburgh Spectroscopy Award

Tuesday Afternoon, Room 5401bc
Sanford A Asher, University of Pittsburgh

1:30 Introductory Remarks - Sanford A Asher

1:35 (1140-1) Line 'Em All Up: Macromolecular and Nanoparticle Assembly at Oil/Water Interfaces

1:40 (1140-2) What Can a Retired Industrial Spectroscopist Do? Collaborate! BRUCE CHASE, University of Delaware

2:10 (1140-3) Lipids (and Water) in Mixed Lipid Aggregates: Temperature Effects

2:50 (1140-4) Enhancing Molecular Structural Information in Nonlinear Vibrational Spectroscopy

3:25 Recess

3:40 (1140-5) Slip Flow at Chemical Interfaces

4:15 (1140-6) Current State of Anti-Doping Analysis – Techniques, Trends and Challenges

SYMPOSIUM

Clinical Analysis: The Next Frontier in Mass Spectrometry

Tuesday Afternoon, Room 5402a
Timothy J Garrett, University of Florida, Presiding

1:30 Introductory Remarks - Timothy J Garrett

1:35 (1150-1) Innovations in Mass Spectrometry for Clinical Analysis – RICHARD A YOST, University of Florida, Timothy J Garrett, Alan Rockwood

2:10 (1150-2) Bridging the Gap Between Nanospray and Clinical Analysis: New Approaches for Automated Proteomics – NATHAN YATES, University of Pittsburgh

2:45 (1150-3) Imaging Metabolites and Metabolic Pathways in Cancer – LIAM MCDONNELL, Leiden University Medical Center

3:20 Recess

3:35 (1150-4) MALDI-TOF in Clinical Microbiological Analysis – PREETI PANCHOLI, Tufts University


SYMPOSIUM

Current Challenges and New Analytical Techniques in Doping Detection

Tuesday Afternoon, Room 5402b
Janusz Pawliszyn, University of Waterloo, Presiding

1:30 Introductory Remarks - Janusz Pawliszyn

1:35 (1160-1) Ultrasensitive and Chiral Analysis of Performance Enhancing Drugs (PEDs): Stimulants and Steroids – DANIEL W ARMSTRONG, University of Texas at Arlington

2:10 (1160-2) Introduction of Solid Phase Microextraction as a Powerful Tool for High Throughput Sample Preparation in Laboratory Analysis of Prohibited Substances – EZEL BAYKI, University of Waterloo, Krysztof Gorynski, Angel Rodriguez-Lafuente, Barbara Bojko, Janusz Pawliszyn


3:20 Recess
SYMPOSIUM Session 1220

**Royal Protein Chemistry Session - arranged by May Copsey, Royal Society of Chemistry**

Tuesday Afternoon, Room S404d

- **May Copsey**, Royal Society of Chemistry, Presiding

  1:30 Introductory Remarks - May Copsey
  
  1:35 (1220-1) Multiplexed and Sensitive Molecular Diagnostics Using SERS. **KAREN FAULDS**, University of Strathclyde, Mhairi Harper, Kirsten Gracie, Kristy McKeating, Jennifer A Douglas, Duncan Graham
  
  2:10 (1220-2) SERS in Practice. **W E SMITH**, Strathclyde University
  
  2:45 (1220-3) Detection of Drugs and Drug Metabolites Using SERS. **ROY GOODACRE**, University of Manchester, Omar Alharbi, Graham Kenyon, Samuel B Mabbutt, Yun Xu, Elon Correa, David Gowcher
  
  3:20 Recess
  
  3:35 (1220-4) Nanoparticle Labeling Strategies as Tools for the Early Diagnosis of Infectious Disease. **MARIE-DOUGLAS**, University of Utah
  
  3:55 (1220-5) Nanoparticle Based Analysis of Biomolecules, Cells and Tissue. **DUNCAN GRAHAM**, University of Strathclyde, Sarah McLaughlin, Derek Craig, arena Robson, Jonathan Simpson, Karen Faulds
  
  4:10 Recess

SYMPOSIUM Session 1230

**Targeting-Protein-Interactions**

arranged by Steven J Metallo, Georgetown University

Tuesday Afternoon, Room S405a

- **Steven J Metallo**, Georgetown University, Presiding

  1:30 Introductory Remarks - Steven J Metallo
  
  1:35 (1230-1) Protein-Protein Interactions Exploited Through Small Molecules in Plasmodium Falciparum. **JÜRGEN BUSCH**, Johns Hopkins University
  
  2:10 (1230-2) Targeting Gene Regulation in Cancer. **QI JUN**, Dana Farber Cancer Institute, James E Bradner
  
  2:45 (1230-3) Alpha-Helical Proteomimetics: Inhibition of Intracellular Protein-Protein Interactions via Direct Epitope Transfer from Proteins to Designed Small Molecules. **NEAL J ZONDLO**, University of Delaware
  
  3:20 Recess
  
  3:35 (1230-4) Inhibiting Protein-Protein Interactions. **ADRIAN WHITTY**, Boston University
  
  4:10 (1230-5) Specificity and Promiscuity in Small Molecule Binding to Intrinsically Disordered Protein Regions. **STEVEN J METALLO**, Georgetown University

SYMPOSIUM Session 1240

**Top-Down Mass Spectrometry of Proteins Relevant to Human Health Research**

arranged by Joseph A Loo, University of California, Los Angeles

Tuesday Afternoon, Room S405b

- **Joseph A Loo**, University of California, Los Angeles, Presiding

  1:30 Introductory Remarks - Joseph A Loo
  
  1:35 (1240-1) Elucidating Structures of Protein Assemblies by Top-Down Native Mass Spectrometry. **JOSEPH A LOO**, University of California, Los Angeles, Huilin Li, Jiang Zhang, Pinyi Wong, Yongkai He
  
  
  2:45 (1240-3) Top-down Mass Spectrometry Enabled Cardiac Proteomics for Understanding Heart Failure. **YING GE**, University of Wisconsin-Madison
  
  3:20 Recess
  
  
  4:10 (1240-5) Improving Coverage of the Human Proteome via Whole Protein Mass Spectrometry. **HEIL KELLEHER**, Northwestern University

WORKSHOPS Session 1250

**Advances in Protein and Peptide Separations**

arranged by Michael D McGinley, Phenomenex

Tuesday Afternoon, Room S504a

- **Michael D McGinley**, Phenomenex, Presiding

  1:30 Introductory Remarks - Michael D McGinley
  
  1:35 (1250-1) Applying Protein Characteristics in Development of Aggregation Assays Using GFC. **MICHAEL D McGINLEY**, Phenomenex, Rustamov Ismail, Shengbin Zhang
  
  2:05 (1250-2) Analytical Challenges Facing the Characterization of Targeted Monoclonal Antibody-Based Therapies. **ERIK KOLVENBACH**, Amgen, Inc
  
  2:35 (1250-3) Strategies for Increasing the Sensitivity and Selectivity of LC/MS/MS Techniques. **JEFFREY DOUGLAS MILLER**, AB SCIEX
  
  3:05 Recess
  
  
  3:50 (1250-5) Automating Protein Sample Preparation. **KEVIN MEYER**, Perfinity Biosciences

ORGANIZED CONTRIBUTED SESSIONS Session 1260

**High Throughput Analysis for Food Safety and Cosmetics**

arranged by Perry G Wang, U.S. Food and Drug Administration and Mark F Vitha, Drake University

Tuesday Afternoon, Room S504bc

- **Mark F Vitha**, Drake University, Presiding

  1:30 (1260-1) High Throughput Techniques for Food Analysis. **MARK F VITHA**, Drake University
  
  
  2:10 (1260-3) Antibiotic Residue Detection by LC/MS/MS in Food. **ANGELA CARLSON**, SGS North America
  
  2:30 (1260-4) Impact of Chronic Ethanol Consumption on Metabolite Profiles of Liver in Mice: A Time Course Study. **XUANCHI ZHU**, University of Miami, Zhaxiang Zhou
  
  2:50 Recess
  
  3:05 (1260-5) A Mass Spectrometric Fingerprinting Method for Authentication and Quality Assessment of Scutellaria lateriflora Based Dietary Supplements. **PEI CHEN**, USDA, Jianghao Sun
  
  
  3:45 (1260-7) Improving Identification of Pesticides Using Atmospheric Pressure Gas Chromatography Coupled with Mass Spectrometry. **KELLY DOWDELE**, General Mills/Medallion Laboratories
  
  4:05 Open Discussion

ORGANIZED CONTRIBUTED SESSIONS Session 1270

**QbD Based Development of Analytical Methods for Product Characterization, Release, and Stability Studies - Present Status, Lessons Learned, and the Future**

arranged by Shreekant V Karmarkar, Baxter Healthcare and Richard Verpeut, S-Matrix Corporation

Tuesday Afternoon, Room S504d

- **Shreekant V Karmarkar**, Baxter Healthcare, Presiding

  1:30 (1270-1) Utilizing Design of Experiments (DOE) for Method Robustness Optimization. **DAN PRUDHOMME**, Gildead
  
  1:50 (1270-2) Application of Quality by Design (QbD) to the Development and Validation of Analytical Methods. **YUER SHI**, Bristol-Myers Squibb
  
  2:10 (1270-3) Use of a Software as a Platform Neural Tool in the Validation and Development of Analytical Methods for Quantitative NMR, HPLC and GC/MS. **TIM ECKERSLEY**, Cambridge Isotope Laboratories, Kris Dozwiczek
  
  2:30 (1270-4) Leveraging Predictive Software Tools for HPLC Method Development in Pharmaceutical R&D. **EMILY JAMESON**, Vertex Pharmaceuticals
ORAL SESSIONS  Session 1280

Bioanalytical Spectroscopy  Tuesday Afternoon, Room S501bc

Ronghu Wu, Georgia Institute of Technology, Presiding

1:30  (1280-1)  Development and Optimization of a Closed Tube SERS-Based Assay for the Multiplex Detection of Fungal Infections  SAMUEL B MARBOTT, University of Strathclyde, David Thompson, Nazyma Mudallal, S Ciminothra, Graeme McKay, Karen Fauld, Duncan Graham

1:50  (1280-2)  Metal Enhanced Fluorescence on Gold Microhole Arrays Towards a Dual Detection of a PSA Immunopassay  RICHARD HUGO-PIERRE, Université de Montréal, Julien Breau-Turc, Jean-François Masson

2:10  (1280-3)  Ultrasonic Detection of Dyes and Proteins by Surface-Enhanced Raman Spectroscopy (SERS) in Capillary Electrophoresis  (CE)  PIERRE NEGRI, University of Notre Dame, Zachary D Schultz

2:30  (1280-4)  High-Throughput Cell Assay to Characterize GPCR–Ion Channel Fusion Proteins  MARIA F MENDOZA, University of Arizona, Leonard R Bright, Scott Savaedra, Craig A Argus

2:50  Recess

3:05  (1280-5)  NIR Dyes as Substrates: New Approach to Determine Enzymatic Activity  GABOR PATONAY, Georgia State University, Maged M Henary, Garfield Beckford, Andy Levitz, Holly Ellis

3:25  (1280-6)  Extracellular, Membrane and Intracellular Proteins that Alter Receptor Cell Membrane Diffusion and Clustering  EMILY SMITH, Iowa State University, Neha Arora, Dipak Mainali, Akem Syed, Jacob Petrich

3:45  (1280-7)  Diffusion Characteristics of Polymerizable Lipids Bilayers  KRISTINA OROSZ, University of Arizona, Boying Liang, Benjamin A Heitz, S Scott Savaedra

4:05  (1280-8)  Peptide-Mediated Ratiometric Sensing of pH Regulation in Trypanosoma Brucei Glycosomes  SHENGA LIN, Clemson University, Kenneth A Christensen, Meredith T Morris, James E Morris

ORAL SESSIONS  Session 1290

Capillary Electrophoresis: New Approaches for Bioanalytical Applications  Tuesday Afternoon, Room S501d

Colin Medley, Genentech, Presiding

1:30  (1290-1)  Surface Coating Method for Controlling Electrophoretic Flow for CE-ESI-MS  NICOLAS BAITZ, University of North Carolina at Chapel Hill, J S Mellott, J Michael Ramsey

1:50  (1290-2)  Tunable DNA Sieving With Thermally Responsive Nanogels  BRANDON C DURNEY, West Virginia University, Lisa A Holland

2:10  (1290-3)  Carrier-Mediated Electromembrane Extraction Combined with Capillary Electrophoresis for Sensitive Determination of Arsenic Species in Drinking Water  DONG SOO CHO, Seoul National University, Ho-Jin Jung, Zhang Xian Sun

2:30  (1290-4)  Strategies for Improving Analytical Performance of Microscale Electrophoresis  KOKI OTSUKA, Kyoto University, Yudai Fukushima, Kiichi Kanemori, Toyohiro Naito, Takuya Kubo

2:50  Recess

3:05  (1290-5)  Bile Salt Micelle Chiral Guest-Host Interactions Probed by MEKC and 1H NMR  CLAIRE OUVILLE, Bucknell University, Kendall E Sandy, Timothy G Strein, David Rosenkranz

3:25  (1290-6)  Capillary Electrophoretic Separations with Post Capillary Droplet Segmentation and Sample Capture  CHRISTOPHER R HARRISON, San Diego State University, Shih H Lin

3:45  (1290-7)  Understanding In-Line Mixing and Stacking Dynamics with EMA Using the Jaffe Reaction  TIMOTHY G STREIN, Bucknell University, Adam R Meier, Mania D Jones

4:05  (1290-8)  CIEF-ESI-MS/MS and RPLC-ESI-MS/MS for Quantitative Proteomic Analysis of Differentiating PC12 Cells by 8-Plex iTRAQ  GUOJU ZHU, University of Notre Dame, Liangliang Sun, Richard Keithley, Norman J Dovichi

ORAL SESSIONS  Session 1300

Clinical Chemistry and Toxicology (Half Session)  Tuesday Afternoon, Room S501a

Alice Chen, The Pittsburgh Conference, Presiding

1:30  (1300-1)  Illicit Drug Detection in the Saliva of Impaired Drivers  CHETAN SHENDE, Real-Time Analyzers, Inc., Hermes Huang, Stuart Farquharson

1:50  (1300-2)  Development of a Universal Method for the Quantification of Organic Toxins from Environmental, Biological, and Food Samples  ANDREW J BOGGESS, Duquesne University, HM Skip Kinaston

2:10  (1300-3)  Electronics System for Multimodal Monitoring of Brain Injury Patients  CHU WANG, Imperial College London, Kocz, Papadimitriou, Michelle Rogers, Chi-Leng Leong, Tony Jeffotte, Emmanuel M Drakakis, Martyn G Boulter

ORAL SESSIONS  Session 1310

Environmental Analysis of PAHs (Half Session)  Tuesday Afternoon, Room S501a

Alice Chen, The Pittsburgh Conference, Presiding

3:05  (1310-1)  Environmental Forensic Investigation of Polycyclic Aromatic Hydrocarbons: Determination and Appportionment of Possible Sources  ASHLEY GATES, Pennsylvania State University, Jack Cochran, Melissa Pham, Frank Dorman

3:25  (1310-2)  Application of Polymeric Ionic Liquid/Multi-Walled Carbon Nanotube-Based Sorbent Coatings for the Determination of Polycyclic Aromatic Hydrocarbons Using Solid-Phase Microwaxtraction  CHENG ZHANG, The University of Toleda, Jared L Anderson

3:45  (1310-3)  Alkyl Polycyclic Aromatic Hydrocarbons Emissions in Diesel/Biodiesel Exhaust  SERGIO M CORREA, State University of Rio de Janeiro, Carina S Casal

4:05  (1310-4)  Optimizing Semi-Volatile Analysis to Achieve Improved Sensitivity, Performance, and Lifetime for Active Compounds  KORY KELLY, Phenomenex

ORAL SESSIONS  Session 1320

Forensic Analysis  Tuesday Afternoon, Room S502a

Anand Musambi, US Environmental Protection Agency, Presiding

1:30  (1320-1)  Characterization of Complex Botanicals by Comprehensive High Performance Time of Flight Mass Spectrometry  JOHN RORABECK, Andrews University, David E Alonso, Joe Binkley

1:50  (1320-2)  Magic Mushroom Secrets Revealed — Analysis by High Resolution Time-of-Flight Mass Spectrometry  DAVID E ALONSO, Leva Corporation, John Rorabeck, Joe Binkley

2:10  (1320-3)  Investigating the Molecules of “Death”  RACHEL RENEE BOWER, The Pennsylvania State University, Dan G Sykes

2:30  (1320-4)  Methamphetamine/Pseudoephedrine Detection with a Portable MEMS GC/SAW System  LEE T U, Defiant Technologies, Patrick R Lewis, Douglas Adkins, Robert Sanchez, Gary Fuehrer, George Dulleck, Jacy Ganz

2:50  Recess

3:05  (1320-5)  Rapid Analysis of Explosive Fireballs  MICHAEL WAYNE BLAIR, Los Alamos National Lab, Joseph A Torres, Bryan L Bennett, Graham Walsh

3:25  (1320-6)  Comparison of Simulated and Casework Arson Debris for the Training of Chemometric Models  JAMES J HARYNUK, University of Alberta, Xiao Qin Lee, Lawrence A Adultwan, P Mark S Sandercock

3:45  (1320-7)  Error Rates for Classification of Fire Debris as Positive or Negative for Ignitable Liquid Residue  MICHAEL SIGMAN, University of Central Florida, Erin Waddell, Mary R Williams, Jessica Frisch-Daiello

4:05  (1320-8)  Colorimetric Wax Toner Paper-Based Device for Field Explosive Testing  THIAGO PAIXAO, Universidade de Sao Paulo, Maiara Salles, Eric da Costa, William de Araujo, Gabriel Meloni
**ORAL SESSIONS**

**Session 1330**

*Liquid Chromatography/Mass Spectrometry: Pharmaceutical and Environmental Applications*

Tuesday Afternoon, Room S502b


2:10 (1330-3) A Proposed Alternative USP Method for the Determination of Glutathione Impurities by LC-MS-MS NICOLAS J HOUWER, RTC/Sigma-Aldrich, Andy Ommen, Carmen T Santasania

2:30 (1330-4) Automated Multimodal Chromatographic Method Development Integrating Complementary Optical and Mass Spectral Detection DANIEL ROOT, Waters Corporation, Thomas E Wheat, Patricia R McConville

2:50 Recess

3:05 (1330-5) Orthogonal Detection Techniques for the Identification and Confirmation of Impurities Using an USP Chromatographic Method APARNA CHHAWALI, Waters Corporation, Thomas E Wheat, Patricia R McConville

3:25 (1330-6) Improving Stereoseparator Analysis of 1,3-DMAA and 1,4-DMAA in Geranium Plants Using a Chiral Derivatizing Agent and HPLC-MS/MS Detection HEATHER FLEMINING, University of Memphis, Patricia Ranaivo, Paul S Simone

3:45 (1330-7) Development and Evaluation of a Chromatographic System Combining UV and MS Detection Used in Separation Development THOMAS E WHEAT, Waters Corporation, Aparna Chavali, Paula Hong, Daniel Root, Patricia R McConville

4:05 (1330-8) Stability-Indicating Method Development and Validation for the Assay of Oxcarbazepine and Determination of Impurities/Degradants in the Oxcarbazepine Raw Material Using Reversed-Phase Liquid Chromatography JOHN ALBAZI, Northeastern Illinois University, Lubna Masu

**ORAL SESSIONS**

**Session 1340**

*Microfluidics: Cells, Bacteria, Viruses*

Tuesday Afternoon, Room S503a

1:30 (1340-1) Generation of a Chemical Gradient Across an Array of 256 Cell Cultures in a Single Chip HIMAV J SOMAWEERA, Texas Tech University, Dimitri Pappas, Akif Ibragimov

1:50 (1340-2) A Chiral Microchip Electrophoresis-Mass Spectrometric Platform for Studying Stereoselective Preference in Cells YIMING LIU, Jackson State University, Xiangtan Li

2:10 (1340-3) Immune Cell Capture by Negative Dielectrophoretic Attraction to an Ion Enrichment Zone Generated by a Bipolar Electrode ROBBYN KIMBERLY PERDE-AHNAND, University of Washington, Daniel T Chiu, Eknar S Johnson

2:30 (1340-4) A Microfluidic Localized, Multiple Cell Culture Array Using Vacuum Actuated Cell Seeding: Integrated Anticancer Drug Testing YAN GAO, Texas Tech University, Dimitri Pappas, Peng Li

2:50 Recess


3:25 (1340-6) Multiplexed Microfluidic Enzyme Assays for Detection of Metabolic Products from Living Cells COLLEEN DUGAN, University of Michigan, Ormond MacDougald, Robert Kennedy

3:45 (1340-7) Functionalized Electrospun Nanofibers for the Concentration and Detection of Pathogenic E Coli LAUREN MATLOCK-GOLANGELO, Cornell University, Christine L Pitzer, Olejia Bauer, Margaret W Freqy, Anjel Baranmer

4:05 (1340-8) Electrical Lysis of Adhered Cells on a Reusable Transparent 3D Printed Fluidic Device Via Removable Electrodes for In Vitro Thrombus Formation BETHANY GROSS, Michigan State University, Dana Spence
Drug Discovery
Tuesday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(1370-1 P) Fraction Collection Using Sub 2 µm UHPLC Separations: Challenges and Solutions ANDREW AUBIN, Waters Corporation, Jo-Ann Jablonski, Wendy Harmp

(1370-2 P) Isolation of a Bioactive Compound from Tillandisia Recurvata Plant Extract Using Supercritical Fluid Extraction and Mass Directed Preparative Liquid and Supercritical Fluid Chromatography JOHN P McCALLEY, Waters Corporation, Jo-Ann Jablonski, Jacquelyn Runco, Yun Alelyunas, Rui Chen

(1370-3 P) Antifungal Fractions Isolated from the Root-Bark Essential Oil of Morinda Lucida (L) OLARINNKA T ASEKUN, University of Lagos, Taiwo Olayinka, Sunday O Okoh

(1370-4 P) Analysis of Drugs: Single Fast Approach for the Determination of Most Common Drugs and their Metabolites Using GC-TOF-MS ILARIA FERRANTE, DANI Instruments, Chiara Abate

(1370-5 P) GC/MS Constituents and Physico-Chemical Properties of Crude and Refined Azaadiracha Indica Seed Oils OMOLBOLA O OKOH, University of Fort Hare, Aroke S Ahmed, Sunday Okoh

(1370-6 P) Study of Novel Pyrrole Derivatives TARUN PATEL, MR Science College

(1370-7 P) Synthesis and Biological Screening of Novel Heterocyclic Compounds AMIT PATEL, Shri M R Science College

(1370-8 P) Synthesis and Characterization of Some Novel Chalcone Compounds having Benzoyloxybromo Resacetophenone Moiety SANJYUKMAR SHAH, Pilvai College, Kirtilumar Gavwami

(1370-9 P) Application of Soya Based Nanopores for Monitoring Thermal Degradation Products of Epoxy Insulators in Electrical Transformers CARLO M RUGGERO, Missouri University of Science and Technology, Shubhender Kapila, Vander Tumiatti, Michela Tumiatti

(1370-10 P) Artemether: A Potential Agent for the Treatment of Cervico-Uterine and Colorectal Tumor/Cancer NICHOLAS C OBITTE, University of Nigeria, Haukka, Bridget C Obitte, Damian C Odimewu, Thera Odoh, Oliver U Eze, Innocent O Ajawobu, Dominic Cibe

(1370-11 P) Formulation and Evaluation of Diltiazem Sustained Release Tablets VIVEK C MODI, Cadila Pharmaceutical Ltd.

(1370-12 P) Synthesis and Antimicrobial of Some New Substituted Pyridino(3'2':4,5) Thiophene(3,2-d) Pyrimidine Derivatives MOHAMED A AL-OMAR, King Saud University, Ahmed Fayed, Abd El-Gail E Ann, Elsayed E Mostafa

(1370-13 P) Use of Entrapment to Prepare Columns Containing Alpha-1 Acid Glycoprotein for Rapid Studies of Drug-Protein Binding by High-Performance Affinity Chromatography CONG BI, University of Nebraska-Lincoln, Rong Li, David S Hage

(1370-14 P) Study of Atypical Tetracyclines Fragmentation with LC-MS MARTIN SALA, National Institute of Chemistry Slovenia, Drago Kocar, Tadeja Lukezic, Gregor Kosec, Iztok Porek

(1370-15 P) Rapid Determination of Rate Constants and Binding Constants for Solution-Phase Drug-Protein Interactions by Ultrafast Affinity Chromatography XIWEI ZHENG, University of Nebraska-Lincoln, Zhao Li, Maria Paduano, David S Hage

Environmental Analysis of Toxic and Persistent Compounds
Tuesday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(1380-1 P) Withdrawn

(1380-2 P) GC-PID for In-Situ Soil Investigation JOERIN FRANK, Hamburg University of Technology, Hendrik Fischer, Nayla Radox, Axel Baumann, Gerhard Matz

(1380-3 P) The Use of RP-HPLC Technique for Determining Polycyclic Aromatic Hydrocarbons (PAH's) in Marine and Seaside Sediments Collected from the Gulf of Mexico ANTONIO RODA, Mexican Petroleum Institute, Berenice A Nolasco, Zoraya Carbajal, Gerardo Zavala, Alma Martinez, Camilo Ponce

(1380-4 P) Single Column Analysis of PBDEs, Including BDE 209 KORY KELLY, Phenomenex

(1380-5 P) Selective and Sensitive Detection and Quantification of Stockholm Convention POPs Including Dioxins, Using Atmospheric Pressure Gas Chromatography MS/MS DOUGLAS STEVENS, Waters Corporation, Kenneth J Rosnack, Rendom Graham, Jody Dunstan, Michael McCullagh, Bert van Bavel, Ingrid Ericson-Jogsten, Jessika Hagberg

(1380-6 P) Analysis of Pesticides in Baby Food Using a Triple-Quadruple GC/MS/MS LAURA CHAMBERS, Shimadzu Scientific Instruments, Richard R Whitney, Nicole M Lock, Zhuangzhg "Max" Wang, Clifford M Taylor

(1380-7 P) Determination of Paraquat and Diguet in Environmental Samples Using a Sub-2-µm, Solid-core particle HILIC Column KENNETH J FOUNTAIN, Waters Corporation, Jeremy C Shia, Michael S Young


(1380-9 P) The Determination of Hexavalent Chromium in Soil by HPLC/ICP-MS ANITA HUSOINA, High-Priority Standards, Erica Calhoun

(1380-10 P) Separation and Chemical Speciation of Chromium(III & VI) in Water by Clay Packed Column Prior to Inductively Coupled Plasma Optical Emission Spectrometry SALIH S AL-BAIAD, King Abdulaziz University, Mohammed S El-Shahawi

(1380-11 P) Comparative Analysis of PCDD/Fs in Sediments by Gas Chromatography Coupled with HRMS, LRMS and MS/MS ZHUODA LI, University of Illinois at Chicago, Jiehong Guo, An Li, Karl J Rockne, John G Piesy, Neil C Truchoto


(1380-13 P) Use of Bio(1-pyrenyl)azaine in the Separation and Detection of Select Heavy Metals HILLARY ASBRICK, Western Kentucky University, Darwin Dahl

(1380-14 P) Label-Free Impedimetric Aptasensor for the Sensitive Detection of the Marine Toxin Okadaic Acid SHIHAAE ISSA, INRS-EMT, Mohamed Suig, Mohamed Zoura, Ana Taxares, Andy Ng

(1380-15 P) Method for the Estimation of Heavy Metal Deposit Range of Spotlike Metal Sources MARTTI KALERVO HAGFORS, Finnish Defence Forces Technical Research Centre (PVTT), Mervi Hokkanen

(1380-16 P) Microfluidic Paper-Based Devices for Titration of Cadmium SHENGXI JIN, Tennessee Tech University

(1380-17 P) In-Situ Electrochemistry of Extreme Environments on Earth DON NUIZZO, Analytical Instrument Systems, Inc.

(1380-18 P) Speciation of Some Selected Heavy Metals in Coal Bottom Ash from Okaba Coal, Anpka, Nigeria EDMOND OIKORDO, Federal Polytechnic Ibad, Joseph N Egba

(1380-19 P) Multi-Element Analysis of Acid Mine Water by Using ICP-ORG-MS VIERA VOITEROVA, University of P J Safkh, Zuzana Popemikova, Daniel Kupka, Rastislav Sorbin, Daniela Sabolova

(1380-20 P) GC-MS Separation and Determination of Cocaine and Benzoylcegonine in Paper Currencies and Sewage Water YUEFANG ZHU, University of Massachusetts Dartmouth, Tian Shi
PITTCON 2014 TECHNICAL PROGRAM

POSTER SESSION Session 1390

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get on the Exposition Floor until after 9:00 AM.

Environmental: Air Analysis
Tuesday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(1390-1 P) Ease of Use and Low Detection Limits of a New Dry Sampler for Determination of Vapor Phase and Particulate Isocyanate Derivatives OLGA A SHIMELIS, Supelco/Sigma-Aldrich, Emily Barrey, Michael Halpenny, Jamie Brown

(1390-2 P) Multivariate Statistical Analysis of Chicago Air Pollution and Meteorological Data KATRINA BINAKU, Loyola University Chicago, Martina Schmeling, Tim O’Brien, Tinamarie Fosco


(1390-4 P) Monitoring Odorous Sulfur Compounds by Thermal Desorption (TD)—GC–MS NICOLA M.WATSON, Markes International, Stephen Davies, Peter Grosshans

(1390-5 P) Recoveries of 65 VOCs Over a 30 Day Period in Dry and Humid Conditions in Two Silicon-Lined Canister Types JASON S HERRINGTON, Nestek, Gary Stidjen, Jack Cochran, Chris English, Joe Konschnik, Steve Koelz

(1390-6 P) Detection of Combustion Effluents in Atmospheric Particulate Matter 2.5 (PM2.5) SHOH OITA, Tokai University, Yoshika Seline, Naoko Hiruye, Jung Yoshitake, Hikari Sakuramoto

(1390-7 P) Enhance Your Direct Mercury Analysis: Sorbent Tube Gas Analysis SUMEDH P PHATAK, Milestone, David Gunn

(1390-8 P) Method Development for Determination of Trace Concentrations of Aldehydes and Carbonylic Acids in Particulate Matter JANA ROJSOVA, University of North Dakota, Manikyala Chintapalli, Alena Kubatova, Josef Beranek

(1390-9 P) Monitoring Siloxanes in Biogas Using Thermal Desorption Tube Sampling NICOLA M.WATSON, Markes International, Paul Morris, Peter Grosshans

(1390-10 P) A New TRAP–GC–MS–FID Instrument for Ambient Air Monitoring Designed for Industrial Applications DAMIEN BAZIN, Chromatotec, Michel Robert, Franck Amiet


POSTER SESSION Session 1400

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get on the Exposition Floor until after 9:00 AM.

Environmental: Water
Tuesday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(1400-1 P) Potential Contamination of Fluorquinolones in Water-Bodies During the Production of Broiler Chicken LEILA A FIGUEIREDO, Universidade de Sao Paulo, Denis H Silva, Jean G Francisco, Sergio H Monteiro, Thais F Campion, Rodrigo F Pimpinate, Carlos A Dorelli, Carlos Barbosa, Valdemar L Tornisielo

(1400-2 P) Cyanide Analysis of Aqueous Samples Containing Elevated Levels of Surfactants WILLIAM C LIPPS, Xylem/OI Analytical, Libby A Badgett, Gary Engelhart

(1400-3 P) Determination of Geosmin and 2-Methylisoborneol in Environmental Matrices by Dynamic Headspace/P&T-Time of Flight GC/MS ILARIA FERRANTE, DANI Instruments, Roberta Lariccia

(1400-4 P) Analysis of Micro Nutrients (Anions and Cations) in Water by Ion Chromatography JAY GANDHI, Metchem USA, Anne Shearow

(1400-5 P) Screening Environmental Samples for a Diverse Range of Compound Classes and Structures with Accurate Mass LC-MS and an Integrated Scientific Information System KENNETH L ROSNACK, Water Corporation, Gareth Clanden, Lauren Mullin, Claude Mallet, Jennifer Burgess

(1400-6 P) Revisiting the Indirect Colorimetric Determination of Sulfate using a Barium/Chromate Reagent and a Barium/Sulfonazo III Chelate: Application to Abandoned Mine Drainage MARK THOMAS STAUFFER, University of Pittsburgh at Greensburg


(1400-8 P) Gold Nanorods Functionalized Substrates for Surface Plasmon Resonance Detection of Mercury in Flow Injection Analysis KHANG TRIEU, University of Central Florida, Emily Heider, Andres D Campiglia

(1400-9 P) Improved Efficiencies in TOC Wastewater Analysis for Standard Method 5310B and EPA Method 415 KRISTINA M MASON, Teledyne Tekmar, Tammy Reffar, Roger Bardtles, Joy Osborne

(1400-10 P) Analysis of Surface and Wastewaters for Phase II Metabolites via Tandem Mass Spectrometry MATTHEW REICHERT, Loyola University Chicago, Deepika Panawenwong, Gergana Georgieva, M Paul Chiarelli

(1400-11 P) A Single Calibration Method for Water And Soil Samples Performing EPA Method 8260 ANNE JUREK, EST Analytical, Lindsey Pyron, Justin Murphy, Doug Meece

(1400-12 P) Determination of Inorganic Mercury in Petroleum Production Water by Photochemical Vapor Generation Coupled to ICP OES BARBARA B FRANKO, UFF, Anderson A Araujo, Ricardo A Cassella, Patricia Grimberg, Ralph Sturgeon

(1400-13 P) Multimodal Cartridges for Automated Solid Phase Extraction of Emerging Contaminants in Drinking Water WILLIAM R JONES, Horizon Technology, Alicia J Cannon, Brian LaBreque, Robert S Johnson

(1400-14 P) Development of Visual Analysis for Fluoride Ion with ON-Off Color Change Reaction by the Assistance of Image Processing Technology ATSUSHI MANIKA, Toyama National College of Technology, Shukuro Igarashi, Hiroki Sakagami, Yu Sato

(1400-15 P) Measurement of Fluoride Ions in Drinking Water and Environmental Samples at Normal pH of Sample by Pulsed Chromatoplotometry with Ion-Selective Electrodes KAITLIN CAHILL, Northern Kentucky University, Jeremy Myers, Kebede L Gename

(1400-16 P) Utility of Charge Detector in Ion Chromatography Applications MRINAL K SENGUPTA, Thermo Fisher Scientific, Sheetal Bhardwaj, Ramnani Srinivasan, Christopher Pohl, Prasun K Dasgupta

(1400-17 P) Use of Flow Analytical Method on the Evaluation Test of Visible Light Responded N/Si Co-Doped TiO2 Sheet in Aqueous Phase TSUYOSHI SUGITA, Gunma University, Katayama Katayama, Masanobu Mori, Akironi Mase, Hideyuki Itabashi, Shinji Iwamoto

(1400-18 P) Evaluation of Microbiological Qualities of Tyume River Located in Amatole District, Eastern Cape Province, South Africa ANTHONY OKOH, University of Fort Hare, Timothy Sibanda

(1400-19 P) Increased Throughput for VOCs JOY OSBORNE, Teledyne Tekmar, Teledyne Tekmar, Nathan Valentine, Anthony Okoh, James Olayode, Nalini Vaidyanathan, Garth Emmert


(1400-21 P) Inline Dual Element Sample Treatment with Automated Back Flush BERNARD G SHELTON, Thermo Fisher Scientific

(1400-22 P) Pelochlate and Bromate Analysis in Various Water Matrices Using Suppressed Ion Chromatography JAY GANDHI, Metchem USA

(1400-23 P) Ion Chromatography: Separation of Divalent Cations by Lewis Base-Coated Zirconia Stationary Phase Columns MORI MASANOBU, Gunma University, Masuno Tomoe, Itabashi Hideyuki, Tanaka Kazuhiko

(1400-24 P) Assessment of the Effects of Low Density Polyethylene Packaging Materials on the Content of Sachet Water Marketed in Mushin Local Government Area, Lagos, Nigeria CHUKWUEMEKWA P AZUBUIKE, University of Lagos, Cecilia I Igwilo, Olusina S Olayode

(1400-25 P) An Inexpensive Semi-Automated Method for On-Site Process Monitoring of Total Trihalomethanes and Total Haloacetic Acids in Drinking Water YIN YEE CHOO, Southeast Missouri State University, Thomas E Watts, Paul S Simone, Gary L Emmert

(1400-26 P) Using Agricultural Byproduct Rice Hull as Biosorbent to Remove and Recover Metal Ions in Water YONGBO DAN, Missouri University of Science and Technology, Xin Li, Mario Emmer, Candra Rasdemaya, Yogyo Setiawan

PITTCON 2014 TECHNICAL PROGRAM

POSTER SESSION  Session 1430

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Sensors: General Interest and Others

Tuesday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(1430-1 P) A Highly Sensitive, Real Time LSPR Sensor DANIEL WILLETT, Clemson University, George Chumanov

(1430-2 P) Nitrite-Selective Optical Sensors Based on CallIII Corrole and Rh(III) Porphyrin as Ionophores SI YANG, University of Michigan, Mark E Meyerhoff

(1430-3 P) SERS Active Three Dimensional Gold Nanostructure TAKAO FUKUDA, University of Hyogo/Archys, Ryo Takahashi, Yuichi Utsumi, Akinobu Yamaguchi

(1430-4 P) Disposable Microelectrode Ensembles Fabricated with Toner Masks for Hydrogen Peroxide Determination ANA PAULA R DE SOUZA, Universidade de Sao Paulo, Luiza M F Dantas, Mauro Bertotti

(1430-5 P) Determination of Fe(III) in Water Samples Using a Ruthenium Oxide Hexacyanoferrate Modified Microelectrode ROSELYN C PÉRA, Universidade de Sao Paulo, Ana Paula R de Souza, Mauro Bertotti

(1430-6 P) Total Biosensing System Based on Newely Proposed Surface Plasmon Resonance TOSHIKAZU KAWAGUCHI, Hokkaido University, Katsuki Shimazu, Kinichi Menta

(1430-7 P) Highly Sensitive and Reproducible SERS Sensors Based on AuNPs/SPIOs Composites JOHNANT J SANTOS, Universidade de Sao Paulo, Sergio H Toma, Henrique E Toma, Koji Akari

(1430-8 P) Hydrogen Ion-Selective Poly(Vinyl Chloride) Membrane Electrode for the Use in Highly Acidic Solutions Containing Hydrofluoric Acid DAIKAKU YANO, Organo Corporation, Koji Suzuki

(1430-9 P) Functionalized Magnetic Nanoparticles for Homogeneous SERS Assay Platforms USOR TAMER, Gazi University, Aykut Oral, Hakan Cifticci, Adem Zengin, Demet Getin, Zekrye Sulodur, Ismail H Boyaci

(1430-10 P) Research and Development of Ti-Selective Solid State Sensor with Ti-1825- As2S3 Glass Membrane YURY VLASOV, Saint Petersburg State University, Yuri E Ermlenko, Igor E Alekseev, Dmitriy Kaliagin

(1430-11 P) Plasmonic Assembly Turning on Fluorescence in Surface Plasmon-Coupled Emission for Biosensing YAO QUN LI, Xiamen University, Shuo-Hui Cao, Wei-Peng Cai, Qian Liu, Kai-Xin Xie, Yu-Hua Weng, Si-Xin Huo

(1430-12 P) Reversible Sensor Based on a Meta-Stable Photoc acid Polymer Activated by Visible Light PARTH PATEL, University of Central Florida, Johms Valentine, Percy Calvo-Marzal, Shelby Hassett, Karin Chumbimuni-Torres

(1430-13 P) PID Instrumentation for Long Term Membrane Monitoring JOEREN FRANK, Hamburg University of Technology, Hendrik Fischer, Torsten Ollesch, Gerhard Matz

(1430-14 P) Robust Cytohexane Selective Chemiresistors Based on Single-Walled Carbon Nanotubes KELVIN FRAZIER, Massachusetts Institute of Technology (MIT), Timothy M Swager

(1430-15 P) Ion Sensor Properties of Sol-Gel-Derived Membranes Modified Chemically with Molecular Tweezer-Type Trifluoroacetophenone Derivative as Carbonate Ionophore HIROMASA ISHIGAKI, Watakyama University, Setsuko Vajima, Keiichi Kimura

(1430-16 P) Determination of Cellulose Crystallinity by Terahertz Time Domain Spectroscopy CELIO PASQUINI, UNICAMP, Francisco S Vieira

(1430-17 P) Ellipsometry and Surface Plasmon Resonance-Based Sensors for Determination of Specific Antibodies ARUNAS RAMANAVICIUS, VUnas University, Asta Kausaitė-Minkstienė, Zigmantas Balevicius, Yasminio Oztok, Asta Makaraviciute, Julija Banuleviciutė, Almira Ramanauskienė

(1430-18 P) A Redox-Based Fluorescent Probe for Homocysteine KE WANG, Georgia State University, Hanjing Peng, Chaofeng Dai, Binghe Wang

Wednesday, March 5, 2014

WEDNESDAY, MARCH 5, 2014

MORNING

AWARDS  Session 1440

ACS Division of Analytical Chemistry Award for Young Investigators in Separation Science arranged by Brian Bidlingmeyer, Agilent Technologies

Wednesday Morning, Room 5401a

Brian Bidlingmeyer, Agilent Technologies, Presiding

8:30 Introductory Remarks - Brian Bidlingmeyer

8:35 Presentation of the 2014 ACS Division of Analytical Chemistry Award for Young Investigators in Separation Science to Michael G. Roper, Florida State University, by Brian Bidlingmeyer, Agilent Technologies

8:40 (1440-1) Microsensor Separation Methods for Dynamic Measurements of Biological Systems MICHAEL G. ROPER, Florida State University

9:15 (1440-2) Petroleumomics: GCxGC and LC to Separate Functional Groups and/or homers and Increase Dynamic Range to Complement Elemental Compositions Resolved and Identified by Ultra-High Resolution FT-ICR Mass Spectrometry ALAN G MARSHALL, Florida State University, Amy C Cingenpeel, Jacqueline M Jarvis, Jie Lu, Amy M McKenna, Winston K Robbins, Ryan P Rodgers, Steven M Rowland


10:25 Recess

10:40 (1440-4) Microchip Electrophoresis with Electrochemical Detection for Monitoring Markers of Oxidative/Nitrosative Stress in Cells SUSAN M LUNTE, University of Kansas, Dulan Gunesekara, Joseph M Siegel, Christopher T Culbertson

11:15 (1440-5) Capillary Electrophoresis for High Throughput Proteomics NORMA J DOVICH, University of Notre Dame

SYMPOSIUM  Session 1450

ACS DAC: Chemometrics for Modeling and Analyzing Chemical Systems

arranged by Frank Vogt, University of Tennessee

Wednesday Morning, Room 5401bc

Frank Vogt, University of Tennessee, Presiding

8:30 Introductory Remarks - Frank Vogt

8:35 (1450-1) OPLS Methods for Improved Model Interpretation and Multi-Block Data Integration JOHAN TRYGG, Umeå University

9:10 (1450-2) Geospatial Pattern Recognition: What Can Be Deduced From Geolocated Chemical Data Sets? STEVEN D BROWN, University of Delaware, Liyuan Chen, Yushan Liu

9:45 (1450-3) Multivariate Modeling and Chemometric Resolution of Mixture Spectra in Dynamic Reaction Systems PAUL GEMPERLINE, East Carolina University, Chun Hsieh, David Joiner, Julien Billieter, Mary Ellen McNally, Ronald Hoffman

10:20 Recess

10:35 (1450-4) Fusing Spectroscopic Data to Improve Protein Structure Analysis RENEE D JUII, University of Missouri Columbia, Olayinka O Osokoya

11:10 (1450-5) Mass Spectrometry-Based Oncometabolomics FACUNDO M FERNANDEZ, Georgia Institute of Technology, Xiaoping Zang, Maria Eugenia Monge, Christina Jonas, Tran Quoc Long, Alex Grey, John McDonald, Jaeyeon Kim, Martin Mateus
**PITTCON 2014 TECHNICAL PROGRAM**

**SYMPOSIUM Session 1460**

**ACSM DAC: Nanofabrication and Nanoconstructs for Chemical Separations**
arranged by Lisa A Holland, West Virginia University

Wednesday Morning, Room S401d
Lisa A Holland, West Virginia University, Presiding

- 8:30 Introductory Remarks - Lisa A Holland
- 8:35 (1460-1) Nanostructured Materials for Liquid Chromatographic Separations
  SUSAN V OLESKI, The Ohio State University, Tonj Newsome, Xin Fang, Dmytro Kulyk
- 9:10 (1460-2) Carbon-Based Nanomaterials for Chemical Separations
  LUIS A COLON, University at Buffalo - SUNY, John C Vino, Zujin Xue, Lisa Miranda Santiago-Capeles
- 9:45 (1460-3) 2D Microfluidic Separation of DNA by Length and Sequence
  LINDA B MCCOWN, Rensselaer Polytechnic Institute, Kingwei Tiple, Xueru Zhang, Steven Cramer

**SYMPOSIUM Session 1470**

**Applications of the Newest Light Sources**

Wednesday Morning, Room S402a

- 8:30 Introductory Remarks - Roland Felix Hirsch and Andrzej Joachimiak
- 8:35 (1470-1) Technologies and Applications of Synchrons and X-Ray Free-Electron Lasers
  KEITH O HOGGON, Stanford/SLAC
- 9:10 (1470-2) XFP: A National Resource for X-ray Footprinting at the NSLS-II to Probe Nucleic Acids and Protein Structure and Dynamics
  MARK CHANCE, Case Western Reserve University, Jen Bohon, Michael Sullivan
- 9:45 (1470-3) Synchrotron-Based X-Ray Crystallography Approach to Antibiotic Resistance and Infectious Diseases
  ANDRZEJ JOACHIMIAK, Argonne National Laboratory

**SYMPOSIUM Session 1480**

**Biological TERS: Instrumentation Development and Applications**
arranged by Volker Deckert, University of Jena and Igor K Lednev, University at Albany, SUNY

Wednesday Morning, Room S402b
Volker Deckert, Institut für Photonische Technologien, Presiding

- 8:30 Introductory Remarks - Volker Deckert and Igor K Lednev
- 8:35 (1480-1) Single Mode and Low Temperature Tip-Enhanced Raman Spectroscopy
  RICHARD P VAI DUYNE, Northwestern University
- 9:10 (1480-2) Scratching the Surface - Limits in High Resolution Raman
  VOLKER DECKERT, University of Jena
- 9:45 (1480-3) Application of TERS to Extracellular Matrix Components
  LAURENT KREPLAK, Dalhousie University

**SYMPOSIUM Session 1490**

**IAEAC: Label-Free Biosensing: Impedance-Based Biosensors for Environmental Applications**
arranged by Joachim Wegener, Regensburg University and Antje Baeumer, Cornell University

Wednesday Morning, Room S404a
Joachim Wegener, Regensburg University, Presiding

- 8:30 Introductory Remarks - Joachim Wegener and Antje Baeumer
- 8:35 (1490-1) A Biosensor Using Living Cells
  NIAM G HEVER, BioPhysics
- 9:10 (1490-2) Field Portable Impedance-Based Water Toxicity Sensor Using Fish Cells on Fluidic Chips
  MARK W WIDDER, US Army Center for Environmental Health Research, Linda Brennan, David E Tradler, Lucy E Lee, William H van der Schalie
- 9:45 (1490-3) Impedance Based Microfluidic Devices to Monitor Cell Volume of Adherent Cells in Real Time and the Interconnections between Cells
  SUSAN HUA, SUNY-Buffalo

**SYMPOSIUM Session 1500**

**Recent Advances in Laser Induced Breakdown Spectroscopy**
arranged by Jagdish P Singh, Mississippi State University and Rick Russo, Lawrence Berkeley National Laboratory

Wednesday Morning, Room S404bc
Jagdish P Singh, Mississippi State University, Presiding

- 8:30 Introductory Remarks - Jagdish P Singh and Rick Russo
- 8:35 (1500-1) LIBS on Mars: ChemCam's First 100,000 Spectra from the Red Planet
  ROGER C WIENS, Los Alamos National Lab, Sylvestre Maurice, Olivier Fornil, Sam Clegg, Ryan B Anderson, M Darby Dyce, Cecile Fabre, Jeremie Lasue, MSLS Science Team
- 9:10 (1500-2) Laser-Induced Breakdown Spectroscopy (LIBS) as an Emerging Tool: Figures, Facts and Future
  MOHAMED SABSABI, National Research Council, Paul Bouchard, Francois R Doucet, Luifu C Ozcan, Andre Moreau, Aissa Harifi, Alain Boin
- 9:45 (1500-3) Laser Induced Breakdown Spectroscopy: Applications to Gas Sample Analysis
  JAGDISH P SINGH, Mississippi State University, Fang Y Yueh, Kemal E Esfeler

**SYMPOSIUM Session 1510**

**In-Vivo, Real-Time Chemical Characterization of Brain Tumour Tissues by Rapid Laser Induced Breakdown Spectroscopy**
arranged by Joachim Wegener, Regensburg University

Wednesday Morning, Room S404c
Joachim Wegener, Regensburg University, Presiding

- 8:30 Introductory Remarks - Joachim Wegener
- 8:35 (1510-1) WINCS, MINCS, and Micro-electrode Array Biosensors for Neurotransmitter Detection During A Biosensor-Based Microfluidic Analysis System for Monitoring Brain Injury In-Vivo, Real-Time Chemical Characterization of Brain Tumour Tissues by Rapid Laser Induced Breakdown Spectroscopy
  RICHARD P VAN DUYNE, Northwestern University, Hal G Monbouquette, JAGDISH P SINGH, Mississippi State University, Fang Y Yueh, Kemal E Esfeler
- 10:20 Recess
- 10:35 (1510-4) Application of Laser Induced Breakdown Spectroscopy (LIBS) for Monitoring CO2 Storage Permanence
  DUSTIN MCINTYRE, USDOE NETL
- 11:10 (1510-5) Laser-Induced Breakdown Spectroscopy in Life Science
  AWADHESH K RAI, Allahabad University, Ashok K Pathak, Pradeep Kumar Rai, Pramod Kumar Rai

**SYMPOSIUM Session 1515**

**Hyphenated Impedimetric Sensors: A New Route to a Non-Imaging, Label-Free High Content Screening?**
Joachim Wegener, Regensburg University, Presiding

- 11:10 (1515-1) A Biosensor Using Living Cells
  NIAM G HEVER, BioPhysics
- 11:40 (1515-2) A Biosensor Using Living Cells
  NIAM G HEVER, BioPhysics
- 12:10 Recess
- 12:20 (1515-3) A Biosensor Using Living Cells
  NIAM G HEVER, BioPhysics
- 12:50 Recess
- 13:20 (1515-4) A Biosensor Using Living Cells
  NIAM G HEVER, BioPhysics
PITCON 2014 TECHNICAL PROGRAM

SYMPOSIUM Session 1520
Science without Borders: Analytical Chemistry Opportunities in Brazil
arranged by Doriane Barreto, NurnbergMesse Brasil

Wednesday Morning, Room S405a
Lucio Angnes, University of Sao Paulo, Presiding
8:30 (1520-1) Introductory Remarks - Lucio Angnes

9:00 (1520-2)
Research Opportunities at Sao Paulo State (Brazil)
Lucio ANGNES, Universidade de Sao Paulo

9:45 (1520-3)
Analytical Chemistry Opportunities in Areas of Interest
MARIA LUIZA BRAGANCA TRISTAO, Petropolis

10:20 Recess

10:35 (1520-4)
Opportunities in Analytical Chemistry
CRISTINA MARIA SCHUCH, Rhodia-Solvay Group

11:10 (1520-5)
Brazil Scientific Mobility Program and New Opportunities in Analytical Chemistry
NATACHA CARVALHO FERREIRA SANTOS, CNPq - Brazil

ORGANIZED CONTRIBUTED SESSIONS Session 1530
New Technologies and Methods in Protein Quantitation for Biotherapeutics and Clinical Diagnostics
arranged by Mike Lee, Milestone Development Services and Gary A Valaskovic, New Objective

Wednesday Morning, Room S405b
Mike Lee, Milestone Development Services, Presiding
8:30 (1530-1) Enabling Label-Free Quantitation for Top Down Proteomics
PAUL M THOMAS, Northwestern University, Kyunggon Kim, Ryan T Fellers, John P Savaryn, Neil Kelleher, Joanna Nthai

8:50 (1530-2)
The Rapid Development and Integration of LC-MS-Based Bioanalytical Methods to Support Early Therapeutic and Target Proteins in Early Drug Discovery
TIMOTHY V OLAH, Bristol-Myers Squibb, John Mehl, Bogdan Slezcka, Eugene Ciccimaro, Celia D Ariekoo, Yongsin Zhe

9:10 (1530-3)
Opening the Quant Faucet: Meeting the New Challenges of Protein and Small Molecule Quantitation — With High Performance, Robust Microflow LC-MS Solutions
SUBODH NIMKAR, AB SCIEX

9:30 (1530-4)
Next Generation Plasma Collection Technology for Clinical and Pharmaceutical Applications
ROBERT E BUOCHI, Shimadzu Corporation, Fred Regnier, Jinhee Kim, Tim Woerner, Scott Kudzio, Jeff Dalil, Jeremy Post, Faith Hays

9:50 Recess

10:05 (1530-5)
Validation of a Micro Flow LC-MS/MS Method for Large Molecule Bioanalysis
CASEY JOHNSON, Altras Analytics, Inc., Chad Christianson, Jennifer Zimmer, Shane Needham

10:25 (1530-6)
Breaking the Barriers for Sensitivity and Throughput with Nanospray Based Mass Spectrometry
GARY A VALASKOVIC, New Objective Inc.

ORGANIZED CONTRIBUTED SESSIONS Session 1540

Wednesday Morning, Room S501a
Anis K Rahman, Applied Research & Photonics, Presiding
8:30 (1540-1) Dendrimer Based Terahertz Spectroscopy Applications With Examples in Fullerenes and Single Nucleotide Polymorphism
ANIS K RAHAM, Applied Research & Photonics, Anis K Rahman

8:50 (1540-2) Millimeter Wave Remote Sensing of Nuclear Signatures
NACHAPPA "SAMI" GOPALASAMI, Argonne National Laboratory, Shaolin Liao, Thomas W Elmer, Eugene R Koehl, Sasan Bakhtiari, Apostolos C Raptis

9:10 (1540-3) Terahertz Sub-Surface 3D Nano-Scale Imaging for Semiconductor Inspection
AUNIK K RAHAM, Applied Research & Photonics, Anis K Rahman

9:30 (1540-4) Application of Millimeter-Wave Technology to Remote Sensing of Biometric Signatures—A Review
SASAN BAKHTIARI, Argonne National Laboratory, Thomas W Elmer, Shaolin Liao, Nachappa "Sami" Gopalasami, Apostolos C Raptis, Ilya Mikhelson, Alan V Sahakan

9:50 Recess

10:05 (1540-5) Towards Microwave and Millimeter Wave 3D Real-Time Imaging
REZA ZOUGHI, Missouri University of Science and Technology, MT Ghost, JT Case

10:25 (1540-6) A Novel Millimeter Wave and Terahertz Wave Interferometric Radar Architecture
SHAO-LIN LIAO, Argonne National Laboratory, Sasan Bakhtiari, Thomas W Elmer, Nachappa "Sami" Gopalasami, Paul Raptis

10:45 (1540-7) Applications of Microwave and Millimeter Wave for Nondestructive Testing and Evaluation (NDTAE)
REZA ZOUGHI, Missouri University of Science and Technology

11:05 (1540-8) Novel Approaches to Significantly Enhance THz Emission and Detection Efficiency
HOOOMAN MORSENI, Northwestern University

ORAL SESSIONS Session 1550
Application of Bioanalytical Sensors
Wednesday Morning, Room S501b
William R LaCourse, University of Maryland Baltimore County, Presiding
8:30 (1550-1) Rapid and Sensitive Detection of DPA Using a Nanopore Probe
SHUO ZHOU, Illinois Institute of Technology, Liang Wang, Yujing Han, Guihua Wang, Xiyun Guan

8:50 (1550-2) Enhanced Stability of Suspended Lipid Bilayers for Ion Channel Recordings and Biosensor Development
LEONARD K BRIGHT, University of Arizona, Christopher A Baker, Craig A Aspinwall

9:10 (1550-3) Cross-platform Optical and Mass Spectrometric Analysis with Calcinated Plasmonic Materials
SAMUEL HINMAN, University of California, Riverside, Chih-Yuan Chen, Quan Cheng

9:30 (1550-4) Surfactant-Induced Wetting of Hydrophobic Nanopores by Aqueous Solutions
ANGIE S MORRIS, University of Iowa, Yulia Skvortsova, Mei Leong

9:50 Recess

10:05 (1550-5) Nanopore Stochastic Sensing of HIV-1 Protease
YUJING HAN, Illinois Institute of Technology, Liang Wang, Shou Zhou, Xiyun Guan

10:25 (1550-6) Signal Amplification Strategies on Nucleic Acid-Based Lateral Flow Biosensors
GUODONG LIU, North Dakota State University

10:45 (1550-7) Directly Probing Key Protein-Lipid Interactions Mediating the Blood Coagulation Cascade Using Silicon Photonic Microring Resonators
ELLEN M MUEHL, University of Illinois at Urbana-Champaign, Ryan C Bailey, Jim H Morrissey, Courtney D Sloan, Josh M Gajiwicz

11:05 (1550-8) Development of Radioluminescent pH Sensor Films for In Vivo Bacterial Infection Detection through Tissue
FENG LIN WANG, Clemson University, Yash Raval, Tzuin-Rong J Tzeng, John D DesJardins, Jeffrey N Anker

ORAL SESSIONS Session 1560
Biospectroscopic Methods for Binding Studies (Half Session)
Wednesday Morning, Room S501d
Paul Simone, The University of Memphis, Presiding
8:30 (1560-1) Highly Efficient Peptide Self-Assembled Monolayers to Reduce Non Specific Adsorption of Crude Cell Lyase on SPR Biosensors
ALEXANDRA AUBE, Université de Montréal, Julien Breault-Turcot, Jean-François Masson

8:50 (1560-2) Second Harmonic Correlation Spectroscopy: A New Method for Determining Surface Binding Kinetics and Thermodynamics
KRISTAL L SEY, University of Utah, John C Conboy, See-Wing Mok

9:10 (1560-3) Rotation Dynamics of Gold Nanorods on Cell Membrane Studied with Confocal Resonance Scattering Microscopy
GUOFEI WANG, North Carolina State University, Bhanu Neupane, Yaqing Zhao

9:30 (1560-4) Molecular Recognition and Dynamics of Dihydrololate Reductase Studied with Atomic Force Microscopy
HOLLY MORRIS, University of Iowa
### ORAL SESSIONS Session 1610

**Mass Spectroscopy: ‘Omics, Environmental and High Throughput Analytical**

**Wednesday Morning, Room S504a**

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<tr>
<th>Time</th>
<th>Session 1610-1</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Identification of Bacteria in Complex Double-Blind Microorganism Mixtures by LC-ESI-MS/MS A PETER SNYDER, Private Citizen, Rabih E Jabbour, Samir V Deshpande</td>
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<th>Time</th>
<th>Session 1610-2</th>
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<tr>
<td>8:50</td>
<td>High Resolution Matrix-Assisted in Vacuum (MAIV) by Fourier Transform Mass Spectrometry CHARLES L WILKINS, University of Arkansas, Beixi Wang, Evgenia Akhtemtsova, Rohana Liyanage, Sarah Trimpin</td>
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<tr>
<td>9:10</td>
<td>High Speed Capillary Electrophoresis Coupled to ESI-MS for the Analysis of Metabolites SCOTT SAVIER, University of Notre Dame, Norman J Dovichi, Nicole M Schiavone, Carlos Gartner, Roza Woicik</td>
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<th>Time</th>
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### ORAL SESSIONS Session 1620

**Mass Spectroscopy: Bioanalytical**

**Wednesday Morning, Room S504bc**

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<tr>
<th>Time</th>
<th>Session 1620-1</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Building Supported Lipid Bilayers (SLBs) for Laser-Based Mass Spectrometry Imaging (MSI) of Lipid Domain Formation VICTORIA L BROWN, North Carolina State University, Lin He, Tana R Moening</td>
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<th>Time</th>
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<tr>
<td>8:50</td>
<td>In Situ Protein Identification and Visualization Using Multiply Charged MALDI Mass Spectrometry Imaging BINGMING CHEN, University of Wisconsin-Madison, Christopher B Lietz, Chuanzi Ouyang, Lingjun Li</td>
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<tr>
<td>9:10</td>
<td>Near-Field Laser Ablation Sample Capture for Mass Spectrometry Imaging KENNETH M MURRAY, Louisiana State University, Sumon Ghora, Christhika Seneviratne</td>
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<th>Time</th>
<th>Session 1620-4</th>
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<tr>
<td>9:30</td>
<td>Nanopipettes as Sampling Tools and Reaction Vessels for MS Analysis: ALICJA K FRIEDMAN, Indiana University, Elizabeth M Yull, Steven J Ray, Lane A Baker</td>
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<tr>
<td>10:05</td>
<td>Standard Curve Generation in MALDI and LC-MS Analyses by Isotopic N, N-Dimethylated Leucine (iDiLeu) Reagents for Absolute Quantitation of Peptides TYLER J GREER, University of Wisconsin-Madison, Feng Xiang, Nicole Woodards, Lingjun Li</td>
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<tr>
<td>10:25</td>
<td>Cysteine-Focused Combined Precursor Isotopic Labeling and Isobaric Tagging (cPILOT) Enhanced Multiplexing LIQING GU, University of Pittsburgh, Adam R Evans, Christopher B Lietz, Chuanzi Ouyang, Lingjun Li</td>
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<tr>
<td>10:45</td>
<td>Molecular Imaging with G60 SIMS: Sample Preparation and Application to Single Neuron Analysis ERIC J LINN, University of Illinois at Urbana-Champaign, Jonathan V Sweedler, Stanislav S Rubakhin</td>
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### ORAL SESSIONS Session 1630

**Materials Science**

**Wednesday Morning, Room S504d**

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<th>Time</th>
<th>Session 1630-1</th>
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<tr>
<td>8:30</td>
<td>Novel Engineered Carbon Adsorbents Utilizing a Bonded Fullerenephase Enable Unique SPE Efficacy CONOR SMITH, University of Science and Technology, Dwight Stoll, Jon Thompson</td>
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<th>Session 1630-2</th>
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<tr>
<td>8:50</td>
<td>Particle Size Measurement Errors and Refractive Index Selection in Laser Diffraction JEFFREY BODDIE, HORIBA Scientific, Ian Treviranus, Amy Hou, Kiwan Park, Brian Sears, Hirokazu Sugawara, Shigemi Tochino, Makoto Umezawa</td>
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### ORAL SESSIONS Session 1640

**Pharmaceuticals: Others (Half Session)**

**Wednesday Morning, Room S501d**

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<tr>
<td>10:25</td>
<td>Accurate Determination of Proteins Diffusion Coefficient by Fast Fourier Transform with Whole Column Imaging Detection (WCD) ATEFHD SADAT ZARABADI, University of Waterloo, Janusz Pawlczyn</td>
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<th>Session 1640-3</th>
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<tr>
<td>10:45</td>
<td>3D Printed Fluidic Devices: Revolutionizing Automated, In Vitro Pharmacokinetic Studies SARAH Y LOCKWOOD, Michigan State University, Dana Spence</td>
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<th>Session 1640-4</th>
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<tr>
<td>11:05</td>
<td>Impact of Hydration State and Molecular Oxygen on the Chemical Stability of Levothryroxine Sodium MAZEN L HAMAD, University of Hawaii at Hilo, William Engen, Ken Morris</td>
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### ORAL SESSIONS Session 1650

**X-Ray Techniques**

**Wednesday Morning, Room S505a**

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<tr>
<td>8:30</td>
<td>Potential Applications of X-Ray Photoelectron Spectroscopy (XPS) for Forensic Science BRIAN R STROHMEIER, Thermo Fisher Scientific</td>
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<tr>
<td>8:50</td>
<td>High Resolution X-Ray (HRX) Characterization of Pu Content in High Salt Matrices GEORGE J HARRILLA, Los Alamos National Lab, Kathryn G McIntosh, Velma Montoya, Eli J Berg</td>
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<tr>
<td>9:30</td>
<td>Analysis for Metals in Nail Polish by Wavelength Dispersive X-ray Fluorescence (WDXRF) ANDREA MCMILLIANS, Research Triangle Institute, Michael Levine, Lauren Felder, Al Martin</td>
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PITCON 2014 TECHNICAL PROGRAM

POSTER SESSION | Session 1660

10:05 (1650-5) Remember the Colors: XRF and SEM Analysis of Fresco Pigment from the Alamo NICOLE FELDMAN, Trinity University, Pamela J Rosser, Michelle M Bushey

10:25 (1650-6) Integrated Platform for Combined XRD and SHG/TP/UVF Measurements for Identification and Centering of Protein Crystals CHRISTOPHER M DETTMAR, Purdue University; Garth J Simpson, Justin Newman, Scott Toth, Michael Becker, Robert Fischetti

POSTER SESSION | Session 1670

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

General Interests: Lab Informatics, Validation, Software and Process Analytics Wednesday Morning, Exposition Floor, Back of Aisles 1000-2500

(1660-1 P) Safety Management in Multidisciplinary Shared Facilities SHUYOU LI, Northwestern University; Suresh V Mallipetted, Steven Karlan, Tena Moskal, Vinayak P Dadv

(1660-2 P) Direct Access to Chromatography Data System through Smart Device TOSHINUBU YANAGISAWA, Shimadzu Corporation, Masato Takeda, Ken Matsama, Takeshi Yoshida, Yuki Watanabe, Ryutaku Nishimoto

(1660-3 P) FT-IR Method Validation for Measuring PPB Level Moisture in Phosphate Cylinders WEIWEI ZHANG, Matheson Trigas, Joshua Cooper, Mitch Owens, Dan Chase

(1660-4 P) “Stealth” Nanobeacons for Preventing Counterfeit Products TAKAO FUKUOKA, University of Hyogo/Aichi, Yasunori Maru

(1660-5 P) Universal Analyzer for Fluidic Systems HENDRIK FISCHER, Hamburg University of Technology, Joern Frank, Uwe Grosse-Worttermann, Gerhard Matz


(1660-7 P) Convolution of Currents at Electroinactive Films on Electrodes JEFFREY LANDIGREN, University of Iowa; Heng Chuan Lee, Krystl L Knoch, Johna Leddy

(1660-8 P) New Laser Technology to be Used for Biogas, Biosynaps and Biomethane Analysis ONY RABETSAMANANGA, GDF SUEZ - CRÉGIER, Jean-Philippe Leininger, Elamine Basset, Alice Vatin, Cyril Levy

(1660-9 P) Surface-Enhanced Raman Spectroscopy Based on Nanoporous Waveguide Resonance for Biosensing WEIDING XU, Jilin University, Fu Cuicui, Gu Yujiao, Xu Shuping

(1660-10 P) Automated On-Line UHPLC Analysis Enabled by a Novel Process Sample Manager AARON D PHOEBE, Waters Corporation, Sara Sadler, Graham B Jones, Robert J Timder, Craig H Dobbs, Charles H Phoebe

(1660-11 P) Quantitative Analysis of Hydrogen Peroxide Down to 1 μg/L in Ultrapure Water Using Palladium Catalysts for Preparing Blank Water MASAMI MURAKAMI, Organo Corporation, Daisaku Yano, Koji Yamanaka

(1660-12 P) Automatic Twin Vessel Recrystallizer: Absolute Purity Evaluation by Determination of Criterial TO 10% Pure Compound by DSC OSAMU NARAI, Tohoku Pharmaceutical University

(1660-13 P) Baseline Water Analysis Measurements of Zurich Bog, New York City BENJAMIN J HAYWOOD, St. John Fisher College, Kimberly Chiechter, Kenneth H Townsend

(1660-14 P) Flow-Through System for the Generation of Standard Aqueous Solution of UV Filters and Biocides FARIDIN AHMADI, University of Waterloo, Janusz Pawluczyk, Chris Sparham

(1660-15 P) Formation Constant of Transition Metal Chelates with 2,2’-Bipyridyl Amine, 1-3 and 1-2 Diamino Propane MANISH PRACHANDRA BIRUHABBIT, Sheth M N Science College

(1660-16 P) Novel Ion-Exchange Resin based on Styrene-Maleic Anhydride Copolymer JAYANTIBHAI A CHAUDHURI, Shri R Parikh Arts and Science College

(1660-17 P) Electronic Wireless Sensing of Chemical Vapors and a Smartphone JOSEPH M AZZARELLI, Massachusetts Institute of Technology (MIT), Katherine A Mirica, Jenc B Ravenshoi, Timothy M Swager

(1660-18 P) A Novel Software Simulation Package for 3D Modeling of Linear Ion Traps BORIS BRIK, University of Liverpool, John R Gibson, Stamatios Giannopoulos, Stephen Taylor

(1660-19 P) Matrix Effects on Boron Containing Materials Due to Laser Ablation Molecular Isotopic Spectrometry (LAMIS) STACI R BROWN, Florida A & M University, Charlemagne A Alpowa, Jorge Martinez, Alan Ford, Kenley Herbert, Lewis Johnson

(1660-20 P) Chemical Adsorption Methods for CeO2 and ZrO2 Oxides ANDREW D DAMICO, Micrometics, Onjia LaMont, Sarah Schimming, Carsten Sievers

Liquid Chromatography/Mass Spectrometry Applications

Wednesday Morning, Exposition Floor, Back of Aisles 1000-2500

(1670-1 P) Using the 2nd HPLC Dimension to Add the Power of Accurate Mass to Traditionally Ion MS Applications SUSAN DANTONIO, Agilent Technologies, Lynne Marshall, Rita Steed, Patrick Coleman

(1670-2 P) Withdrawn

(1670-3 P) Parameters Affecting the Performance of LC-HRMS Screening Methods for Multiclass Screening of 600 Organic Contaminants in Food Based on Accurate-Mass Database JUAN F GARCIA-REYES, University of Jaen, Patricia Perez-Ortega, Antonio Molina-Diaz

(1670-4 P) Coupling MS to Fast Online Comprehensive Two-Dimensional Liquid Chromatography: Potential of Using 1 mm vs 2.1 mm id Columns. NADIA A HADAR AHMADI, University of Minnesota, Brian B Barnes, Allen C. Robert, Peter W Carr

(1670-5 P) A Reversed-Phase LC-MS/MS Method for the Quantitation of Ethyl Glucuronide and Ethyl Sulfate in Human Urine TY KAHLER, Restek Corporation, Sharon Luo, Frances Carroll, Chris Denicola, Paul Connolly

(1670-6 P) Simultaneous Determination of an Anti-Cancer Drug Temozolomide Capsules Dosage Form in Pharmaceutical Preparation by High-Performance Liquid Chromatography RAKSHIKUMAR V MEHTA, L M College of Pharmacy

(1670-7 P) The Determination of Caffeic Acid in Tobacco Filter of Cigarettes by High-Performance Liquid Chromatography – Tandem Mass Spectrometry PHUNONG NGAC, Centers for Disease Control and Prevention, Roberto Bravo, Clifford H Watson

(1670-8 P) Mix-Mode Chromatographic Separation of 12 Mono-Hydroxylated Brominated Biphenyl Ethers in Human Serum SYRAGO (SISSI) PETROPOULOU, Cal EPA/DTSC, Wendy Duong, Zachary T Smith, Myrto Petreas, June-Soo Park

(1670-9 P) LC-MS/MS Analysis of Bisphenol A and Other Brominated Phenois in Human Serum Using 96 Well Plate Phospholipid Removal Plate and No Additional SPE SYRAGO (SISSI) PETROPOULOU, Cal EPA/DTSC, Zachary T Smith, Myrto Petreas, June-Soo Park

(1670-10 P) Determination of Perfluorooctanoic Acid (PFOA) from the Surface of Cookware Under Simulated Cooking Conditions Using Accelerated Solvent Extraction (ASE) and LC/MS/MS CHANGLING QIU, South Dakota State University, Douglas Raymire

(1670-11 P) LC/UV/MS Analysis of Monitoring Bioethanol Manufacturing Process Using Polymer Based Multi-solvent SEC Column JUNJI SASUGA, Showa Denko KK, Melissa Turcotte, Ronald Benson

(1670-12 P) LC/MS Analysis of Choline and Acetylcholine in Living Organisms Using Polymer-Based Cation IC Column JUNJI SASUGA, Showa Denko KK, Ritsuko Wakayama, Melissa Turcotte, Ronald Benson

(1670-13 P) Degradation-Resistant Peptides: Do They Contain D-Amino Acids? HUA-CHIA TAI, University of Illinois at Urbana-Champaign, Itamar Linvan, Stanislav S Rubakhin, Jonathan V Sweedler

(1670-14 P) Downscalling Proteome Profiling: Toward Single Cell Proteomics MASAKI WAKABAYASHI, University of Illinois at Urbana-Champaign, Jordan Aerts, Stanislav S Rubakhin, Yasushi Ishihama, Jonathan V Sweedler

(1670-15 P) Hepatocyte Spheroid Array Kit as a Tool for Predicting In Vivo Drug Metabolism TATSUYUKI KANAMORI, National Research Institute of Police Science, Yamamuro Tadashi, Kawaiya Kenji, Totsuka Koji, Iwata Yuka, Inoue Hikuyuki

(1670-16 P) Studying Cell Signaling By Using a Microfluidic Device Coupled With HPLC-MS/MS CASSANDRA DIANE MCCULLUM, Jackson State University, Xiangtan Li, Yiming Liu, Paul B Tchounou

(1670-17 P) Comparative Proteomic Analysis of Secretome in Vascular Smooth Muscle Cells by Label-free Quantitation via Data-Independent Acquisition (DIA) Mass Spectrometry CHENXI YANG, University of Wisconsin-Madison, Di Ma, Xudong Shi, and Ethyl Sulfate in Human Urine TY KAHLER, Restek Corporation, Sharon Luo, Frances Carroll, Chris Denicola, Paul Connolly

(1670-18 P) Formulation and Development of In Situ Forming Thermosensitive Injectable Hydrogel for the Delivery of Pegylated Melphalan Conjugate AMIT ALEXANDER, Ravishankar Shukla University, Swarnlata Saraf, Shailendra Saraf

(1670-19 P) Formulation and Development of In Situ Forming Thermosensitive Injectable Hydrogel for the Delivery of Pegylated Melphalan Conjugate AMIT ALEXANDER, Ravishankar Shukla University, Swarnlata Saraf, Shailendra Saraf
**PITCON 2014 TECHNICAL PROGRAM**

**POSTER SESSION Session 1680**

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

**Mass Spectrometry: General Interest**

Wednesday Morning, Exposition Floor, Back of Aisles 1000-2500

**Poster 1680-1 P**

Simultaneous Detection of Eight Urinary Pteridines and Creatinine by Ultra-Fast Liquid Chromatography – Tandem Mass Spectrometry. CASEY BURTTON, Missouri University of Science and Technology; Henok Abshiro, Sanjewa Gamagedara, Honglan Shi, Yinfa Ma

**Poster 1680-20 P**

Using Atmospheric Pressure Chemical Ionization High Resolution Mass Spectrometry as a Tool for the Detection and Identification of Nitrated and Oxygenated Polycyclic Aromatic Hydrocarbons. RICHARD COCHRAN, University of North Dakota, Alena Kubatova

**Poster 1680-21 P**

Carbohydrate Profiling of Therapeutic Glycopeptides by Mass Spectrometry and Anion Exchange Chromatography Coupled with Pulsed Amperometric Detection. ANDREA GRAY, University of Maryland, Baltimore County, Shaunak Uplekar, William LaCourse, Govind Rao

**Poster 1680-22 P**

Molecular Weight Analysis of Macromolecular Complexes by macroMS. ELISABETH LUECKEN, Tsi, Inc., Axel Zerath

**Poster 1680-23 P**

Rapid, Minimally Invasive Metabolomic Study of Amazonian Plants Using In Vivo Microextraction and LC-MS. MARCEL FLORIN MUSTEATA, Albany College of Pharmacy and Health Sciences, Manuel Sandeaul, Juan M Ruiz, William Millington

**Poster 1680-24 P**


**Poster 1680-25 P**

Withdrawn

**Poster 1680-26 P**

Per- and Polyfluorooaryl Substances in Selected Sewage Sludge in Nigeria. OMONAYOKI SINDIKU, University of Badagry, Nigeria

**Poster 1680-27 P**

Progress Towards the Determination of Protein Bound 3-Nitrotyrosine (P-3NY). JOSHUA WOODS, University of Kansys, Jordan Stobaugh, Todd Williams, James W Jorgenson, Christian Schoneich, John Stobaugh

**Poster 1680-28 P**

A Novel Method for Identification and Relative Quantification of N-terminal Peptides Using Metal Element Chelated Tags Coupled with Mass Spectrometry. YANGQUN ZHANG, Beijing Institute of Radiation Medicine, Hui Yan, Nannan Li, Feiran Hao, Jiabin Li, Fang Tian, Xiaohong Qian

**POSTER SESSION Session 1690**

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**Polymer and Plastic Analysis**

Wednesday Morning, Exposition Floor, Back of Aisles 1000-2500

**Poster 1690-1 P**

Characterization of Eco-Friendly Cutting Fluid Derived from Cottonseed Oil via Electrospray Ionization Tandem Mass Spectrometry. VIVIANNE E SILVA, INMETRO, Maira Fasciotti, Luciano N Batista, Mauricio G Fonseca, Luiz C Santa Maria, Valene S Cunha

**Poster 1690-11 P**

A New Splitting Method for Both Analytical and Preparative LC/MS. HAO CHEN, Ohio University, Yi Ca

**Poster 1690-12 P**

Determination of Internal Energy Distributions for Laser Electropray Mass Spectrometry Using Thermometer Ions and Other Biomolecules. PAUL M FLANGAN, Temple University, Fangjian Shi, Johnny J Perez, Santosh Karki, Conrad Pfeffer, Chris Schafmeister, Robert J Levis

**Poster 1690-13 P**

Rapid Identification of Microorganisms by Touch Spray and Paper Spray Ambient Ionization. AHMED M HAMID, Purdue University, Alan K Jarmusch, Kevin S Kerian, Robert G Cooks

**Poster 1690-14 P**

Collision Induced Dissociation at 1 Torr in a Microscale Ion Trap Mass Spectrometer. ANDREW HAMPTON, University of North Carolina at Chapel Hill, J Michael Ramsey

**Poster 1690-15 P**

Using Ion Mobility Measurements to Determine the Water Content of a Drift Gas in Ion Mobility Spectrometry. BRIAN C HAUCK, Washington State University, Aurora E Clark, William F Siews, Charles S Harden, Herbert H Hill

**Poster 1690-16 P**

Liquid Sample Desorption Electrospray Ionization Mass Spectrometry (DESI MS) of Analytes in Aqueous Solutions. WEN DONG, LOUL, University of Florida, Anna Bragter-Toth

**Poster 1690-17 P**

On-Plate Selective Enrichment and Self-Desalting of Peptides/Proteins for Direct MS Analysis. MAN LIU, Jlin University, Yandong Wang, Feng Liu

**Poster 1690-18 P**

Preparation of Affatin B1-lysine for Analytical Purposes. CARLOS A OLIVEIRA, University of São Paulo, Dianne C Sass, Alessandra V Jager, Fernando G Tonin, Roce E Rosim, Mauricio G Constantino

**Poster 1690-19 P**

Surface Analysis of Coated Papers by ToF SIMS. PIETER SAMYN, University of Freiburg

**Poster 1690-20 P**

Customized Vacuum Systems- Transferring an Idea to an Optimized Vacuum Solution. TOBIAS STOLL, Pfeffer Vacuum, Jan Hofmann, Michael Schweighofer

**Poster 1690-21 P**

Gas-Phase Studies on the Reactivity of Aromatic Biradicals Towards Amino Acids. WENJUAN TANG, Purdue University, George O Pates, Huanming Sheng, Ashley R Witting, John J Nash, Hilkka I Kenttamaa

**Poster 1690-22 P**

Combining DESI-MS Imaging with Multivariate Statistical Tools: A Novel Approach for the Analysis of Paper Degradation. THOMAS ZWECKMACHER, BOKU Vienna, Ute Henniges, Thomas Rosenau, Antje Potthast
### POSTER SESSION Session 1700

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**Process Analytical Chemistry**
**Wednesday Morning, Exposition Floor, Back of Aisles 1000-2500**

<table>
<thead>
<tr>
<th>Poster Session 1700</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1700-2 P)</td>
<td>Reaction Mechanism Determination with React NMR Coupled with On-Line HPLC and HR-MS</td>
<td>Bradley Campbell, EL Lilly and Company, Jonas Y Buser, Lauren E Click, Todd D Maloney, Adam D McFarland</td>
</tr>
<tr>
<td>(1700-3 P)</td>
<td>Determination of Cloyrald Levels in Local Community Composts</td>
<td>Daniele M Kieck, St. John Fisher College, Kimberly Chichester</td>
</tr>
<tr>
<td>(1700-4 P)</td>
<td>SERS Investigation of pH Effect on the Adsorption Behavior of 4- Carboxyxythiolien on Ag Surface</td>
<td>Suetsuen Lee, Chung Yuan Christian University, Chun-Hsien Ho</td>
</tr>
<tr>
<td>(1700-5 P)</td>
<td>Characterization of Coal and Its By-Products Using Borate Fusions and ICP-QES Analyses</td>
<td>Marie-Eve Provencher, Glaise, Corporation Scientifique, Janice Pitre, Melanie Bedard, John A Anzalmo</td>
</tr>
<tr>
<td>(1700-6 P)</td>
<td>Spectrophotometric Determination of Copper Using 2-Hydroxy-4-Isobutoxy Acetonaphene Oxime</td>
<td>Sanjaykumar S Shah, Shi-Vi Shah Commerce College, Janakkumar R Shukla</td>
</tr>
<tr>
<td>(1700-7 P)</td>
<td>Determination of Critical Micelle Concentration of Cationic Surfactants by Surface-Enhanced Raman Scattering</td>
<td>YAM Shrestha, North Carolina Central University</td>
</tr>
<tr>
<td>(1700-8 P)</td>
<td>Transmission Measurement and Diffuse Reflectance Measurement of Tablet in Very Short-time by Using Compact, High-Speed and High-Sensitive Near Infrared Spectrometer</td>
<td>Xiao Ma, University of Idaho, Akiko Otake, University of Michigan, Philippe Buhlmann</td>
</tr>
<tr>
<td>(1700-9 P)</td>
<td>2-Hydroxy-4-Isobutoxy 5-Bromo Acetonaphene Tiosemicarbzone (Hibbat) as a Spectrophotometric Reagent for Copper</td>
<td>Sanjaykumar S Shah, Piyush College, Milan A Shah, Kalpesh S Parikh</td>
</tr>
<tr>
<td>(1700-11 P)</td>
<td>Direct Headspace Analysis of VOCs in Water Using MIR Spectroscopy</td>
<td>Brent J Harris, BrightSpec, Justin L Neill, Matthew T Muckie, Robin L Pulliam, Dave A McDaniel, Roger L Reynolds, Brooks H Patte</td>
</tr>
<tr>
<td>(1700-13 P)</td>
<td>The Power of Spatial Resolution, Pixel I.D., and Pixel Counting in Quantitative Chemical Imaging with Vibrational Microspectroscopy</td>
<td>David L Wetzel, Kansas State University, Mark D Boatwright</td>
</tr>
</tbody>
</table>
WEDNESDAY, MARCH 5, 2014
AFTERNOON

AWARDS

Session 1730

Ralph N Adams Award - arranged by Julie Stenken, University of Arkansas
Wednesday Afternoon, Room S401a

1:30 Introductory Remarks - Julie Stenken

1:35 Presentation of the 2014 Ralph N Adams Award to Mark E Meyerhoff, University of Michigan, by Julie Stenken, University of Arkansas

1:40 (1740-1) Advanced Electrochemical Sensors/Devices for Medical Applications MARK E MEYERHOFF, University of Michigan

2:15 (1740-2) Monitoring Neurotransmitter Control of Cerebral Blood Flow R MARK WIGHTMAN, University of North Carolina at Chapel Hill, Elizabeth S Bucher

2:50 (1740-3) New Approaches to High Throughput Analysis of Protein Function by MS and Microfluidics ROBERT KENNEDY, University of Michigan

3:25 Recess

3:40 (1740-4) In Situ Bioanalytical Measurements with Near Infrared Spectroscopy MARK ARNOLD, University of Iowa

4:15 (1740-5) Modulating the Macrophage Towards Improved Wound Healing at “Sensor” Implant Sites JULIE STEINKEN, University of Arkansas, Geetika Bajpai, Geoff Keeler, Cynthia Sides, Leping Tang, Jeannine Durdik

AWARDS

Session 1740

The Coblentz Society - Williams-Wright Award
arranged by Douglas J. Elmore, 3M Corporate Research Analytical Laboratory

Wednesday Afternoon, Room S401bc

1:30 Introductory Remarks - John Coates

1:35 Presentation of the 2014 Coblentz Society - Williams-Wright Award to Walter (Mike) M DOYLE, Axiom Analytical, Inc., by John Coates, Coates Consulting LLC - The Coblentz Society

1:40 (1740-1) Random Walk Through 50 Years of Optics and Spectroscopy WALTER (Mike) M DOYLE, Axiom Analytical, Inc.

2:15 (1740-2) Fifty Years of FT-IR Spectrometry PETER R GIBBITHS, Griffiths Consulting LLC

2:50 (1740-3) FTIR: Prehistory and Early History GERALD AUTH, Midac Corporation

3:25 Recess

3:40 (1740-4) The Interactions Between IR Instrumentation Development and Industrial Sampling Methods Over Time DO WARREN VYDRINE, Vydrine Consulting

4:15 (1740-5) Learning to Think Inside the Box: Spectroscopy and Chemometrics Come of Age Together RICHARD KRAMER, Applied Chemometrics, Inc.

SYMPOSIUM

Session 1750

ACS DAC: Lifelong Teaching and Learning in Separation Science
arranged by Charles A Lucy, University of Alberta

Wednesday Afternoon, Room S401d

1:30 Introductory Remarks - Charles A Lucy

1:35 (1750-1) Approaches to Teaching Separations at Primarily Undergraduate Institutions, with an Emphasis on the Use of a Web-Based HPLC Simulator DWIGHT STOLL, Gustavus Adolphus College, Mark F Vitto, Paul Boswell

2:10 (1750-2) Technology for Analytical Chemistry Instruction Inside and Outside of the Classroom CHRISTOPHER R HARRISON, San Diego State University

2:45 (1750-3) Teaching Separation Science at the Graduate Level CHARLES A LUCY, University of Alberta

3:20 Recess

3:35 (1750-4) Old School vs. New School: A Survey of Recent Efforts in Analytical Chemistry Education KEVIN A SCHIG, University of Texas at Arlington

4:10 (1750-5) 50 Years of an ACS Short Course HAROLD McNAIR, Virginia Tech
SYMPOSIUM

Session 1760

Advances in Mass Spectrometry Based on Ultrashort Pulse Laser Technology - arranged by Martin E. Fermann, IMRA America Inc.

Wednesday Afternoon, Room 5402a

1:30 Introductory Remarks - Martin E Fermann

1:35 (1760-1) Femtosecond Laser Ablation ICP-MS: Ultra-Short Pulse Performance RICHARD E RUSSEL, Lawrence Berkeley National Laboratory, Vassilia Zorba, X L Mao, JI Gonzalez, Jong Yoo

2:10 (1760-2) Ultrafast Lasers Enable Non-Statistical Ion Activation and Sub-Cellular Atmospheric Pressure Chemical Imaging MARCOS DANTUS, Michigan State University

2:45 (1760-3) High Pressure Femtosecond Laser Ionization Mass Spectrometry DAVID M RAYNER, National Research Council

3:20 Recess

3:35 (1760-4) Quantitative Protein Analysis via Femtosecond Laser Vaporization-ESI-MS ROBERT J LEVIS, Temple University

4:10 (1760-5) DIVE-PI: Towards Fundamental Limits in Biodiagnostics and Spatial Mapping with MS RUDDWAYNE MILLER, Max Planck/University of Toronto

SYMPOSIUM

Session 1770

Analytical Innovations for Metabolomics - arranged by Richard A Yost, University of Florida

Wednesday Afternoon, Room 5402b

1:30 Introductory Remarks - Richard A Yost

1:35 (1770-1) Bioinformatic and Chemometric Innovations for Metabolomics ELAINE HOLMES, Imperial College London

2:10 (1770-2) Isotopic Ratio Outlier Analysis (IROA) and Imaging Mass Spectrometry in Metabolomics TIMOTHY J GARRETT, University of Florida, Richard A Yost, Robert Menger, Tu-Hsuan Tai, Candice Ulmer

2:45 (1770-3) Progress Toward Rapid Throughput Quantitative Glycomics CARLITO LEBRILLA, University of California, Davis

3:20 Recess

3:35 (1770-4) Microbial Metabolomics: Chemical Biology at the Intersection of Pathogen Biology and Intra-bacterial Pharmacology KYU RHEE, Weill Cornell Medical School

4:10 Open Discussion

SYMPOSIUM

Session 1780

Bioinformatics: Metabolite Identification and Quantification - arranged by Xiang Zhang, University of Louisville

Wednesday Afternoon, Room 5404a

1:30 Introductory Remarks - Xiang Zhang

1:35 (1780-1) Identifying the ‘Dark Matter’ in GC/MS and LC/MS Experiments STEVE STEIN, National Institute of Standards and Technology

2:10 (1780-2) Similarity Difference-Based False Discovery Compound Identification in GC-MS based Metabolomics SEO HDO KIM, Karmanos Cancer Institute/Wayne State University, Xiang Zhang

2:45 (1780-3) ADAP-GC 2.0: deconvolution of GC/TOF-MS data for metabolomics studies XRUXIA DQ, University of North Carolina at Charlotte

3:20 Recess

3:35 (1780-4) Strategies to Improve High-Throughput Identification in Untargeted Metabolomics GARY J FRITI, Washington University

4:10 (1780-5) A computational platform for analysis of comprehensive two-dimensional gas chromatography mass spectrometry-based metabolomics data XIANG ZHANG, University of Louisville

SYMPOSIUM

Session 1790

Biosensors and Single Cells: Speed, Sensitivity, Spatial Resolution - arranged by Andrew G Ewing, University of Gothenburg

Wednesday Afternoon, Room 5404bc

1:30 Introductory Remarks - Andrew G Ewing

1:35 (1790-1) Sensing Neuropeptides at Slices and Maybe Single Cells LESLIE A SOMBERS, North Carolina State University, Andreas C Schmidt, Lars Dunaway, Gregory McCarty

2:10 (1790-2) Electrochemical Sensing of Acetylcholine Release from an Artificial Secretory Cell AN-W SOFIE CANS, Chalmers University of Technology, Jacqueline Keighron, Michael Kurczy, Joakim Wigström

2:45 (1790-3) Nanopipettes: A Versatile Tool for Biosensing and Single Cell Manipulation NADEER POURMAND, University of California Santa Cruz

3:20 Recess

3:35 (1790-4) FEEM Imaging of Dynamic Cellular Events with Nanoscale Resolution BO ZHANG, University of Washington, Stephen Oja, Chris Gunderson, Stephen J Percival, Joshua Guerette

4:10 (1790-5) Measuring Spatial Release Across a Single Cell with Array Electrodes and Biosensors ANDREW G EWING, Chalmers University and University of Gothenburg

SYMPOSIUM

Session 1800

Global Challenges in Food Safety - arranged by Lowri S DeJager, US Food and Drug Administration

Wednesday Afternoon, Room 5405a

1:30 Introductory Remarks - Lowri S DeJager

1:35 (1800-1) The Impact of Globalization of the Food Supply on the Analytical Laboratory STEVEN MUSSER, FDA

2:10 (1800-2) Chasing Zero-How Changes in Methodology Complicate Food Safety Challenges JONATHAN DEVIRES, Medallion Laboratories/General Mills Inc.

2:45 (1800-3) Challenges in Monitoring Chemical Contaminants in Food STEVEN LEHOTAY, USDA Agricultural Research Service

3:20 Recess

3:35 (1800-4) Food Contamination - Taints, Off-Flavours and Looking for Unknowns KATHY RIDGWAY, Reading Scientific Services, Ltd.

4:10 (1800-5) Analytical Challenges in Emergency Response to Chemical Contamination Events in Foods DOUGLAS HEITKEMPER, Food and Drug Administration

SYMPOSIUM

Session 1810

New Enabling Analytical Techniques for Electrochemical Energy Materials - arranged by Joaquin Rodriguez-Lopez, University of Illinois at Urbana-Champaign

Wednesday Afternoon, Room 5404d

1:30 Introductory Remarks - Joaquin Rodriguez-Lopez

1:35 (1810-1) Combustion Techniques for the Discovery of New Catalysts for Solar Fuel Production BRUCE A PARKINSON, University of Wyoming

2:10 (1810-2) Understanding Spatial and Temporal Heterogeneities of Electrochemical Events Using Combined Optical and Electrochemical Methods SHANLIN PAN, The University of Alabama, Caleb Hill, Jia Liu, Daniel Clayton

2:45 (1810-3) Selective Electrocatalysis MARC KOPER, Leiden University

3:20 Recess

3:35 (1810-4) Quantitative Multi-Scale Imaging of Electrochemical and Ionic Reactivity in Ion-Battery Interfaces Using Novel Amperometric Probes JOAQUIN RODRIGUEZ-LOPEZ, University of Illinois at Urbana-Champaign, Zachary J Barton, Simpson H Burton, Mei Shen

4:10 Open Discussion
### ORAL SESSIONS  Session 1880
**Food Science: Bulk and Matrix Composition Analysis**
Wednesday Afternoon, Room S503a
Michael Woodman, Agilent Technologies, Presiding

<table>
<thead>
<tr>
<th>Time</th>
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<tr>
<td>1:30</td>
<td>Sensory Benchmarking of Sausages Using E-Sensing Instruments JOHN SHEA, Alpha MOS, Jean-Christophe Miffud, Arash Raahetian, Marion Bonnefille, Herve Lechat, Fatma Ayouni, Valerie Xabre</td>
</tr>
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<td>2:10</td>
<td>Investigation of “Dry Hop Index” as an Indicator for Hop Oxidation via UV-VIS Spectrometry and GC-TOF MS ELIZABETH HUMSTON-FULMER, Leco Corporation, Carolyn Stordeur, Lauren Torres, Kevin Payne, Lucas R Chadwick, Joe Binkley</td>
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<td>2:30</td>
<td>Determination of Natural Vitamin E and Benzopyrene by High Performance Liquid Chromatography ZHANG JINRAN, Bonna-Agela Technologies Inc., Su Xuan, Lu Guotao</td>
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### ORAL SESSIONS  Session 1900
**High-Throughput Chemical Analysis (Half Session)**
Wednesday Afternoon, Room S503b
Fu-meih Lin, The Pittsburgh Conference, Presiding

<table>
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<tbody>
<tr>
<td>1:30</td>
<td>Open Probe Fast GC-MS – Real Time Analysis with Separation AVW AMIRAV, Tel Aviv University, Alexander Falkov, Uri Keshet, Tal Alon</td>
</tr>
<tr>
<td>1:50</td>
<td>Design and Fabrication of Multiplexed Plasmic Nanorod Biochip for High Throughput Biological Assay YANYAN WANG, University of Texas at San Antonio, Liang Tang</td>
</tr>
<tr>
<td>2:10</td>
<td>Electrochemical Determination of As(III) by Subtractive Anodic Stripping Coulometry in a Micro-Fabricated Platform MOHAMED M MAREI, University of Louisville, Thomas J Roussed, Robert K Kenton, Richard P Baldwin</td>
</tr>
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### ORAL SESSIONS  Session 1870
**Environmental Analysis: Petrochemicals (Half Session)**
Wednesday Afternoon, Room S501d
Susan S Marine, Miami University Middletown, Presiding

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<td>1:30</td>
<td>Automated Fractionation of Extractable Petroleum Hydrocarbons Using a 6 mL Silica Gel Cartridge WILLIAM R JONES, Horizon Technology, Brian LaBreque, Alicia J Cannon, Robert S Johnson</td>
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<tr>
<td>2:10</td>
<td>Oil and Grease Analysis Around the World ZOE GROSSER, Horizon Technology, David Friedman</td>
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<td>2:30</td>
<td>Air Quality Gas Analysis Using Widely Scanning Mid-Infrared Laser Sources Combined with Cantilever Enhanced Photoacoustic Detection ISMO KAUPPINEN, Gasera Ltd., Sauli Sinisalo, Jussi Raittila</td>
</tr>
</tbody>
</table>

### ORAL SESSIONS  Session 1910
**Mass Spectrometry: Bioanalytical and Biomedical**
Wednesday Afternoon, Room S504a
Alexandre A Shvartsburg, Pacific Northwest National Laboratory, Presiding

<table>
<thead>
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<tr>
<td>1:30</td>
<td>New Derivatization Reagents to Optimize Retention and Response for Quantitative Analysis by LC-ESI-MS/MS ROSS M WOODS, University of Texas at Arlington, Daniel W Armstrong, Kevin A Schug</td>
</tr>
<tr>
<td>1:50</td>
<td>Mapping N-Glycoproteomics in Cells by an MS-Based Novel Chemical Deglycosylation Method RONGHU WU, Georgia Institute of Technology</td>
</tr>
<tr>
<td>2:10</td>
<td>Internal Energy Transfer for Thermometer Molecules and Ions Desorbed from Multilayers by Femtosecond Pulse Laser Desorption LUKE HANLEY, University of Illinois at Chicago, Slobodan Milasinnovic, Yang Cui, Robert J Gordon</td>
</tr>
<tr>
<td>2:30</td>
<td>Controlled Proteolysis in Trypsin-modified Membrane to Obtain Large Peptides for Mass Spectrometry WENDING NING, Michigan State University, Jinlan Dong, Weihan Wang, Yujing Tan, Li Cui, Gavin Reid, Merlin Bruning</td>
</tr>
</tbody>
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### ORAL SESSIONS  Session 1890
**Gas Chromatography: Carrier Gases, Capillary Techniques (Half Session)**
Wednesday Afternoon, Room S501d
Susan S Marine, Miami University Middletown, Presiding

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**Mass Spectrometry: Neurochemistry and General Interest**

Wednesday Afternoon, Room S504bc

1:30 (1930-1) Detection of Uranyl Compounds Using Liquid Sampling-Atmospheric Pressure Glow Discharge (LS-APGD) Mass Spectrometry  
LYNN Y. ZHANG, Clemson University, Benjamin T Manard, R Kenneth Marcus

1:50 (1930-2) Rapid Quantification of Biogenic Amines from Drosophila Melanogaster Using MALDI-MS  
CATHERINE L KRAMER, University of Arizona, Alyssa E Vollam, Eric B Monroe, Michael L Heien

2:10 (1930-3) A D-Amino Acid-Containing Neuropeptide Discovery Funnel  
TIMAR LUYKX, University of Illinois at Urbana-Champaign, Hua-Chia Tai, Stamislav S Rubakhin, Jonathan V Sweeter

2:30 (1930-4) Assessment of the Liquid Sampling-Atmospheric Pressure Glow Discharge (LS-APGD) as an Ambient Desorption/Ionization Source for Mass Spectrometry  
BENJAMIN T MANARD, Clemson University, Lynn X. Zhang, R Kenneth Marcus

2:50 Recess

3:05 (1930-5) New Apparatus for Preparative Mass Spectrometry on the Milligram Scale  
RYAN M BAHT, Purdue University, Christopher J Pulliam, Thomas Muller, Kassandra Moore, Robert G Cooks

3:25 (1930-6) Investigation of Pressure Tolerant Faraday Cup Detectors for High Pressure Mass Spectrometry  
KEVIN P SCHUTZ, University of North Carolina at Chapel Hill, M Bonner Denton, J Michael Ramsey

3:45 (1930-7) Tandem MS of Laser-Reduced Anthraquinones: Implications for LDI Detection of Paints and Dyes  
MICHAEL P NAPOLITANO, University of Florida, Ping-Chung Kuo, Jodie L Johnson, Julie Arslanoglu, Richard A Hare

4:05 (1930-8) Rapid Determination of Furanic Compounds in Dielectric Liquids with Direct Infusion ESI-MS/MS and DESI-MS/MS  
JINYU DU, Missouri University of Science and Technology, Shubhender Kapila

**Neurochemistry: New Approaches to Better Information from Measurements**

Wednesday Afternoon, Room S504d

1:30 (1930-1) Carbon Nanotube Yarn Electrodes for Enhanced Detection of Neurotransmitter Dynamics in Brain Tissue  
ANDREAS C SCHMIDT, North Carolina State University, Xin Wang, Tiantian Zhu, Leslie A Sombers

1:50 (1930-2) The Use of Pharmacological Agents for the Prevention of Tissue Damage During Brain Microdissection  
KATHRYN M NESBIT, University of Pittsburgh, Andrea Jaquins-Gerstl, Enik V Vainer, Adrian C Michael, Stephen G Weber

2:10 (1930-3) The Effects of Adsorption Kinetics on the Interpretation of Fast-Scan Cyclic Voltammetry Data during Behavior  
NATHAN T ROEBEGER, University of North Carolina at Chapel Hill, Elizabeth S Bucher, R Mark Wrightman

2:30 (1930-4) Withdrawn

2:50 Recess

3:05 (1930-5) Microfabricated Microelectrode Sensor for Measuring Tonic and Phasic Neurochemistry  
ADAM DENGLER, North Carolina State University, Gregory McCarty, R Mark Wrightman, Susan Carroll

3:25 (1930-6) MS Investigation of Neuropeptide Distribution and Expression Pattern Changes upon Exposure to Nanoparticles in Decapod Crustacean  
CHUANZI DUXING, University of Wisconsin-Madison, Albert T Kim, Bingming Chen, Chenxi Yang, Hui Ye, Lingjun Li

3:45 (1930-7) Towards Using Electrokinet Transport for the Delivery of Macromolecules to the Brain  
ALEX C VALENTE, University of Pittsburgh, Andrea Jaquins-Gerstl, Amir H Faraji, Adrian C Michael, Stephen G Weber

4:05 (1930-8) Capacitive Changes as a Measure of Ionic Adsorption on Carbon-Fiber Microelectrodes  
CAODY N HOBBS, University of North Carolina at Chapel Hill, Anna M Belle, Preethi Gowrishankar, R Mark Wrightman
POSTER SESSION  Session 1970

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Bioanalytical Neurochemistry, Capillary Electrophoresis, Electrophoresis, and Microfluidics

Wednesday Afternoon, Exposition Floor, Back of Aisles 1000-2500


(1970-3 P) Fully Automated Capillary Electrophoresis Analysis of Affinity Reagents BONNIE J HUDD, University of Notre Dame, Ryan Flaherty, Norman J Dovichi, Okuwatson O Dada

(1970-4 P) Mass Spectrometry Imaging of Peptides in the Planarian Schmidtea mediterranea TA-HSUAN ONG, University of Illinois at Urbana-Champaign, James J Collins, Elena V Romanova, Philip Newmark, Jonathan V Sweedler

(1970-5 P) Investigation of Neuropeptide Release in Response to Mechanical Stimulation of DRG Neurons EMILY G TILLMAAN, University of Illinois at Urbana-Champaign, Callie A Crouchour, Stanislav S Rubakhin, Tamer A Saif, Jonathan V Sweedler

(1970-6 P) Capillary Electrophoresis-Based Characterization and Applications of Graphene Quantum Dots LEONA SIRKISJOON, Wake Forest University, Honest Makamba, Christa L Goyer

(1970-7 P) Targeting Membrane Bound Proteins with Methylated Aptamers ANDREW SCHMIDLACH, University of Notre Dame, Bonnie J Huge, Flaherty Ryan, Norman J Dovichi

(1970-8 P) A Microfluidic Long-Term Cell Culture Device for Improving Biomimetic Modeling in Diabetess Metabolism LAURA FILLA, Saint Louis University, James L Edwards

(1970-9 P) Integrating Microscale Enzymatic Reactions with Capillary Electrophoresis SRIKANTH GATTU, West Virginia University, Cassandra L Griffield, Lisa A Holland

(1970-10 P) Measurements of Serotonin Release in Huntington’s Disease Model R6/2 Mice RACHEL GEHRINGER, University of Kansas, Sam Kaplan, Ryan Limbocker, Michael A Johnson


(1970-12 P) Acute Nicotine Administration has Different Effects on Eoked Dopamine Responses at Different Fast and Slow Type Sites in the Rat Striatum BRENDAN P SESTOKAS, University of Pittsburgh, Seth H Walters, Adrian C Michael

(1970-13 P) Optimizing EMMA Overlap Conditions: Experiment and Simulation MARIA D JONES, Bucknell University, Adam R Meier, Timothy G Strein

(1970-14 P) Coupling Immobilized Alkaline Phosphatase-based Automated Diagonal Capillary Electrophoresis to Tandem Mass Spectrometry for the Extent of Phosphorylation Analysis SI MOU, University of Notre Dame


(1970-16 P) On-Line Concentration and Separation of Parabens by Micellar Electromobility Chromatography Using Polymer Solutions Containing Sodium Dodecyl Sulfate CHENG-WEI WU, National Taiwan Ocean University, Tai-Chia Chiu, Cho-Chun Hu

(1970-17 P) On-Line HPLC Separation and Fluorescent Tagging of Primary Fatty Acid Amide Conjugates Using Droplet-Based Microfluidics and Single Photon Counting Detection ANDREW P DAVIC, Duquesne University, Michael Cascio

PITTCON 2014 TECHNICAL PROGRAM


(1970-21 P) Determining Extra-Cellular Ammo Acids Secreted from Human Adipocytes Using Online Microdialysis Capillary Electrophoresis RACHEL HIRSTAD, University of Minnesota, Michael T Bowser

(1970-22 P) Electro-Transfer Efficiency of Various Protein Types Using an Automated Semi-Dry Method for Western Blot Analysis EWA Z LANG, Abbott Laboratories, Tracey D Rae, Kevin R Rupprecht, Jeffrey Fishpaugh

(1970-23 P) Modeling and Analysis of Particle Dispersal in Tissue Phantoms CICELY J RONNYDE, University of Iowa

(1970-24 P) Buffer Capacity of Blood: Advancements in the Development of a Lab-on-Chip SAHIR EKHS GANDHI, Imperial College London, Christopher Bell, Peter Knox, Martyn G Boutelle, Danny D’Elia

(1970-25 P) Chemometrical Optimization and Fast Determination of Debittering of Table Olives by Means of Capillary Electrophoresis SILVIA M ALBILLOS, University of Burgos, Maria-Dolores Busto, Natividad Ortega, Concepcion Pilar-Izquierdo, Sonia Ramos-Gomez, Manuel Perez-Mateos

(1970-26 P) Highly Sensitive, Selective, and Fast Protein Analysis Using Lateral Flow Immunoassay JIAO CHEN, University of North Dakota, Xu Hui

(1970-27 P) Withdrawn


(1970-29 P) Kinetic Studies of Drug-Protein Interactions Using High-Performance Affinity Microcolumns and Peak Profiling ZHAO LI, University of Nebraska-Lincoln, David S Hage


(1970-31 P) Electrochemical Characterization of Extracellular Catecholamines in the Octafary Tuber of Rats LINGBO LU, University at Buffalo, Jin W Park, Jinwoo Park

(1970-32 P) Microfluidic Platform for Selective Isolation of CD4+ T-cells and Neutrophils for the Analysis of Stroke Related Markers SWATHI REDDY PULLAGURILA, Louisiana State University, Malgorzata Wilhe, Joshua M Jackson, Maria Lindell, Mateusz L Hupert, Steven A Soper

(1970-33 P) Quantitative PCR for Olive Oil Authentication SONIA RAMOS-GOMEZ, University of Burgos, Natividad Ortega, Maria-Dolores Busto, David Palacios, Silvia M Albillos

(1970-34 P) PDMS-Interconnected Microfluidic Systems for Rapid Separations QIYANG ZHANG, Wichita State University, Maqun Gong

(1970-35 P) Nano Patterning by Colloidal Lithography HADOHN ZHAO, University of Cincinnati
POSTER SESSION  Session 1980

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Bioanalytical: Vibrational Spectroscopy  Wednesday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(1980-1 P) Site Selective Characterization of Protein Electrostatics and Conformational Heterogeneity with Infrared Spectroscopy  EDWARD BASOM, Indiana University, James Spearman, Megan C Thielges

(1980-2 P) Quantitative Protein Detection Using Surface-Enhanced Raman Scattering  MUSTAPA COIHA, Yeditepe University, Ertug Avci

(1980-3 P) Coherent Anti Stokes Raman Scattering Correlation Spectroscopy (CARS- CS)  LAWRENCE O ITLELA, University of Notre Dame, Karen A Antonio, Zachary D Schultz


(1980-5 P) Preparation of Silver Nanocrystals Coated ZnO/Pe304 Nanocomposites via Photoreduction as SERS Substrate for Detection of Uric Acid in Urine  MELISEW TADELE ALIUA, Bahir Dar University, Jony Yang

(1980-6 P) Analysis of Human Erythrocytes Fourier Transform Infrared Microspectroscopy  MENASHI A COHENFORD, Marshall University, Seung Lim, Tabitha Norman, Maggie Anderson, Sarah Chapman, Pamela Meadows

(1980-7 P) Infrared Spectroscopy of Photosynthetic Electron Transfer Complexes  AMANDA LE SIEUR, Indiana University


(1980-9 P) Raman Spectroscopy for Human Breast Cancer Detection  WEIQING XU, Ijin University, Lian% Li% zh, Chuan-He, Bansi Patel, Laura Sagle


(1980-11 P) Improved Biosensing Using Capping Agent Free Au Nanostars  DEBRINA JANA, University of Cincinnati, Jie He, Bansal Patel, Laura Sagle

(1980-12 P) Development of a SERS Technique for the Quantitative Analysis of Bidentate Compounds  MAGGIE J MALONE-POVOLNY, University of Saint Thomas


(1980-14 P) Multi-plex Analysis of Pro- and Anti-Inflammatory Cytokines in Human Biological Matrices  MATTHEW A STEIGEL, University of North Carolina at Chapel Hill, Joaquin D Pined, Jon R Sobus, Michael C Madden

(1980-15 P) FT-IR Microspectroscopic Determination of the Uniformity and Level of Starch Acylation at Concentrations for Pharmaceutical and Industrial Use  MARK D BOATWRIGHT, Kansas State University, David L Wetzel

POSTER SESSION  Session 1990

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Biopharmaceutical Analysis  Wednesday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(1990-1 P) Optimization of Si-Based CVD Coatings for Anti-Bio Fouling Applications  GARY BARONE, SilicoTek Corporation, Min Yuan, David Smith

(1990-2 P) Radio Ion Chromatography  JAY GANDHE, Metrohm USA, M Espinoza, J Chesa-limez, Andrea Wilke


(1990-4 P) Biopharmaceutical Investigations of Inorgans in Raw Materials Used For Cell Culture Media Using X-Ray Fluorescence Analysis  JESSICA MONDO, Biogen Idec, Fernie Goh, Maureen Lanan

(1990-5 P) Analysis of Drug-Protein Binding by Ultrasfast Affinity Chromatography Using Immobilized Alphal-Acid Glycoprotein  SANDY RAJNI BEERM, University of Nebraska, Xiwei Zheng, David S Hage

POSTER SESSION  Session 2000

All posters are to be mounted by 10:00 AM and remain on display until 4:00 PM. Authors must be at their posters from 1:00 PM to 3:00 PM. Location of the afternoon posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Mass Spectrometry for Art and Archaeological Analysis  Wednesday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(2000-1 P) DART-MS Applications to the Analysis of Art and Archaeological Materials  RUTH ANN ARMITAGE, Eastern Michigan University


(2000-3 P) DART-MS Analysis of Historic Tobacco Pipes to Investigate the Preservation of Nicotine Residues  SYLVIA TORGES, Eastern Michigan University, Ruth Ann Armitage

POSTER SESSION  Session 2010

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Mass Spectrometry: Bioanalytical and ‘Omics  Wednesday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(2010-1 P) Comparison of Nanostructured Initiator Mass Spectrometry (NIMS) and Matrix-Enhanced Surface-Assisted Laser Desorption/Ionization (MALDI-SELDI) in MSI of Small Molecules  TARA N MOENING, North Carolina State University, Victoria I Brown, Lin He

(2010-2 P) Lipid Identification and Imaging in Single Cells Using Combined SIMS and Laser Desorption Ionization  AMIR SAED MOHAMMADI, Chalmers University of Technology, Anders O Lundgren, Per Malmborg, John S Fletcher, Jorhan Hanrieder, Andrew G Ewing

(2010-3 P) Enhanced Laser Ionization for MALDI-QTOF Quantitative Analysis of a Biomedically Important Analyte  LOGAN MILLER, Duquesne University, HM Skip Kingston

(2010-4 P) Impact of Protein Corona on Nanotube-Conjugated Cpg Immunotherapy for Glioma  SHANG ZENG, University of California, Riverside, Wenwen Zhong

(2010-5 P) Utilizing SAMDI Mass Spectrometry to Understand the Evolutionary Relationship of Phosphatases and Adaptor Domains  KYLE E BANITZ, Northwestern University, Danielle Seedorf, Milan Mrkisch

(2010-6 P) Discriminating Peptide Epimers in Complex Mixtures by Radical Directed Dissociation LC-MS  YUANDAI TAO, University of California, Riverside, Ryan B Julian

(2010-7 P) High-Resolution Enabled 10-plex DIAE Isobaric Reagent tags for Mass Spectrometry-Based Relative Quantification  DUSTIN FROST, University of Wisconsin-Madison, Tyler J Geer, Linglin Li


(2010-9 P) Direct MALDI Imaging of Glycosidoglycans (GLG) in Brain Tissue of Mouse Models of Lysosomal Storage Disorders  JENNIFER ARCEO, University of Notre Dame, M J AMITI, Jason Storey, Andrea Wilke

(2010-10 P) Combining Fibrinogen-Conjugated Gold Nanoparticles with a Cellulose Membrane for the Mass Spectrometry-Based Detection of Fibronectin-Related Proteins  WEI CHANE CHIU, National Taiwan Ocean University, Chih-Ching Huang

(2010-11 P) High Spatial Resolution Multi Modal Imaging Mass Spectrometry (UMS) of Neuropeptides in the Cerebral Cortex and the Corpus Callousum of the Mouse Brain  SASSHLEH DOWI, ATASHOH POUR, Chalmers University of Technology, Per Malmborg, Andrew G Ewing
PITCON 2014 TECHNICAL PROGRAM

[2010-12 P] Detection of MicroRNA in Tumor Cells by Enzyme and Graphene Oxide-Regulated Signal Amplification RONG-CING HUANG, National Taiwan Ocean University, Chih-Chung Huang


[2010-15 P] Nanogold Membrane Coupled with Laser Desorption/Ionization Mass Spectrometry for Detection of Iodide in Urine YU-JIA LI, National Taiwan Ocean University

[2010-16 P] Withdrawn

[2010-17 P] Headspace GC-MS Detection of Dodecafluoropentane Collected Using Microdialysis Sampling ALDA A DIAZ-PEREZ, University of Arkansas, Jennifer Gidden, Jackson O Lay, Julie Stenkven

[2010-18 P] In Vivo Detection of Volatile Signatures from Mycobacterium Avium spp. Paratuberculosis (MAP) by Means of Needle-Trap-Micro-Extraction (NTME), Solid-Phase-Micro-Extraction (SPME) and GC-MS ANDREAS BERGMANN, University Medicine of Rostock, Heike Koehler, Petra Reinhold, Klaus Klepik, Philipp Treue, Jochen K Schubert, Sina Fischer, Wolfram Kleirich

[2010-19 P] Analysis of the Essential Oil from the Leaves of Cissampelos Owaensia, a Proferility Plant MODUPE MABEL OUGINLESI, University of Lagos, Wesley O Okiei, Edith U Ollo

[2010-20 P] GC-MS Analysis of the Essential Oil from the Edible Nuts from Tetracarpidicum Conophorum MODUPE MABEL OUGINLESI, University of Lagos, Wesley O Okiei, Funmilola A Adesanya

[2010-21 P] GC-MS Analysis of the Constituents of the Essential Oil from the Fresh Leaves of Pseudocedrela Kotschyi, a Medicinal Plant Used in the Management of Sickle Cell Disease WESLEY O OKIEI, University of Lagos, Modupe Mabel Ogunlesi, Soyin O Akerele


[2010-24 P] Electrochemistry Electrospray Ionization Mass Spectrometry in the Study of Covalent and Covalent Interactions of Tryptophan IYARAN IFIKHAR, University of Florida, Anna Bratjer-Toth


[2010-27 P] Identification of the Sulfone Functionality in Protonated Analytes via Ion/Molecule Reactions in a Linear Quadrupole Ion Trap Mass Spectrometer HUAMING SHENG, Purdue University, Peggy Williams, Weijuan Tang, Minli Zhang, Hilika Kentenmaa

POSTER SESSION Session 2010

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Sampling and Sample Preparation
Wednesday Afternoon, Exposition Floor, Back of Aisles 1000-2500

[2030-1 P] Development of Novel Passive Air Sampler for Simultaneous Determination of NO and NO2 Employing Ceria/quartz Fiber Filter AIRNO AZUMA, Tokai University, Yoshika Sekine, Yuki Nagoiaka, Michio Butszugan

[2030-2 P] Nicotine and Metabolites: Evaluation of Supported Liquid Extraction Approaches Prior to UPLC-MS/MS Analysis ALAN EDGINGTON, Biotage, Williams Lee, Victor Vandell, Frank A Kero, Tom Enzweiler, Elena Gaiecho, Brad Nolt

[2030-3 P] Method NOAA 2549-Thermal Desorber Analysis for Occupational Safety and Health ILARIA FERRANTE, DANI Instruments, Daniele Recenti


[2030-6 P] Automation of a Solid Phase Extraction Method for the Determination of Ochratoxin A in Wine and Beer Samples Prior to LC-MS/MS FRANK A KERO, Biotage, Leonardo Mariano Repizo, Soledad Cerutti, Victor Vandell, Adam Senior, Tom Enzweiler, Elena Gaiecho

[2030-7 P] Use of Accelerated Solvent Extraction (ASE) with Centrifugal Evaporation to Automate Fat Determination in Food Matrices JASON KETTLE, Thermo Fisher Scientific

[2020-4 P] Chiral and Achiral Reaction Monitoring with Ultra-Performance Chromatography and Mass Detection SEAN M MCCARTHY, Waters Corporation, Michael D Jones

[2020-5 P] Microwave, Raman and Infrared Spectra, Conformational Stability, Structural Parameters, and Vibrational Assignment of Cyclopyrifyllamine HIKLAS H ABDELHAY, University of Missouri – Kansas City, James R Durig

[2020-6 P] Integrating Predictive and Experimental Tools to Capture Degradation Knowledge in the Early Development Phase of a Drug's Lifetime TASHNEEM PATWA, Pfizer

[2020-7 P] USP <467> Determination of Residual Solvents in Pharmaceutical Products Using Static Headspace and Time of Flight GCMS system ILLARIA FERRANTE, DANI Instruments, Chiara Abate, Roberta Lurcia, Daniele Recenti


[2020-12 P] Particulate Contamination Control - Current Technology versus State of the Past VALET OLIVER, rap.ID Inc.


[2020-14 P] Convenient and Direct Determination of Gunadine Compounds in Water with a Cavitation-Based Stationary Phase TAYBEYEH PANAHI, Brigham Young University, Roger G Harrison

[2020-15 P] Detection and Separation of Pharmaceutical Contaminants in Surface Water with Ion Chromatography TAYBEYEH PANAHI, Brigham Young University, Roger G Harrison

[2020-16 P] Structural Studies of Co-Spinel Ferrite Synthesized by an Auto Combustion Method ANAND M RAVAL, Saraswati School of Science

[2020-17 P] Surface Area Measurement of Intact Lysophospholipid Cakes MYKE SCOGGINS, Micrometrics

[2020-18 P] Applications of a New Core-Shell Particle in the Separation of Pharmaceutical Entity's MARK WOODRUFF, Fortis Technologies Ltd, Ken Butchart

(2030-9 P) Sample Preparation and Quantification of Arsenic Compounds in Insoluble Gyrum Wallibards KANA OKAMOTO, Fukushima University, Atsushi Manaka, Masamoto Tafa, Yoshitaka Takagai

(2030-10 P) Cloud Point Extraction of Metal Oxide (TiO2 and ZnO) Nanoparticles in Water Samples Identified by Raman Spectroscopy and Quantified by Atomic Absorption Spectroscopy YANXIAO MA, Tennessee Tech University, Andrew Callender

(2030-11 P) Novel Methods for the Pretreatment of Whole Blood Using Fenton-Like Processes SAMUEL M ROSULINA, University of Tennessee, Kimberly N Johnson, Zhiling Xue


(2030-13 P) UTILITY OF A MOISTURE REMOVAL POLYMER FOR EXTRACTION APPLICATIONS SM RAHMATULLAH, Thermon Fisher Scientific, Kannan Srinivasan, Christopher Gaither

(2030-14 P) Fast "Load-Wash-Elute" SPE Method With No Dry Down Steps for Peptide Extraction from Plasma and Serum Prior to LC-MS/MS ANALYSIS VICTOR VANDELL, Biostage, Frank A Kero, Tom Enzweiler, Elena Gairloch

(2030-15 P) Introduction of New Surgingless Filtration Device for Easy Use Prior to Instrument Analysis LIUMIAN ZHAO, Agilent Technologies, Wei Song, Gregory Webster

(2030-16 P) Are You Worried about the Loss of Target Analytes by Sample Filtration? LIUMIAN ZHAO, Agilent Technologies, William John Long

(2030-17 P) New Graphitized Polymer Carbons and Carbon Molecular Sieves for Sample Preparation Applications WILLIAM R BETZ, Supelco/Sigma-Aldrich, Jay Jones, Mike Keeler, Wendy Roe

(2030-18 P) Increased Efficiency of the Coomassie (Bradford) Assay for Protein Content REDUCING FALSE POSITIVES ASSOCIATED WITH miRNA DETECTION NICHOLAS E LARKEY, University of Alabama at Birmingham, Martyn G Boutelle

(2030-19 P) Automated Inspection for Disease Vector Tracking LEVI B LAZARUS, University of Arizona, Roger L Miesfeld, Jun Iseue, Michael L Reiene

(2030-20 P) Increasing Productivity by Utilizing Prepared Formulations ANTHONY R KEMPENHAN, Honeywell, Burdick & Jackson

(2030-21 P) Advances in Tube Sampling Technology – Tube and Sample Data Tracking WANG SHAOYAN, Liu Chunyu, Chen Gang, Jia Qiong, Xu Weiqing

(2030-22 P) Optimization of Volatile Organic Compound Determination by Static Headspace Sampling ANNE JUREK, EST Analytical, Justin Murphy, Lindsey Pyron

(2030-23 P) Large Volume Injection of Polyacrylic Acid Hydrocarbons ANNE JUREK, EST Analytical, Justin Murphy, Lindsey Pyron

(2030-24 P) Evaluating the Efficacy and Reproducibility of Automated Homogenization Technologies DREXEL NEUMANN, Omnis International, James Atwood

(2040-6 P) Non-Enzymatic Glucose Sensor Based on the 3-Aminophenylboronic Acid Molecular Recognition GROUP HUANAN CIFTICI, Kikukate University, Ugur Tamer, Mutluhan Biyikoglu

(2040-7 P) Covalent Bond Type Molecularly Imprinted Polymers for Sensing Carbonyl Compounds NOBUAKI KOBAYASHI, Kobe University, Yajia Kitayama, Toreo Ooya, Toshihumi Takeuchi

(2040-8 P) A Cost-Effective Impedance Biosensor for Rapid Detection of Avian Influenza Virus in Chicken Swabs SANGHAN LIN, China Agricultural University, Ronghui Wang, Peiying Jiao, Yunzuo Li, Xinhua Wen, Ming Liao, Yabin Li, Maohua Wang

(2040-9 P) A Q-Body Assay System for Illegal Drugs ABE RYO, USHO Inc., Ohachi Hiyoshi, Nomoto Daisuke

(2040-10 P) Diamond Microfluidic Devices for Electrochemical Analysis KIM C NEWLAND, University of Warwick, Mark E Newton, Julie V Macpherson

(2040-11 P) Mechanism Study of Wound-Healing Capability of Bioactive Borate Nanofibers Using an In Vitro Dynamic Model System SISHI CHEN, Missouri University of Science and Technology, Qingbo Zhang, Honglan Shi, Katie Brow, Richard K Brown, Yinfa Ma

(2040-12 P) Evaluation of a Centrifugal 3-D Partial Differential Hematometry System OSARIO ERHABOR, Royal Bolton Hospital
Separation Sciences: General Interest, Materials Science and Others

Wednesday Afternoon, Exposition Floor, Back of Aisles 1000-2500

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Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition
Floor until after 9:30 AM.

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 10:00 AM to 12:00 PM. Location of the morning posters is on the
Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition
Floor until after 9:30 AM.

Separation Sciences: General Interest, Materials Science and Others

Wednesday Afternoon, Exposition Floor, Back of Aisles 1000-2500

(2050-1 P) Characterization of Lauryl Acrylate Porous Polymer Monoliths used as Stationary Phases in Capillary Electrophoresis: Khóa Buí, Trinity University, Robert Sampat, Xuanyi Deng, Brady W Iba, Kelly A Hues, Monette N Cardona, Chrísõa R Daniels, Michelle M Bucher


(2050-3 P) Synthesis and Characterization of Amino Acid Based Chiral Ionic Liquids: Joanna Vassiloudi, St. John Fisher College, Irene Kimaru

(2050-4 P) Surface Molecular Imprinting on the Sep-Pellet Gel: Sung Hyo Chough, Chonnam National University, Hye Ryoung Park

(2050-5 P) Physicochemical Properties of Edible Oil of Dodocarbus Bataua var. Bataua (Areaceae: Dodocarpaceae) Quirguñero Salamanca Grosso, Universidad del Tolima, Alicia Rios Hurtado

(2050-6 P) Efficient HPLC Analysis of Biologically Active Polar Compounds Using the Unique Selectivity of PFP and Diol Phase Bonded to Hybrid Silica Particles: Takashi Sato, YMC Co., Ltd., Ernest J Sobkow, Noriko Sojo, Takamori Takai, Naohiro Kuriyama

(2050-7 P) Operating Considerations in Migrating Separation Methods Among Narrowbore and Microscale UPLC Systems: Daniel Root, Waters Corporation, Thomas E Wheat, Patricia K McConville

(2050-8 P) HILIC and Mixed-Mode Retention of the Pentafluorophenyl Propyl (PFPP) Stationary Phase: Tylerka Kahlert, Restek Corporation, Sharon Lupo, Frances Carroll, Shun-Hsin Liang, Chris Denicola

(2050-9 P) Applications of Chromatography in Cosmetics and Personal Care Industries: Carolina Lucía Mendoza Forero, Belcorp

(2050-10 P) Analysis of Triclosan: Study and Correlation Between High Performance Liquid Chromatography (HPLC) and Thin Layer Chromatography (TLC) Methods in Cosmetic Products: Carolina Lucía Mendoza Forero, Belcorp

(2050-11 P) Techniques for Reducing the Effects of Sample Solvents on UHPLC Analyses: Kenkichiro Tanaka, Shimadzu Scientific Instruments, William Hedgepeth

(2050-12 P) Direct Determination of Native Gycans by HPLC with Charged Aerosol Detection: David Thomas, Thermo Fisher Scientific, Ian N Acworth, Bruce Bailey, Marc Plante, Qi Zhang

(2050-13 P) Usability of Amide and C28 Core Shell and Fully Porous Column for Separation of Hydrophilic Compounds: Tomoyuki Tsukamoto, Chromatik Technologies Inc., Norikazu Nagae

(2050-14 P) Method Development and Validation for the Assay of Hydrochlorothiazide and Determination of Impurities/Degradants in Raw Material Using Reverse-Phase Liquid Chromatography: Davina Urunpina, Northeastern Illinois University, John Albauzi

(2050-15 P) Fundamental Investigation Regarding Robustness and repeatability in HILIC Chromatography: David S Bell, Supelco/Sigma-Aldrich, Hugh M Cramer, Craig R Aurand, Gaurang Parmar


(2050-17 P) Ultrafast 2D-RPLC: Superficially-Porous 2.7 µm Particles versus 1.8 µm Fully Porous Particles for Use in Second Dimension: Imad A AYAD, Ahmad, University of Minnesota, Robert C Allen, Brian B Barnes, Peter W Carr

(2050-18 P) HILIC and Mixed-Mode Retention of an Embedded-Polar Stationary Phase: Tylerka Kahlert, Restek Corporation, Sharon Lupo, Frances Carroll, Shun-Hsin Liang, Chris Denicola


(2050-20 P) Array of Boron Doped Diamond Electrodes for Electrochemical Detection in HPLC: Francois Dardoz, University Pierre and Marie Curie (UPMC), Eric Mahe

(2050-21 P) Improving Reproducibility of Thermally Unsteady Fast HPLC Gradients: Fabrice G Gritti, University of Tennessee, Joseph J Stankovich, Georges Guiochon

(2050-22 P) An Ultimative Axial Compression Steel Column: Markus H Fuchs, No Affiliation

(2050-23 P) Bringing Analytical Chemistry to the Sample: A Spectrum of Portable Analytical Technologies: Mark Mabry, Rigaku Raman Technologies, Inc., Claire Dengtiger, Claude Robotham


(2050-25 P) Alpha Imaging: A New Tool to Localize Alpha Sources: Charles Mahe, Cea Marcoule

(2050-26 P) Detection of Emerging Contaminants in Water by a Displacement Assay Based on High-Performance Affinity Chromatography: Rihan E Matsuda, University of Nebraska-Lincoln, So-Hwang Ky, Christopher White, Elliott Rodriguez, Donald Jobe, Daniel Snow, David S Hage

(2050-27 P) Liquid-Free Sample Traps for the Measurement of Trace Level Acidic and Basic Air Contamination: Tyler M Moultou, Entegris, Inc., Jurgen M Lubert, Emily C Zalog, Katherine M Chase


(2050-31 P) The Reproducibility of Constant Flow and Constant Pressure Chromatography: Time vs. Volume Based Chromatograms: Joseph J Stankovich, University of Tennessee, Knoxville, Fabrice Gritti, Paul Stevenson, Lois A Beaver, Peter Vajda, Georges Guiochon
PITCONE 2014 TECHNICAL PROGRAM
THURSDAY, MARCH 6, 2014
MORNING

SYMPOSIUM Session 2060
ACS DAC: Interferometry in Chemistry, Biology and Medicine
arranged by Darryl J Bornhop, Vanderbilt University
Thursday Morning, Room S401a
Darryl J Bornhop, Vanderbilt University, Presiding
8:30 Introductory Remarks - Darryl J Bornhop
9:10 (2060-2) Application of Back-Scattering Interferometry in the Study of Biomolecular Interactions and Non-Aqueous Media ROBERT FLOWERS, Lehigh University
9:45 (2060-3) Meeting the Need for Physiologically-Relevant Affinity Measurements DENISE M O’HARA, Pfizer
10:20 Recess
10:35 (2060-4) Non-Small Cell Lung Cancer Biomarker Validation and Quantification Using Backscattering Interferometry PIERR E MASSION, Vanderbilt Ingram Cancer Center, School of Medicine, Ian Olmsted, Mohamed Hassanein, Megan Hoekema, Amanda Kussrow, Ming Li, Darryl J Bornhop
11:10 (2060-5) Backscattering Interferometry On and In Virus-Like Particles MG FINN, Georgia Institute of Technology, Michael Baksh, Jin-Kyu Rhe, Jolene Lau

SYMPOSIUM Session 2070
Application of SERS Sensors to Biomedicine and the Environment
arranged by John Rabolt, University of Delaware
Thursday Morning, Room S401bc
John Rabolt, University of Delaware, Presiding
8:30 Introductory Remarks - John Rabolt
8:35 (2070-1) Novel Platforms for SERS-Based Sensing of Infectious Disease RICHARD A DUH Y, University of Georgia
9:10 (2070-2) SERS in Blood CH RISTY L HAYNES, University of Minnesota
9:45 (2070-3) SERS of Biological Cells for Diagnostics and Forensics LAWRENCE ZIEGLER, Boston University
10:20 Recess
10:35 (2070-4) SERS for the Investigation of Nano-Bio Interactions JANINA KNEIPP, Humboldt-Universitat zu Berlin, Daniela Drescher, Tina Büchner, Ingrid Zeise
11:10 (2070-5) Immobilization of Gold Nanorods onto Electrospun Polymer Nanofibers via Polyelectrolyte Decoration—A 3-D SERS Substrate JOHN RABOLT, University of Delaware, Wenqiong Tang, Bruce Chase

SYMPOSIUM Session 2080
Characterization and Quality Control of Monoclonal Antibodies and Biopharmaceuticals: Best Practices and Developments
arranged by Michael W Dong, Genentech
Thursday Morning, Room S401d
Michael W Dong, Genentech, Presiding
8:30 Introductory Remarks - Michael W Dong
8:35 (2080-1) Deciphering the Chromatographic Unknowns TAYLOR Y ZHANG, Genentech
9:45 (2080-3) The Utility of Mass Spectrometry in Biopharmaceutical Characterization Studies OLEG V BORISOV, Novavax
10:20 Recess
10:35 (2080-4) Practical Applications of High-Throughput Capillary Electrophoresis Methods DAVID A MICHELS, Genentech, A Member of the Roche Group
11:10 (2080-5) Advances in New Ion-Exchange Stationary Phases for Bio-Pharmaceutical Analysis CHRISTOPHER POHL, Thermo Fisher Scientific

SYMPOSIUM Session 2090
Fiber-Based Analytical Platforms
arranged by Antje Baeumner, University of Regensburg and R Kenneth Marcus, Clemson University
Thursday Morning, Room S402a
R Kenneth Marcus, Clemson University, Presiding
8:30 Introductory Remarks - R Kenneth Marcus and Antje Baeumner
8:35 (2090-1) Electrospinning Functional Nanofibers for Analytical Applications MARGARET W FREY, Cornell University, Laissa Buttaro, Daehwan Cha, Dapeng Li
9:10 (2090-2) Nano Fiber-Based Biosensors for Integrated Sample Preparation ANIJE BAEUMNER, University of Regensburg
9:45 (2090-3) Fiber-Based Platforms for Sampling/Sample Preparation JANUSZ PAWLISZYN, University of Waterloo
10:20 Recess
10:35 (2090-4) Integration of Paper Microfluidic Methods for Detection of Infectious Diseases for Low Resource Settings PAUL TAGER, University of Washington, Barry Lutz, Elain S Fu
11:10 (2090-5) Capillary Channeled Polymer (C-CP) Fibers: Versatile Phases for Protein Analytics R KENNETH MARCUS, Clemson University, Abby Schadock-Hewitt, Benjamin T Manard, Marissa Pioner

SYMPOSIUM Session 2100
Method Development Strategies for Two-Dimensional Liquid Chromatography -
arranged by Dwight Stoll, Gustavus Adolphus College
Thursday Morning, Room S402b
Dwight Stoll, Gustavus Adolphus College, Presiding
8:30 Introductory Remarks - Dwight Stoll
8:35 (2100-1) Selecting a Suitable Column for the Second Dimension in RPxRP PETER W CARR, University of Minnesota, Robert C Allen, Brian B Barnes, Imad A Hadier Ahmad
9:10 (2100-2) Applications of On-Line/At-Line Two Dimensional HPLC with VWD/DAD-MS Detection for Pharmaceutical Analysis TOD D MALONEY, Eli Lilly and Company
9:45 (2100-3) Method Development Strategies for Pharmaceutical Analysis Using 2D-LC-MS CADAPIKAM (CJ) VENKATRAMANI, Genentech, Larry Wigman, James Grotti
10:20 Recess
10:35 (2100-4) Multi-Dimensional Liquid Chromatography Approaches in Food Analysis PAOLA DUGO, University of Messina, Francesco Cacciola, Paola Donato, Monello Luigi
11:10 (2100-5) Two-Dimensional LC-SRM Bionalytical Assays for Small Molecules and Peptides CATALIN E DUGO, Waters Corporation, Paul Rainville

SYMPOSIUM Session 2110
More Than One Way to Skin a Cat: The Diversity of Analytical Tools for Chemically Mapping the Brain
arranged by Parastoo Hashemi, Wayne State University and Michael L Heine, University of Arizona
Thursday Morning, Room S404a
Parastoo Hashemi, Wayne State University, Presiding
8:30 Introductory Remarks - Parastoo Hashemi and Michael L Heine
8:35 (2110-1) Neurochemical Sensors for Tracking the Dynamics of Human Brain Injury MARTYN G BOUTELLE, Imperial College London, Michelle Rogers, Chi Leng Leong, Sally Gowers, Anthony J Strong, Xize Niu
9:10 (2110-2) New Views of Brain Chemistry from LC-MS and Microfabricated Sampling Probes ROBERT KENNEDY, University of Michigan
9:45 (2110-3) Lab on a Sheep SUSAN M LUNTE, University of Kansas, Rachel A Saylor, David E Scott, Ann Regle
10:20 Recess
10:35 (2110-4) High-Throughput Quantitative Analysis of Neurochemicals and Behavior in Insects MICHAEL L HEINE, University of Arizona
11:10 (2110-5) Fast-Scan Cyclic Voltammetry as a Screening Tool for Anti-Depressants PARASTOO HASHEMI, Wayne State University, Janet Best, Michael C Reed, Kevin M Wood
**Symposium Session 2120**

**Nanobiotechnology against Cancer, Heart and Neurological Diseases: A Fight in Progress**

arranged by Raoul Kopelman, University of Michigan and WeiHong Tan, University of Florida

Thursday Morning, Room 5404bc

Raoul Kopelman, University of Michigan, Presiding

- **8:30** Introductory Remarks - Raoul Kopelman and WeiHong Tan
- **8:35** (2120-1) Studying Single Cell Death Mechanisms and the Dynamics of Drug Delivery Using Targeted Plasmionically Enhanced Single Cell Imaging Spectroscopy MOSTAPA A ELL SAVED, Georgia Institute of Technology
- **9:10** (2120-2) Targeted Multifunctional Nano Platforms for Diagnostics and Therapy of Cancer and Heart Arhythmia RAUL KOPELMAN, University of Michigan
- **9:45** (2120-3) Developing Nanoscale Measurements for the Brain PAUL S WEISS, University of California, Los Angeles, Anne M Andrews

- **10:20** Recess
- **10:35** (2120-4) Biological Probes Based on AIE Nanodots BEN ZHONG TANG, Hong Kong University of Science and Technology
- **11:10** (2120-5) Surface Nanostructured Engineering: Methodology and Possible Application for Bioanalysis LIUUN WAN, University of Florida/Chinese Academy of Sciences

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**Symposium Session 2130**

**Proteomics Imaging of Ultrastructure Brain Tissue**

arranged by Andrea Jaquins-Gerstl, University of Pittsburgh and Marcel Bruchez, Carnegie Mellon University

Thursday Morning, Room 5405a

Andrea Jaquins-Gerstl, University of Pittsburgh, Presiding

- **8:30** Introductory Remarks - Andrea Jaquins-Gerstl and Marcel Bruchez
- **8:35** (2130-1) Watching the Brain with Super-resolution Microscopy BO HUANG, University of California, San Francisco
- **9:10** (2130-2) Imaging the Molecular Organization and Ultrastructure of Mammalian Cortex Using Array Tomography KRISTINA D MICHEVA, Stanford University School of Medicine
- **9:45** (2130-3) Mapping Mouse Brains by STP Tomography PAVEL OSTEN, CSHL
- **10:20** Recess
- **10:35** (2130-4) Proteomic Imaging of Single Cells and Brain Tissues XIANGHU GAO, University of Washington

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**Symposium Session 2140**

**Toward a Preferred Instrument for Gram Scale Supercritical Fluid Chromatography (SFC) Purification**

arranged by Christopher J Welch, Merck Research Laboratories and Christina Kraml, Lotus Separations, LLC

Thursday Morning, Room 5404d

Christopher J Welch, Merck Research Laboratories, Presiding

- **8:30** Introductory Remarks - Christopher J Welch and Christina Kraml
- **8:35** (2140-1) Latest Development in SFC Technology and Its Expanding Applications in Drug Discovery YINGRUI ZHANG, Bristol-Myers Squibb, Chulei Wang
- **9:10** (2140-2) Recent Progress in the Development of Gram Scale Preparative SFC Instrumentation RUI CHEN, Waters Corporation
- **9:45** (2140-3) Addressing User Needs for Gram Scale Preparative SFC DJ TOGNARELLI, Jasco Inc., John Burchell
- **10:20** Recess
- **10:35** (2140-4) An Approach to a Unified Hardware and Software Solution for Preparative Scale SFC GEOFFREY B COX, PIC Solution Inc.
- **11:10** (2140-5) Gram-Scale Preparative SFC CHRISTINA KRAML, Lotus Separations, LLC

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**Organized Contributed Sessions Session 2150**

**SAS: Women in Spectroscopy**

arranged by Ellen V Miseo, Analytical Answers, Inc. and Gloria Story, Procter and Gamble Co

Thursday Morning, Room 5405b

Ellen V Miseo, Analytical Answers, Inc., Presiding

- **8:30** (2150-1) Why Do We Need a Woman In Spectroscopy Session? ELLEN V MISEO, Analytical Answers, Inc.
- **8:50** (2150-2) Good Vibrations in the Lab and at Home: A Balancing Act of A Spectroscopy Entrepreneur RINAA KUDOOR, BioTools, Inc.
- **9:10** (2150-3) Fifty Years - and Counting - In Molecular Spectroscopy MARYLIN E JACOX, National Institute of Standards and Technology
- **9:30** (2150-4) Careers at Primarily Undergraduate Institutions: Teaching, Research, and Service KARLA S McCAIN, Austin College
- **9:50** Recess
- **10:05** (2150-5) An Experimental Life: Three Decades of Negotiating the Academic Terrain LINDA B MCGOWN, Rensselaer Polytechnic Institute
- **10:25** (2150-6) Being a Woman in Spectroscopy: Hard Work, Planning, and Serendipity KATHERINE ANTOLIN BAKEEVI, B&W Tek
- **10:45** (2150-7) A Fulfilling Career in Spectroscopy DIANE PARRY, The Procter & Gamble Co
- **11:05** (2150-8) Career Options for Women In Chemistry ANNA M TSINGER, Agilent Technologies

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**Oral Session Session 2160**

**Advances in Catalysis and Hydrocarbon Analysis**

Thursday Morning, Room 5501a

Melissa Wilcox, Grace Materials Technologies, Presiding

- **8:30** (2160-1) Trace Analysis of Total Sulfur and Nitrogen in Hydrocarbon Matrixes by Combustion and UV Fluorescence and Chemiluminescence: Optimization of Analytical Parameters AARON A MENDEZ, PAC, Lisa Houston, Chetan Desai
- **8:50** (2160-2) Investigation of Copper Monolayer Catalyst for CO2 Reduction JARED B STEED, The Ohio State University, Anne Co, Joshua Billy
- **9:30** (2160-4) Robust and Reliable Oxygen Catalysts: Pt on Nanoporous Copper ERIC J COLEMAN, The Ohio State University, Anne Co
- **9:50** Recess
- **10:05** (2160-5) Fuel Quality Verification in 30 Seconds at the Point of Receipt Using a Military Grade Raman Spectrometer STUART FARQUHARSON, Real-Time Analyzers, Inc., Carl Brouillette, Hermes Huang, Wayne Smith
- **10:25** (2160-6) Online GC-MS Sampling and Analysis of Combustion Engine Crankcase Ventilation Aerosols ANDREAS BEHN, Hamburg University of Technology, Matthias Feindt, Gerhard Matz, Sven Krause
- **10:45** (2160-7) Pulsed Flow Modulation GCxGC-MS with Cold EI – The Emergence of GCxGCxMS AVIV AMIRAV, Tel Aviv University, Alexander Fialkov, Uri Keshet, Tal Ailon

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**Oral Session Session 2170**

**Bioanalytical Separations**

Thursday Morning, Room 5501bc

Omomunmi ‘Wumi’ Sadik, State University of New York at Binghamton, Presiding

- **8:30** (2170-1) Development of Monolithic Micrololumns Containing Immobilized Albumin for Rapid Chiral Separations ERIKA I PFAUMULLER, University of Nebraska-Lincoln, Zhao Li, Stephen Gross, David S Hage, Mahli Hartmann, Shannon Lum, Marie Laura Paulstrom
- **8:50** (2170-2) Determination of Carboxylates in Various Matrices by Capillary HPAC-PAD TERRI TOYOKO CHRISTISON, Thermo Fisher Scientific, Alexander Zhang, Cathy Tanner, Linda Lopez
- **9:10** (2170-3) Capillary-Channeled Polymer (C-CP) Stationary Phases for the Separation of Lignin and its Degradation Products PAUL HAUPT-RENAUD, Clemson University, R Kenneth Marcus
**PITTCON 2014 TECHNICAL PROGRAM**

**Thursday Morning, Room S501d**

**Capillary Electrophoresis: Small Molecules and Neurotransmitters**

8:30 (2180-1) Metabolomic and Peptidomic Profiling of Crustacean Neuroendocrine Tissues by Capillary Electrophoresis-electrospray ionization-Mass Spectrometry XUEFIEI ZHONG, University of Wisconsin-Madison, Chunzai Ouyang, Ling Hao, Lingjun Li

8:30 (2180-2) Multiplex Location Monitoring of Amino Acid Neurotransmitter in Rat Brain Using Integrated Microfluidic Systems MAOJUN GONG, Wichita State University, Qiyang Zhang

8:30 (2180-3) Analysis of Sialic Acids in Bovine Submaxillary Mucins by Capillary Electrophoresis with Laser Induced Fluorescence Detection CHI MAN NG, University at Buffalo - SUNY, Luis A Colón

9:30 (2180-4) Enzymatic Characterization and Enzymatic Assay via Phospholipid-Assisted Capillary Electrophoresis Coupled to Fast Scan Cyclic Voltammetry MADELEINE DENINO, University of Virginia, B Jill Venton

9:30 (2180-5) Separation and Detection of Neurotransmitters in D. Melanogaster Using Capillary Electrophoresis Coupled to Fast Scan Cyclic Voltammetry AMY L HOGERTON, University of Minnesota

10:25 (2180-6) In Vitro-Microdialysis Coupled with High-Speed Capillary Electrophoresis to Monitor Signaling Events from Cells AMY L HOGERTON, University of Minnesota

11:05 (2180-7) Rat Pinealocyte Studies Using Capillary Electrophoresis with Laser Induced Fluorescence Detection Hyphenated with Optical Trapping MOHAMMAD EHSANI, University of Illinois at Urbana-Champaign, Christine Gecala, Christopher Dailey, Jonathan V Sweedler

**Thursday Morning, Room S501e**

**Capillary Electrophoresis: Small Molecules and Neurotransmitters**

8:30 (2180-8) Performances Comparison of Different Graphitic Materials in Sample Sensitivity CITP/CZE-nanoESI-SRM MS Sample Quantification ZHONG, University of Wisconsin-Madison, Chuanzi Ouyang, Ling Hao, Lingjun Li

8:50 (2180-9) Developing a New Capillary Electrokinetic Chromatography-Based Nanosensor for Multiplexed Pathogen Detection XIUJUN (JAMES) LI, Salerno University, Giovanni D’Amato, Pasquale Del Gaudio, Ermanno Vascas

9:10 (2180-10) Analysis of Sialic Acids in Bovine Submaxillary Mucins by Capillary Electrophoresis with Laser Induced Fluorescence Detection CHI MAN NG, University at Buffalo - SUNY, Luis A Colón

**Thursday Morning, Room S502a**

**ORAL SESSIONS Session 2190**

**Electrodes and Electrode Surfaces**

8:30 (2190-1) Real-Time Electrochemical Monitoring of Metabolic Processes in Hollow Fiber Bioreactor Cellular Cultures ANDREW COGNATA, Vanderbilt University, David E Cifelli

8:50 (2190-2) Biochar Fiber Microelectrode with Regular Macropores JUNHUA JIANG, University of Illinois at Urbana-Champaign

9:10 (2190-3) Recessed Ring-Disk Nanoelectrode Arrays Integrated in Nanofluidic Structures for Selective Electrochemical Detection in Lab-on-a-Chip Devices CHAOXIONG MA, University of Notre Dame, Paul W Bohn

9:30 (2190-4) Real-Time Detection of Localized Voltage-Driven Delivery of Charged Species with Ion Current Rectification Effect WEIQIANG SHI, Indiana University, Niyi Sa, Rahul Thakar, Bailer A Lane

9:50 (2190-5) Recess

10:05 (2190-6) All-Diamond Boron Doped Diamond (BDD) Band Electrodes for in situ pH Alterations Under Flow Conditions: Enhancing Hydrogen Sulfide Detection ELENI BITZOU, University of Warwick, Nicola Palmer, Tim Mollart, Mark E Newton, Julie V Macpherson

**Thursday Morning, Room S502b**

**ORAL SESSIONS Session 2200**

**Laboratory Informatics and Management (Half Session)**

8:30 (2200-1) Development of an Open Framework for Laboratory Data GORDON HANSEN, Boehringer Ingelheim Pharma/Allotrope Foundation

8:50 (2200-2) LIMS or ELN: Which is Right for Your Lab? JEFFREY POLICASTRO, CSols, Inc.

9:10 (2200-3) Benefits of an Integrated LIMS and ELN Platform Solution MICHAEL V KELLY, LabWare

9:30 (2200-4) LIMS Implementations - Lessons Learned KURT ROBAK, CSols, Inc.

**Thursday Morning, Room S503a**

**Microfluidics: Monitoring and Multiple Analytes**

8:30 (2220-1) Gold Nanoparticle-Mediated Multivalent Binding For Enhanced Capture Of Cancer Cells in Microfluidic Devices WEIHAN SHENG, University of Florida, Z Hugh Fan

8:50 (2220-2) Simultaneous Monitoring of Multi-Hormone Secretion from Islets of Langerhans on a Microfluidic Device LIAN YI, Florida State University, Michael G Roper


9:30 (2220-4) A PDMS/Paper Hybrid Microfluidic Biochip Integrated with Graphene Oxide-Based Nanosensors for Multiplexed Pathogen Detection XIUJUN (JAMES) LI, University of Texas at El Paso, Peng Zuo, Delina Dominguez

**Thursday Morning, Room S503b**

**Microfluidics: Monitoring and Multiple Analytes**

8:30 (2220-5) Quantitative Gene Expression Analysis Using Multiplexed Asymmetric PCR and Silicon Photonic Microring Resonators RICHARD M GRAYBILL, University of Illinois at Urbana-Champaign, Ryan C Bailey
PITCON 2014 TECHNICAL PROGRAM

(2260-7 P) Dynamic Detection Range Expansion of a Gas Measurement Device. HENDRIK FISCHER, Hamburg University of Technology, Joern Frank, Gerhard Matz, Bert Ungetheum, Andreas Walter

(2260-8 P) Signal Prediction in Sensor Systems. HENDRIK FISCHER, Hamburg University of Technology, Joern Frank, Gerhard Matz

(2260-9 P) Headspace Analysis of Low Volatility Explosive Compounds. LAURYN DEGREEFF, Naval Research Lab, Christopher Katille, Kevin Johnson, Susan Rose-Pehrsson

(2260-10 P) Real-Time Measurements Of Airborne Fungal Spores Biomarkers Using PLS-LC-MS/MS. NICOLAS BORNIARE, LSCE-CEA/CNRS/UJF, Roland Sarda-Estève, Loma Foliot, Marie-Hélène Nadal, Jean Sciar

(2260-11 P) Stimulating of Biodegradation of Oxamyl Pesticide by Treatment of Fungus with Gamma Radiation. ABD EL-MONEIM M ALFY, Cairo University, Ramy Romelah

(2260-12 P) Spectroscopic Investigations on Mode of Interaction of Anti-cancer Drug Lomustine with RNA. SHWETA AGARWAL, CSIR-National Physical Laboratory, Ranjana Mehrotra, Deepak Jangir

(2260-13 P) Determination of Organophosphonate Chemical Warfare Agent Degradation Products in Water, Soil and Wipe Samples using UPLC-MS/MS. ANTHONY GUGLIOTTA, CSS-Dynamac, Alexander Bleich, Julia Capri, Lawrence Kaelin

POSTER SESSION Session 2270

All posters are to be mounted by 10:00 AM and remain on display until 2:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Forensic Analysis

Thursday Morning, Exposition Floor, Back of Aisles 1000-2500

(2270-1 P) GC-MS, GC-TOF-MS and GC-IRD Methods for the Differentiation of Regiosomeric Piperazine Class. KARIM ABDEL-AAL, Auburn University, Randall Clark, Jack DeRuitter

(2270-2 P) Advanced Forensic Applications Performed with GC-MS with Cold EI. AVIV AMIRARI, Tel Aviv University, Bogdan Belogodsky, Alexander Faikovic, Tal Ailon

(2270-3 P) Analysis of Cremated Remains Using Capillary Electrophoresis. CHRISTA A CURRIE, College of Mount St Joseph, Devon Heil, William C Wetzel

(2270-4 P) Further Investigation of Principal Components Analysis for Identification of Ignitable Liquids in Fire Debris. JORDYN L GEGER, Michigan State University, Victoria L McGuffie, Ruth Wadlow-Smith

(2270-5 P) Differentiation of Regiosomeric Methylphosphatethanes by GC/MS. HIROYUKI INOUE, National Research Institute of Police Science, Shoko Negishi, Yukiko Nakazono, Kenji Tsujikawa, Yuko T Iwata, Kazuma Miyamoto, Fumiyo Kasuya

(2270-6 P) Spectral Imaging Microscopy of Blue Pen Inks Using an Improved Cromoscope. KATHLEEN P MILLER, University of North Carolina Wilmington, Michael R Webb

(2270-7 P) A Spectral Matching Algorithm for Raman Spectroscopy. ANUDEEP POLAM, Cleveland State University, John T Turner

(2270-8 P) Forensic Discrimination of Cotton Fibers by Derivative Preprocessing of UV/visible Spectra and Multivariate Statistics. STEPHEN L MORGAN, University of South Carolina, Nathan C Fuenffinger

(2270-9 P) Instrumental Discrimination of Cultivated and Wild Silk. SHINICHI SUZUKI, National Research Institute of Police Science

(2270-10 P) New Egon Based Non-Radioactive Ion Sources. ANDREAS WALTE, Airsense Analytics; Bert Ungetheum, Wolf Muenchmeyer, Ralf Zimmermann, Robert Geissler

(2270-11 P) The Detection of Explosives, Tics and Cwes with A Multipurpose Detector Array. ANDREAS WALTE, Airsense Analytics; Bert Ungetheum, Wolf Muenchmeyer, Swapoom Pongphaiboon

(2270-12 P) Determination of Inorganic Improvised Explosive Device Signatures Using Laser Electrospray Mass Spectrometry Detection with Offline Classification. PAUL M FLANIGAN, Temple University, John J Brady, Elizabeth J Judge, Robert J Levis

POSTER SESSION Session 2280

All posters are to be mounted by 10:00 AM and remain on display until 2:00 PM. Authors must be at their posters from 10:00 AM to 12:00 PM. Location of the morning posters is on the Exposition Floor, back of Aisles 1000-2500. PLEASE NOTE: You cannot get onto the Exposition Floor until after 9:00 AM.

Materials Science

Thursday Morning, Exposition Floor, Back of Aisles 1000-2500

(2280-1 P) Analytical Evaluation of Utilization Natural Cellulosic Fiber Waste as Reinforcing Filler for Rubber. FAHIMA M HELALY, National Research Centre

(2280-2 P) Material Application of Novel Interacting Blends of S-Triazine and Epoxy Resides Containing Unsaturated Polyesters and Epoxy Resins. RAMESHCHANDRA P PATEL, CU Shah Science Centre


(2280-4 P) Improved Synthesis and Packing Procedure for Carbon Clad Silica Stationary Phases. IMAD A HADID AHMAD, University of Minnesota, Robert C Allen, Brian B Barnes, Peter W Carr

(2280-5 P) Evaluation of Five Core Shell Columns Based on Both Separation Behavior and Physical Property. NORIKAZU NAGAE, ChromaNik Technologies Inc., Tomoyasu Tuskamoto

(2280-6 P) Synthesis and Characterization of Novel Calamitic Liquid Crystaline Compounds Containing 1,3,5-Substituted Pyrazole Ring and their Cu(II) Complexes. BJARAT THAKER, Veer Narmad South Gujarat University, Deepali Solanki, Neeraj Patel, Kaipesh Patel, Shashikant Patel

(2280-7 P) Combining Desorption and Extractive Electrospray Ionization Sources to Intercept Transient High-Valent Iron Oxo Catalytic Intermediates. KEVIN PETERS, University of Illinois at Urbana-Champaign

(2280-8 P) Laser Ablation Inductively Coupled Plasma Mass Spectrometry as a Tool for Elemental Mapping Heterogeneous Samples. TOMAS VACULOVIC, CEITEC MU, Masaryk University, Karel Breiter, Viktor Kanicky, Lenka Vyslouzilova

(2280-9 P) Determination of Major and Minor Elements in Marine Sediments of Manganese crusts by ICP-AES. SUN YUNBAO, Shandzzu (China) Co., Ltd., Feng Xu

(2280-10 P) X-Ray Diffraction Study of Corrosion Products Formed on Anti-Weather Steel. MATASHIGE OYABU, Kanazawa Institute of Technology, Ryo Satoh, Kiyoshi Nomura

(2280-11 P) Investigation of Electrotherochemical Properties of a Novel Polyaniline-Ignimbrite Composite Material. BETUL ERTEKIN, Nevsehir Haci Bektas Veli University, Hasim Yilmaz

(2280-12 P) Analytical Evaluation of Utilization of Natural Chopped Cellulosic Fiber Waste as Reinforcing Filler for Rubber. FAHIMA M HELALY, National Research Centre

(2280-13 P) Using a Tester to Accurately Predict Hang-Up Issues in Process Equipment. MAX GROOM, Particulate Systems, Kerry D Johanson

(2280-14 P) Determination of Argon In Metals. SHEN XUEJING, CISRI, Wang Peng, Hu Shaocheng

(2280-15 P) Optical Properties of Aluminum Nanoparticles Experimental Determination. ANUDEEP POLAM, College of Mount St Joseph, Devon Heil, William C Wetzel
Mercury Speciation in Canal Sediments by Liquid Chromatography Cold Vapour-Fast PDMS Quantitation Using ICP-OES

An improvement in inorganic arsenic speciation analysis using thioglycollic isotope ratio analysis of 235U and 238U nuclide using a microwave digestion

Mercury release rates from dental amalgam: measurement and sampling

Industrial challenges for calibration of gas-phase mercury analyzers

Arsenic speciation in Chinese medicine by liquid chromatography hydride generation-AFS

A fast and accurate method for gold determination in geological samples

Analysis of major and trace elements in phosphating baths using radial image analysis in Axalta Coating Systems' Automotive Applications

2D and 3D elemental imaging by laser ablation ICP-MS on ancient glass

Application of ICP-MS in assessing the abundance of rare earth elements (REE) in marcellus shale cores

Spectrochemical analysis of molten copper-nickel-iron matte at 1100 °C using laser-induced breakdown spectroscopy

Comparative analysis of metals in hair and fingernails using ICP-MS

Lab analysis of barium and strontium in fracwater coupled with website design empower local communities amidst hydraulic fracturing in western Pennsylvania

Genotoxic effects of nickel(lli) chloride on the gapdh gene in arbidopsis thaliana

2D and 3D elemental imaging by laser ablation ICP-MS on ancient glass

Analysis of major and trace elements in phosphating baths using radial viewing ICP-OES instrument with total plasma view feature and Far UV capability for chlorine analysis

High salt content samples analysis using radial viewing ICP-OES instrument with total plasma view feature

Application of ICP-MS in assessing the abundance of rare earth elements (REE) in marcellus shale cores

Application of ICP-MS in assessing the abundance of rare earth elements (REE) in marcellus shale cores

Comparative analysis of metals in hair and fingernails using ICP-MS

Lab analysis of barium and strontium in fracwater coupled with website design empower local communities amidst hydraulic fracturing in western Pennsylvania

Genotoxic effects of nickel(lli) chloride on the gapdh gene in arbidopsis thaliana

2D and 3D elemental imaging by laser ablation ICP-MS on ancient glass

Analysis of major and trace elements in phosphating baths using radial viewing ICP-OES instrument with total plasma view feature and Far UV capability for chlorine analysis

High salt content samples analysis using radial viewing ICP-OES instrument with total plasma view feature
**PITTCON 2014 TECHNICAL PROGRAM**

**THURSDAY, MARCH 6, 2014**

**AFTERNOON**

**SYMPOSIUM**  
**Session 2310**  
**Electroanalytical Chemistry on the Nanoscale** - arranged by Michael V Mirkin, CUNY-Queens College

**Thursday Afternoon, Room S401a**

Michael V Mirkin, CUNY-Queens College, Presiding

1:30  
Introductory Remarks - Michael V Mirkin

**2:10**  
(2310-2)  
Vesicular Release of Neurotransmitters: Converting Amperometric Measurements Into Size, Dynamics and Energetics of Initial and Final Fusion Pores  
CHRISTIAN A AMA TORE, ENS-CNRS-UPMC

**3:35**  
(2310-4)  
Nanostructured Microfluidic Arrays for Protein Detection and Genotoxicity Screening  
JAMES F RUSLING, University of Connecticut

**4:10**  
(2310-5)  
Electrochemical Nanoprobe for Analysis and Mechanistic Studies  
MICHAEL V MIRKIN, CUNY-Queens College

**SYMPOSIUM**  
**Session 2320**  
**Forensic Analysis in the Lab and Crime Scene**

**Thursday Afternoon, Room S401bc**

Igor K Lednev, University at Albany, SUNY, Presiding

1:30  
Introductory Remarks - Igor K Lednev

**2:10**  
(2320-1)  
Development of New Extraction and Analysis Methods for the Rapid Detection of Characteristic Chemicals from Humans and Contraband Materials  
KENNETH G FURTON, Florida International University; Norma Iris Caraballo, Lauren Colon, Adly Huertas, Michelle Cerreta, Rodolfo Mesa, Abuzar Kabir

**3:35**  
(2320-4)  
Versatile Analytical Strategies for Forensic Chemical Profiling of Explosives  
ARIAN C VAN ASTEN, Netherlands Forensic Institute; Hanneke Brust, Mattijs Koerberg, Peter Schoonmakers, Antoine van der Heijden

**4:25**  
(2320-3)  
Effects of Various Decontamination Regimes on DNA-Based Forensic Analysis Methods  
JAMES MATTHEW ROBERTSON, Federal Bureau of Investigation

**SYMPOSIUM**  
**Session 2330**  
**Novel Approaches in Quantitative Analysis of Biomarkers in Drug Discovery and Development**

**Thursday Afternoon, Room S401d**

Guodong Chen, Bristol-Myers Squibb, Presiding

1:30  
Introductory Remarks - Guodong Chen

**1:35**  
(2330-1)  
Metabolomics for Biomarker Discovery  
MICHAEL D REILY, Bristol-Myers Squibb

**2:10**  
(2330-2)  
Developing Mass Spectrometry-Based Quantitative Proteomics and Peptidomics Strategies for Biomarker Discovery in Neurodegenerative Diseases  
LINGJUN LI, University of Wisconsin-Madison; Jingxin Wang, Robert Cunningham, Dustin Frost

**3:20**  
Introductory Remarks - Guodong Chen

**3:35**  
(2330-4)  
Rapid Development of Sensitive, High-Throughput, Quantitative and Highly Selective Mass Spectrometric Targeted Immunoassays for Clinically Important Proteins in Human Plasma and Serum  
MARY F LOPEZ, Thermo Fisher BRIMS

**4:10**  
(2330-5)  
Development of New Extraction and Analysis Methods for the Rapid Detection of Characteristic Chemicals from Humans and Contraband Materials  
GUODONG CHEN, Bristol-Myers Squibb

**SYMPOSIUM**  
**Session 2340**  
**On-Farm Diagnostics for Improved Food Safety, Quality, and Production**

**Thursday Afternoon, Room S402a**

Sam R Nugen, University of Massachusetts Amherst, Presiding

1:30  
Introductory Remarks - Sam R Nugen

**2:10**  
(2340-2)  
Paper-Microfluidic Bovine Estrus Test for Improving the Productivity of Smallholder Dairy Farmers in Resource-Constrained Settings  
MATTHEW STEWART, Diagnostics For All; Patrick Beatteci, Sahil Khullar

**2:45**  
(2340-3)  
An On-Farm Device for the Detection of Generic Ecoli from Agricultural Water Sources  
SAM R NUGEN, University of Massachusetts Amherst; Sam A Alcaine

**SYMPOSIUM**  
**Session 2350**  
**Thinking Outside the Laboratory: Innovative Outreach and Educational Approaches that Bring Analytical Chemistry to New Audiences**

**Thursday Afternoon, Room S402b**

Bhavik A Patel, University of Brighton and Michelle Kovarik, Trinity College

1:30  
Introductory Remarks - Bhavik A Patel and Michelle Kovarik

**2:45**  
(2350-3)  
Analytical Chemistry Students Perform Quality Assurance Tests for Local Microbrewery  
JILL K ROBINSON, Indiana University; Krystina Horko, Svetlana Pelagei, Zachary Torosian

**Recess**

**3:35**  
(2350-4)  
Designing Handheld Resistance Based Biosensors Utilizing Conducting Nonwoven Fibers for In-Field Microbial Pathogen Detection  

**4:10**  
Open Discussion