PITTCON Conference and Expo 2010

Abstracts

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Index

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Technical Program

SUNDAY, FEBRUARY 28, 2010
AFTERNOON

AWARD Session 10

Pittcon Heritage Award and Plenary Speaker

Sunday Afternoon, Room W320, Chapin Theater

4:30 **Presentation of the 2010 Pittcon Heritage Award to Walter G Jennings, University of California at Davis, by Annette S Wilson, 2010 Pittcon President**

Immediately followed by Plenary Lecture - Alan G Marshall, Florida State University - The Role of High-End Instrumentation

SYMPOSIUM Session 20

ACS Division of Analytical Chemistry New Frontiers in Mass Spectrometric Analysis of Proteins
- arranged by Heather Desaire, Kansas University

Sunday Afternoon, Room 300

Heather Desaire, Kansas University, Presiding

1:00 **Introductory Remarks - Heather Desaire**

1:05 (20-1) **Structural Characterization of Pre-Amyloid Protein Oligomers Using Covalent Labeling and Mass Spectrometry** RICHARD W VACHET, University of Massachusetts, Amherst, Vanessa L Mendoza, Shaynah Browne

1:40 (20-2) **Developing Mass Spectrometry-based Tools for Biomarker Discovery in Neurodegenerative Diseases** LINGJUN LI, University of Wisconsin, Xin Wei, Robert Cunningham, Paige Jany, Feng Xiang, Allen Herbst, Albee Messing, Judd Aiken

2:15 (20-3) **High-Throughput Pipeline for Discovery-to-Targeted Analysis of Topology and Function in Integral Membrane Proteins** CHRISTINE C WU, University of Colorado School of Medicine

2:50 (20-4) **Understanding and Controlling Gas-phase Ion Chemistry to Improve the Analytical Capabilities of Biological Mass Spectrometry for Phosphoproteome Analysis** GAVIN E REID, Michigan State University

3:25 (20-5) **Emerging Strategies for Facilitating Glycoprotein Analysis** HEATHER DESAIRE, University of Kansas

SYMPOSIUM Session 30

Advances in Hand-portable Ion Mobility and Ion Trap Chemical Analyzers - arranged by Milton L Lee, Brigham Young University and Herbert H Hill, Washington State University

Sunday Afternoon, Room 311A

Milton L Lee, Brigham Young University, Presiding

1:00 **Introductory Remarks - Milton L Lee**

1:05 (30-1) **Microfabricated Planar Electrode Ion Traps: Combining Accuracy with Simplicity for Miniaturization** DANIEL E AUSTIN, Brigham Young University

1:40 (30-2) **Ion Preparation before Differential Mobility Spectrometry (DMS) Including DMS/DMS Analyzers** GARY ALAN EICEMAN, New Mexico State University

2:15 (30-3) **Quantitative Detection in the Field Using Hand-portable GC-MS** EDGAR D LEE, Torion Technologies Inc., Milton L Lee, Douglas W Later, Joseph L Oliphant, Carmela R Jackson LePage, Philip A Smith, Charles S Sadowski, Tiffany C Wirth

2:50 (30-4) **Portable Mass Spectrometers vs. Portable Mass Spectrometry Analysis Laboratories** ZHENG OUYANG, Purdue University,

R Graham Cooks, He Wang, Jiangjiang Liu, Nicolas E Manicke, Guangming Huang

3:25 (30-5) **Multidimensional Ion Mobility Spectrometer for High Fidelity Chemical Identification** HERBERT H HILL, Washington State University

SYMPOSIUM Session 40

Analytical Chemistry for the Study of Nanotoxicity - arranged by Wenwan Zhong, University of California, Riverside

Sunday Afternoon, Room 206A

Wenwan Zhong, University of California, Riverside, Presiding

1:00 **Introductory Remarks - Wenwan Zhong**

1:05 (40-1) **A Role for Particle Surface Effects in TiO_2 and Quartz-related Nanoparticle Pulmonary Toxicity** DAVID B WARHEIT, DuPont Haskell Global Centers

1:40 (40-2) **Systems-Level Approaches to Understanding Nanoparticle Biocompatibility** BRIAN D THRALL, Pacific Northwest National Laboratory

2:15 (40-3) **Nanoparticle-plasma Interactions: A Basis for Nanosafety Assessment** KENNETH ADRIAN DAWSON, University College Dublin

2:50 (40-4) **The Study of Protein-nanomaterial Interaction with Free-solution Separation Techniques** WENWAN ZHONG, University of California, Riverside, Ni Li, Lei Ren

3:25 (40-5) **Gold Nanorod Uptake by Cultured Cells and the Mechanisms of Cytotoxicity at High Doses** CATHERINE J MURPHY, University of Illinois

SYMPOSIUM Session 50

Emerging Materials in Separation Science - arranged by Matthew R Linford, Brigham Young University and Abdul Malik, University of South Florida

Sunday Afternoon, Room 311B

Matthew R Linford, Brigham Young University, Presiding

1:00 **Introductory Remarks - Matthew R Linford**

1:05 (50-1) **Hyper-crosslinked Silica Phases: Emerging Materials in Separation Science** PETER W CARR, University of Minnesota, Yu Zhang, Lianjia Ma, Hao Luo

1:40 (50-2) **Titania- and Germania-based Hybrid Organic-Inorganic Sol-Gel Coatings and Monolithic Beds for Ultrahigh Stability in Separation Science** ABDUL MALIK, University of South Florida, Scott S Segro, Erica B Turner, Minhphuong Tran, Chemgliang Jiang, Abdullah Alhendal

2:15 (50-3) **Porous Graphitic Carbon: A Solution for Difficult LC Separations** HARALD RITCHIE, Thermo Fisher Scientific

2:50 (50-4) **Functionalized Diamond as a Stationary Phase in Chromatography** MATTHEW R LINFORD, Brigham Young University, Li Yang, Gaurav Saini, Wiest Landon, David S Jensen, Andrew Dadson, Michael A Vail

3:25 (50-5) **Micro and Nanofabrication of Chromatography Media** ROBERT C DAVIS, Brigham Young University, Vanfleet R Richard , Matthew R Linford

SYMPOSIUM Session 60

Sol-Gel Materials for Chemical Analysis - arranged by Maryanne M Collinson, Virginia Commonwealth University

Sunday Afternoon, Room 205B

Maryanne M Collinson, Virginia Commonwealth University, Presiding

1:00 **Introductory Remarks - Maryanne M Collinson**

1:05 (60-1) **High Surface Area Materials for Chemical Analysis** MARYANNE M COLLINSON, Virginia Commonwealth University

1:40 (60-2) **Sol-Gel-Derived Mesoporous Silica Materials in Electroanalysis** ALAIN WALCARIUS, LCPME-CNRS

2:15 (60-3) **Sol-Gel Derived Thin Films for Spectroelectrochemical Sensors** WILLIAM R HEINEMAN, University of Cincinnati, Carol J Seliskar, John A Lynch, Ronnee N Andrews

2:50 (60-4) **Nanocrystallite-xerogel Hybrids for Optical Sensing** FRANK V BRIGHT, University at Buffalo, SUNY

3:25 (60-5) **Sepsis Monitoring via Sol-Gel Derived Chemical Sensors** MARK H SCHOENFISCH, University of North Carolina, Chapel Hill, Benjamin J Privett

SYMPOSIUM Session 70

Ultrasmall and Ultrasensitive Chemical Imaging of Cells and Cell Networks "WEBCAST"- arranged by Andrew G Ewing, Penn State University

Sunday Afternoon, Room 205C

Andrew G Ewing, Penn State University, Presiding

1:00 **Introductory Remarks - Andrew G Ewing**

1:05 (70-1) **Probing Transport of Catecholamines in the Adrenal Gland with Microelectrodes** MARK WIGHTMAN, University of North Carolina, Chapel Hill

1:40 (70-2) **Nanopore-based Artificial Ion-Channel Sensors for Monitoring Cell Secretion** BO ZHANG, University of Washington, Jin Chen

2:15 (70-3) **Optodes: A New Approach to Imaging Chemicals at Single Cells in a Network** ANDREW G EWING, Penn State University/University of Gothenburg, Niklas Strömberg, Maja Puchades

2:50 (70-4) **Tip-Enhanced Raman Spectroscopy Bio-spectroscopy Below 20-Nanometer Resolution** VOLKER DECKERT, IPHT

3:25 (70-5) **Mass Spectrometric Profiling and Imaging Approaches for Understanding the Neuronal Metabolome** JONATHAN V SWEEDLER, University of Illinois

WORKSHOP Session 80

Analytical Challenges Facing the U.S. Department of Energy Office of Environmental Management- arranged by Jacob Venzie, Savannah River National Laboratory

Sunday Afternoon, Room 311D

Jacob Venzie, Savannah River National Laboratory, Presiding

1:00 **Introductory Remarks - Jacob Venzie**

1:05 (80-1) **An Overview of DOE-EM Technology and Engineering** SHARON MARRA, Savannah River National Laboratory

1:40 (80-2) **Analytical Methods for Monitoring Vitrification of Hanford Radioactive Waste** ARUNA V ARAKALI, URS-Washington Division, Kenneth R Wells, Thomas A Lane, Jinesh C Jain, Douglas M Perkins

2:15 **Recess**

2:30 (80-3) **Analytical Challenges in the Department of Energy (DOE) Deactivation and Decommissioning Program** JOHN GLADDEN, Savannah River National Laboratory, Andrew Szilagyi

3:05 (80-4) **Unique Requirements for Analytical Tools in the EM Complex** JACOB VENZIE, Savannah River National Laboratory

3:40 **Discussion/Wrap Up**

ORGANIZED CONTRIBUTED SESSION Session 90

SEAC Organized Session - Electrochemistry and Materials - arranged by Richard A Durst, Cornell University

Sunday Afternoon, Room 311C

Anna Brajter-Toth, University of Florida, Presiding

1:00 (90-1) **Treating Carbon Nanotube Arrays to Increase the Oxygen Species for Further Functionalization** AMOS DOEPKE, University of Cincinnati, Changseok Han, William R Heineman

1:20 (90-2) **Scanning Electrochemical Microscopy of Individual Single-Walled Carbon Nanotubes** JIYEON KIM, University of Pittsburgh, Shigeru Amemiya

1:40 (90-3) **Fourier Transform Voltammetry at Microelectrodes: Principles and Applications** ANNA BRAJTER-TOTH, University of Florida, Alan M Bond, Darrell Elton, Chong-Yong Lee

2:00 (90-4) **Investigating Surface Transformations Induced by Electrochemical Pretreatment at Carbon Fiber Microelectrodes** JAMES G ROBERTS, North Carolina State University, Benjamin P Moody, Greg S McCarty, Leslie Sombers

2:20 **Recess**

2:35 (90-5) **Potential Application of Conducting Polymer Modified Electrodes for Neurological Stimulation and Sensing** ANTHONY KAMMERICH, Georgetown University, Cameron Sweeney, Patrick Forcelli, Karen Gale, Judith F Rubinson

2:55 (90-6) **Carbon Fiber Microelectrode Coatings for Long-term Stability and Accuracy in In vivo Voltammetry** YOGESH S SINGH, Penn State University, Lauren E Sawarynski, Anne M Andrews

3:15 (90-7) **Electrochemical Analysis of Altered Degranulation Function of Mast Cells Exposed to Noble Metal Nanomaterials with Varied Physical Properties** BRYCE J MARQUIS, University of Minnesota, Christy L Haynes, Zhen Liu

3:35 (90-8) **Development and Characterization of Highly Efficient Integrated Bioelectrocatalytic Systems** PAWEL J KULESZA, University of Warsaw, Barbara Kowalewska

ORAL SESSION Session 100

Art/Archaeology: Applications of Instrumental Analysis (Half Session)

Sunday Afternoon, Room 310A

Kimberley Frederick, Skidmore College, Presiding

1:00 (100-1) **Chemistry and Art: Interactions and Mutual Influence** BRUNO BRUNETTI, University of Perugia

1:20 (100-2) **Non-destructive Sample Preparation for Radiocarbon Dating of Textiles and Other Perishable Archaeological Materials** RUTH ANN ARMITAGE, Eastern Michigan University

ORAL SESSION Session 110

Cells on Chips

Sunday Afternoon, Room 307D

Gary L Emmert, The University of Memphis, Presiding

1:00 (110-1) **Microfluidic Cell Culture with Dissolved Gas Control** SAMUEL P FORRY, NIST, Peter C Thomas, Laurie Locascio

1:20 (110-2) **Microfluidic Platform for Algal Growth and Analysis** RYAN E HOLCOMB, Colorado State University, Lucas J Mason, Kenneth F Reardon, Charles S Henry

1:40 (110-3) **Simultaneous Cell Capture and Induction of Apoptosis Using an Anti-CD95 Affinity Microdevice** RANDALL D REIF, Texas Tech University, Kelong Wang, Michelle M Martinez, Dimitri Pappas

2:00 (110-4) **A Lab-on-a-Chip for Live Cell Analysis of Mammalian Cells Under Natural Fluid Flow Conditions** VERENA CHARWAT, Austrian Institute of Technology GmbH, Lukas A Richter, Peter Ertl, Johannes Grillari, Regina Grillari

2:20 **Recess**

2:35 (110-5) **Multi-analyte Concentration Profiles Independently-controlled in a Microfluidic Device** LIAORAN CAO, Florida State University, Michael G Roper

2:55 (110-6) **Development of a Disposable Microfluidic Biochip for Multi-Parameter Cell Population Measurements** LUKAS A RICHTER, Austrian Institute of Technology, Johanna Gottschamel, Andy Mak, Christian Jungreuthmayer, Gerald M Birnbaumer , Marcus Milnera, Hubert Brueckl, Peter Ert

3:15 (110-7) **Living Cell Arrays Characterizing Macromolecular Complexes from Transcriptional Activators** JASON SHEPARD, University at Albany, SUNY, Hua Shi, Maureen Walling, Shengchun Wang

3:35 (110-8) **Ultra-Sensitive Portable Capillary Whole-cell Biosensor for Cell Viability Monitoring** QIONG WANG, SUNY-Binghamton, Omowunmi A Sadik, Paul A Blythe, Janet Tuan

ORAL SESSION Session 120

Characterization of Advanced Materials for Energy Generation (Half Session)

Sunday Afternoon, Room 307B

Singh Manocha, The Pittsburgh Conference, Presiding

1:00 (120-1) **Withdrawn**

1:20 (120-2) **In situ Growth of Au Nanorods on TiO_2 Surfaces for Photoelectrochemical Solar Cells** AIZE LI, University of North Dakota, Nenny Fahruddin, David T Pierce, Julia X Zhao

1:40 (120-3) **Performance Comparison of Enzymatic Biofuel Cells Using Graphene Nanosheets and Carbon Nanotube Materials** CHANG LIU, Florida International University, Subbiah Alwarappan, Chenzhong Li

2:00 (120-4) **High Temperature Characterization of Ceramic SOFC Oxygen Permeation Membranes** ROBERT JOHN PACKER, PerkinElmer, Kevin P Menard, Peng Ye, Sarah Theelan

ORAL SESSION Session 130

Chemical Methods (Half Session)

Sunday Afternoon, Room 307A

Mark T Stauffer, University of Pittsburgh at Greensburg, Presiding

2:35 (130-1) **The Anatomy of Commercial Tricalcium Phosphates** BOBBY LATHAN SR., Hydrite Chemical Co.

2:55 (130-2) **Improved SDS Concentration Determination Method** KEVIN R RUPPRECHT, Abbott Laboratories, Tracey Rae, Troy D McSherry, Mary K Poterek, Ewa Lang, Jeffrey Fishpaugh

3:15 (130-3) **Development of Novel Functional DNA Using Artificial Photoresponsive Bases** RUOWEN WANG, University of Florida, Hui Wang, Huaizhi Kang, Haipeng Liu, Weihong Tan

3:35 (130-4) **Use of Polylysine as a Carrier for Signal Amplification in DNA Detection** HONG QIAN, North Carolina State University, Lin He

ORAL SESSION Session 140

Chemometrics

Sunday Afternoon, Room 205A

Katherine A Bakeev, CAMO Software, Inc., Presiding

1:00 (140-1) **Batch Monitoring of Pharmaceutical Processes with End-point Detection Models** KATHERINE A BAKEEV, CAMO Software, Frank Westad

1:20 (140-2) **Optimization of Calibration Database Structure in Near Infrared Spectroscopy Through the use of PLS1 Score Matrix** PAOLO BERZAGHI, University of Padua - Italy, John S Shenk, John W Shenk

8:40 (140-3) **Further Developments in K-matrix Calibration** HOWARD MARK, Mark Electronics

2:00 (140-4) **Withdrawn**

2:20 **Recess**

2:35 (140-5) **Kernel-Based One-Class Nearest Neighbor Approach for Identification of Chlorinated Solvents** MICHAEL G MADDEN, Analyze IQ, Shehroz S Khan

2:55 (140-6) **Adaptive Polynomial Approximation of Chromatographic Peaks** YURI KALAMBET, Ampersand International, Inc., Yuri Kozmin, Sergey Maltsev, Dmitry Gladkov

3:15 (140-7) **Comparison of Feature Selection Techniques for Chemometric Analysis of GC-MS Data** NIKOLAI A SINKOV, University of Alberta, James J Harynuk

3:35 (140-8) **An Automated Kiwifruit Harvest Estimation System: A Computer Vision Based Approach** PAVITHRA A WIJETHUNGA, Lincoln University, Sandhya Samarasinghe, Don Kulasiri, Ian Woodhead

ORAL SESSION Session 150

Drug Discovery (Half Session)

Sunday Afternoon, Room 307A

Mark T Stauffer, University of Pittsburgh at Greensburg, Presiding

1:00 (150-1) **In Preparative Scale Gradient Reversed-phase Liquid Chromatography, Loadability and Peak Shape as a Function of pH and Buffer Concentration for Basic Compounds are Readily Rationalized Based on the Interaction of Eluent Conditions with Analyte Properties** MARK J HAYWARD, Lundbeck, Xu Zhang

1:20 (150-2) **Use of an Integrated Ceramic Micro Fluidic Device for the Qualitative and Quantitative Analysis of Drugs and Metabolites in Biological Fluids** ROBERT S PLUMB, Imperial College, Paul Rainville

1:40 (150-3) **Direct Comparison of HPLC and SFC for the Milligram to Gram Scale Purification of Enantiomers** PETER RAHN, Phenomenex, Irene Tranquil, Gary Yanik

2:00 (150-4) **Assessing Biology Through Coupling of Active Ingredients: Theoretical and Synthetic Approach Towards the Biology of Some Novel Monobactam Induced Sulphonamides** JYOTSNA SUDHIR MESHRAM, Nagpur University, Parvez Ali

ORAL SESSION Session 160

Electrochemistry

Sunday Afternoon, Room 308A

Rose Clark, Saint Francis University, Presiding

1:00 (160-1) **Development of Catalytic Adsorptive Stripping Voltammetric Methods for the Determination of Ultra-trace Cr and V** ROYCE N DANSBY-SPARKS, University of Tennessee, Ilia N Ivanov, Clarissa E Tatum, Stefanie A Bragg, Ruizhuo Ouyang, James Q Chambers, Zi-ling Xue

1:20 (160-2) **Multifunctional Electrocatalysts Based on Combination of Transition-Metal Substituted Polyoxometalates with Gold Nanoparticles** KAMILA M WIADEREK , Miami University, Ohio, James A Cox

1:40 (160-3) **Porphyrins Modified with Crown-ether Functionalities as Hyphenated Ionophores for Solvent Polymeric Membrane Electrodes** LARISA LVOVA, University of Rome "Tor Vergata", Giuseppe Pomarico, Roberto Paolesse, Corrado Di Natale, Arnaldo D'Amico, Olga Mednova, Dmitry Kirsanov, Andrey Legin, Yuri G Vlasov

2:00 (160-4) **Non-Nerstian Behavior of Anion-Selective Electrodes Prepared from Phosphonium Ionic Liquids** R DANIEL JOHNSON, Murray State University, Rajani Gourishetty, Ann M Crabtree

2:20 **Recess**

2:35 (160-5) **Histamine-pH Microelectrode Array to Understand Spatial Variations in Gastric Acid Release from Isolated Stomach Tissue** ELENI BITZIOU, Imperial College London, Danny O'Hare, Bhavik A Patel

2:55 (160-6) **Electrochemistry in an Acoustically Levitated Drop** EDWARD CHAINANI, University of Illinois, Urbana-Champaign, Zakiah N Pierre, Steven M Markwell, Alexander Scheeline

3:15 (160-7) **Enzyme-Amplified Electrochemical Detection of Whole Viral Particles** BRYCE DAVIS, University of California, Riverside, Harry Lee, Quan Cheng

3:35 (160-8) **Preparation of Chromium Sulfide Nanoparticles and Their Application as Cr(III)-selective Electrode** GAURANG M PATEL, Gujarat University, Shobhana Menon

ORAL SESSION Session 170

Food Science - Elemental Analyses

Sunday Afternoon, Room 308B

Robert W Baudoux, RWB Convention Mgt, Presiding

1:00 (170-1) **The Analysis of Trace Elements in Rice Products Using Affordable and Accurate Atomic Absorption Spectroscopy** MARTIN J NASH, Thermo Fisher Scientific, Rebecca Price, Hazel Dickson

1:20 (170-2) **Total Sulfur in Wine Using a Combustion Analyzer with UV-Fluorescence Detection** GUIDO GIAZZI, Thermo Fisher Scientific, Liliana Krotz, Martin J Nash, Ben Tordoff, Fergus Keenan, Debbie Batt

1:40 (170-3) **Determination of Total and Hexavalent Chromium in Commercially Available Chromium Supplements by Speciated Isotope Dilution Mass Spectrometry (EPA Method 6800) Using IC-ICP-MS** G M MIZANUR RAHMAN, Duquesne University, Howard M Kingston, Timothy Fahrenholz, Naudia Martone, Matt Pamuku, William Obermeyer, Amanda Anderson

2:00 (170-4) **Trace Elemental Characterization of Edible Oils with Graphite Furnace Atomic Absorption Spectrophotometer** PRAVEEN SAROJAM, PerkinElmer Analytical Sciences, Zoe Grosser, Anil Nimkar

2:20 **Recess**

2:35 (170-5) **Sulfur Speciation Analysis by Ion-Chromatography Hyphenated to Inductively Coupled Plasma Mass Spectrometry** ZHONGWEN WANG, Food Research Division, Health Canada, Melissa Sparling, Don Forsyth

2:55 (170-6) **Determination of Iodide and Iodate in Saline Matrices by Anion Exchange Chromatography and HPLC** DEANNA C HURUM, Dionex Corporation, Brian M De Borba, Jeffrey S Rohrer

3:15 (170-7) **Nitrogen/ Protein Determination in Food Using Large Sample Weight by Flash Combustion as Alternative to Kjeldahl Method** LILIANA KROTZ, Thermo Fisher Scientific, Guido Giazzi

3:35 (170-8) **Optimization of Nitrogen Determination in Dietary Fiber (Celite) Analysis by Combustion Method** AN SLEGERS, Laboratorium Ecca NV, Liliana Krotz, Roel Wuyts, Jean-Louis Brix, Guido Giazzi

ORAL SESSION Session 180

GC Detectors

Sunday Afternoon, Room 308C

Steven B Dorn, Momentive Performance Materials, Presiding

1:00 (180-1) **Dual Discharge Photo Ionization Detector for Gas Chromatography** HUAMIN CAI, VICI Valco Instruments Co. Inc., Stanley D Stearns

1:20 (180-2) **Characterization of Non-radioactive Electron Capture Detector Based on the Dielectric Barrier Discharge Plasma** MATTHEW MONAGLE, AIC Corporation

1:40 (180-3) **Low-volume Pulsed Discharge Electron Capture Detector** STANLEY D STEARNS, VICI Valco Instruments Co. Inc., Huamin Cai, Alex Plistil

2:00 (180-4) **A Planar Micro Flame Ionization Detector for 2D Micro Gas Chromatography** WINFRED JAN KUIPERS, Hamburg University of Technology, Joerg Mueller

2:20 **Recess**

2:35 (180-5) **A New PID for Trace Analysis** JOHN N DRISCOLL, PID Analyzers, LLC, George Sprague

ORAL SESSION Session 190

GC Sample Introduction/New Columns/Optimization

Sunday Afternoon, Room 207C

William E Barber, Agilent Technologies, Inc., Presiding

1:00 (190-1) **Innovations in Valve Technology – Low Level Analysis – from the Lab Bench to the Process Analyzer** GORDON MCFARLANE, Analytical Flow Products, Yves Gamache

1:20 (190-2) **The Use of Thermal Desorption for a Range of Consumer Safety Concerns!** STEPHEN D WESSON, CDS Analytical, Thomas Wampler, Karen Jansson

1:40 (190-3) **Form and Function: Understanding the Complex World of Gas Chromatographic Inlet Liners** SCOTT LANDER GROSSMAN, Restek Corporation, Corby Hilliard, Jack Cochran

2:00 (190-4) **Adaptation of Monolithic High Performance Liquid Chromatography Columns for Gas Chromatographic Separation Prior to Ion Mobility Spectrometry** LINDA JONES, Sandia Staffing Alliance, Peter Hotchkiss, James Spates, David A Jones

2:20 **Recess**

2:35 (190-5) **Effect of Carrier Gas Upon the Determination of Thermodynamic Parameters Used to Predict Retention Time in Gas Chromatography** JAMES J HARYNUK, University of Alberta, Teague McGinitie

2:55 (190-6) **Polar and Highly Polar Ionic Liquid Capillary Columns** LEONARD SIDISKY, Supleco/Sigma-Aldrich, Yizeng Ni, Greg A Baney, James L Desorcie, Katherine Stenerson

3:15 (190-7) **Preparative Purification of Expressed Proteins by Spiral Countercurrent Chromatography** MARTHA KNIGHT, CC Biotech LLC, Aprile Pilon, Thomas M Finn

ORAL SESSION Session 200

High Throughput Chemical Analysis

Sunday Afternoon, Room 308D

Emelita Breyer, Emory University, Presiding

1:00 (200-1) **Particle Imaging of Powder Samples as a Pre-screen Tool to Detect and Quantify Microbial Contamination** JANIE DUBOIS, Malvern Instruments, Kenneth Haber, Linda H Kidder, E Neil Lewis

1:20 (200-2) **Micro Scale Synthesis of ILs: A Novel Approach Using a Digital Microfluidic Chip** YASITH S NANAYAKKARA, The University of Texas at Arlington, Praveen Kunchala, Hyejin Moon, Daniel Armstrong

1:40 (200-3) **Applications of New Silica-Based SPE Cartridges** DAVID E KNOWLES, Dionex, Eric S Francis, Richard E Carlson, Brian C Dorich, Kannan Srinivasan, SM Rahmat Ullah, Bruce Richter

2:00 (200-4) **Parallel Screening/Separation Method Development by Supercritical Fluid Chromatography** ZIQIANG WANG, TharSFC, Harbaksh Sidhu, Michael Webster

2:20 **Recess**

2:35 (200-5) **On-chip Liquid-liquid Extraction and Separation Using Digital Microfluidics Toward High-throughput Screening for Separation Process Using Ionic Liquids** HYEJIN MOON, University of Texas at Arlington, Praveen Kunchala, Yasith S Nanayakkara, Daniel Armstrong

2:55 (200-6) **Improving Analyte Stream Stability in Micro-Free Flow Electrophoresis by Addition of Surfactant and Use of Mixed Aqueous/Nonaqueous Carrier Buffers** NICHOLAS W FROST, University of Minnesota, Michael T Bowser

ORAL SESSION Session 210

Microscopy: New Instrumental Techniques

Sunday Afternoon, Room 206B

Yinfa Ma, Missouri University of Science and Technology, Presiding

1:00 (210-1) **Investigations of Translational and Rotational Motions in Living Cells Using Plasmonic Nanoprobes and Differential Interference Contrast Microscopy** NING FANG, Iowa State University, Gufeng Wang, Wei Sun

1:20 (210-2) **Using Laser-Scatter Triggering in an Imaging Particle Analysis System to Increase Particle Counting Accuracy in Sparse Samples** LEW BROWN, Fluid Imaging Technologies, Inc.

1:40 (210-3) **A High Throughput Surface Plasmon Based Image Filter for Wide-field Chemical Imaging** NICK PALLAS, Cleveland State University, John F Turner

2:00 (210-4) **Advances in Automated Chemical Imaging** JOHN F TURNER, Cleveland State University, Nikolas J Neric, Anita Wiederholt

2:20 **Recess**

2:35 (210-5) **Correlative Microscopy: Concurrent SEM and Optical Imaging of Materials in Their Native State** DONNA GUARRERA, JEOL USA, Inc., Mitsuo Suga, Hidetoshi Nishiyama

2:55 (210-6) **ATR Objectives for FT-IR Microscopy – The Advantages of ATR Imaging for Micro-Sample Analysis** RICHARD A LARSEN, Jasco, Inc., John Carriker, Ken-ichi Akao, Miyuki Shimomura, Jun Koshoubu, Toshiyuki Nagoshi

3:15 (210-7) **Characterization of Nanomaterials Using Advanced FESEM/STEM and XPS Techniques** BRIAN R STROHMEIER, RJ Lee Group, Inc., John D Piasecki, Kristin L Bunker, Jacqueline L Sturgeon, James P Marquis, Traci L Lersch, Keith Wagner

3:35 (210-8) **Real-time Imaging of Transport and Diffusion of Single Gold Nanoparticles *In Vivo*** LAUREN BROWNING, Old Dominion University, Kerry J Lee, Prakash D Nallathamby, Tao Huang, Jill Lowman, X Nancy Xu

ORAL SESSION Session 220

Neurochemistry I

Sunday Afternoon, Room 309AB

Parastoo Hashemi, University of North Carolina, Chapel Hill, Presiding

1:00 (220-1) **Selective Glutamate Biosensor Arrays Integrated on Silicon Microprobes for In vivo Brain Recordings** OLIVIER FREY, EPF Lausanne, Ruth McNamara, Jefferey W Dalley, Peter D van der Wal, Nico F de Rooij, Trevor W Robbins, Milena Koudelka-Hep

1:20 (220-2) **Robust Pyrolyzed Photoresist Microelectrodes for Voltammetric Detection of Catecholamines In vitro and In vivo** PAVEL TAKMAKOV, University of North Carolina, Chapel Hill, Richard B Keithley, Paul L Walsh, Natalie R Herr, Jinwoo Park, Matthew K Zachek, Mark Wightman

1:40 (220-3) **Electrochemical Methods to Measure the Total Neurotransmitter Content in Vesicles** LISA JOSEFINA MELLANDER, Gothenburg University, Donna M Omiatek, Andrew G Ewing

2:00 (220-4) **Towards Understanding Ultrastructural Tissue Differences Associated with Rapid and Slow Signaling of Dopamine** ANDREA JAQUINS-GERSTL, University of Pittsburgh, Adrian C Michael

2:20 **Recess**

2:35 (220-5) **Improving Principal Component Regression Analysis of Fast-scan Cyclic Voltammetric Data** RICHARD B KEITHLEY, The University of North Carolina, Regina M Carelli, Mark Wightman

2:55 (220-6) **Electrochemical Monitoring of Norepinephrine and Dopamine Overflow in the Bed Nucleus of the Stria Terminalis of Freely Moving Rats** JINWOO PARK, University of North Carolina, Khristy Fontillas, Mark Wightman

3:15 (220-7) **An Electrochemical Study of The Role of Membrane Cholesterol in Exocytosis** SHENCHENG GE, University of Minnesota, James G White, Christy L Haynes

3:35 (220-8) **Carbon Based Arrays for In vivo Detection of Catecholamines** MATTHEW K ZACHEK, University of North Carolina, Pavel Takmakov, Mark Wightman, Greg S McCarty

ORAL SESSION Session 230

Novel Sensor Technologies

Sunday Afternoon, Room 207B

William R LaCourse, University of Maryland, Baltimore County, Presiding

1:00 (230-1) **Enhanced Gas Sensing of SnO2 Functionalized SWNTs by Catalyst Nanoparticle Impregnation – A Repeated Electrochemical Templating Approach** SYED MUBEEN

JAWAHAR HUSSAINI, University of California, Riverside, Marc A Deshusses, Ashok Mulchandani, Nosang V Myunh

1:20 (230-2) **Detection of Environmental Contaminants Using Nanotechnology** RESHMI S BANERJEE, Florida International University, Chenzhong Li

1:40 (230-3) **Gas Analyzer for Continuous Monitoring of Sulfur Dioxide in Gas Streams Based on Amperometric Detector** SAYED MARZOUK, UAE University, Mohamed Al Marzouqi

2:00 (230-4) **SPR Biosensors Protected by Near-zero Fouling Peptide Monolayers to Detect Biomolecules in Complex Biofluids** JEAN-FRANCOIS MASSON, Universite de Montreal, Olivier Bolduc, Christopher Clouthier, Joelle Pelletier

2:20 **Recess**

2:35 (230-5) **Transport Behavior of Perfluorotripentylamine (FC-70)-doped Teflon AF 2400 Membranes** HONG ZHANG, University of Pittsburgh, Stephen G Weber, Abul Hussam

2:55 (230-6) **MEMS Micro-pirani Sensor and Reading Method for Pressure Measurements in Small Volumes with Low Temperature Dependence** MARCO MICHELE SISTO, INO, Sonia Garcia Blanco, Loic Le Noc, Yan Desroches, Francis Provencal, Jean-Sol Caron, Francis Picard, Patrice Topart

3:15 (230-7) **MEMS Grating Based Micro-spectrometers and Tunable Lasers for Visible, Near- and Mid-Infrared Applications** MAURIZIO TORMEN, CSEM, Robert Lockhart, Branislav Timotijevic , Thomas Overstolz, Ross Stanley, Jorg Pierer, Real Ischer, Guy Voirin

3:35 (230-8) **Development of Surface-immobilized Aptasensors for Small Molecule and Protein Detection** TAO CHEN, University of Florida

ORAL SESSION Session 240

Pharmaceutical Problem Solving

Sunday Afternoon, Room 310B

Bruce P McPherson, Meda Pharmaceuticals, Presiding

1:00 (240-1) **Use of Process Measurement Technology in the Development/Scale-Up of Roller Compaction Processes** ZANE ALLEN ARP, GlaxoSmithKline, Tamika Hayden, Brian Rhodes, Alfonzo Taggart

1:20 (240-2) **Biorelevant Dissolution Testing** KEVIN C BYNUM, Boehringer Ingelheim Pharmaceuticals, Inc., Stephen Cafiero, Henry Zhao

1:40 (240-3) **Visual Observations During Dissolution Testing** STEPHEN CAFIERO, Boehringer Ingelheim Pharmaceuticals, Inc., Kevin C Bynum

2:00 (240-4) **Identifying Phase Transformations of a Pharmaceutical Co-Crystal on Stability** LISA DELATTRE, Boehringer Ingelheim Pharmaceuticals, Inc., Karen Weigandt, Kevin C Bynum, James Murner, Thomas Offerdahl, John Smoliga, George Gereg, Pragati Reddy, Jung Park

2:20 **Recess**

2:35 (240-5) **Surface Enhanced Raman Spectroscopy as a Tool for Cleaning Verification in the Pharmaceutical Industry** DAVID ANDREW EUSTACE, D3 Technologies Ltd, Graeme McNay, Kirstin A Lynn, Michael A Gallagher, Maria C Netti, William E Smith

2:55 (240-6) **Effect of Alcohol on the Dissolution of an Extended Release Tablet** BRUCE P MCPHERSON, Meda Pharmaceuticals, Charles W Stewart, Robert J Allara, Syed Hussain, Alexander D'Addio

3:15 (240-7) **Rapid and Simple Headspace GC Method to Quantify Formic Acid and Acetic Acid in Drug Products** HONG CHEN, Nexgen Pharma, Luis Vidaurrazaga, Ian Gibson, Bob van Osdel

3:35 (240-8) **Preparation of Acyclovir Loaded Niosomal Nano Vesicles Using Reverse Phase Evaporation Technique** AJAY PAL SINGH, Al-Arab Medical University, Ashok Kaushal, Wafa M Ramadan, Idrish Mehdi

ORAL SESSION Session 250

Sensors for Bioanalysis

Sunday Afternoon, Room 307C

Joshua Smith, Armstrong Atlantic State University, Presiding

1:00 (250-1) **Continuous Glucose Monitoring with an Ultrafiltrate Probe Coupled with a Solid-state Near Infrared Spectrometer** MARK A ARNOLD, University of Iowa, Jonathon Olesberg, Jue Qian

1:20 (250-2) **A Novel High Sensitive SWNT Based Displacement Sensor for Detection of Glucose** LAKSHMI N CELLA, University of California, Riverside

1:40 (250-3) **Novel Nitric Oxide and Glucose Electrochemical Sensors Based on Gold Nanoparticle-Chitosan Composite Sensing Film** ZIIN CHEN, Wuhan University, Fang Wang, Xiaocui Deng

2:00 (250-4) **A Microfluidic Multiwavelength Cytometer with Integrated Optics** PETER B HOWELL, Naval Research Laboratory, Frances S Ligler, Joel Golden, Abel L Thangawng, Jason Kim, Jeffrey Ericson, George Anderson

2:20 **Recess**

2:35 (250-5) **Single Molecule Detection and Sensing of Individual Receptor Molecules on Single Living Cells Using Single Nanoparticle Plasmonic Optical Biosensors** TAO HUANG, Old Dominion University, Prakash D Nallathamby, X Nancy Xu

2:55 (250-6) **Immunochromatographic Strip Biosensor for the Whole Cell Staphylococcus Aureus Analysis** CHENZHONG LI, Florida International University, Jimmy Ng, Andres Ramos, Christofer Zapata

3:15 (250-7) **Optode Microarray for in vitro Diagnostics in Microliter Drops of Serum and Whole**

Blood MARIA PESHKOVA, Case Western Reserve University, Punkaj Ahuja, Sumitha Nair, Miklos Gratzl

3:35 (250-8) **Label-free Electrochemical Detection of E. coli ORN178** XUEFEI GUO, University of Cincinnati, Amos Doepke, William R Heineman, Ashish Kulkarni

ORAL SESSION Session 260

Separation Science - Chromatography (LC, IC)

Sunday Afternoon, Room 206C

James Manner, The Pittsburgh Conference, Presiding

1:00 (260-1) **Efficient Method Development in Hydrophilic Interaction Chromatography** KENNETH J FOUNTAIN, Waters Corporation, Jane Xu, Eric S Grumbach, Diane M Diehl

1:20 (260-2) **Chiral Separations Using Monolithic Column in CEC-UV and CEC-MS** CONGYING GU, Georgia State University, Shahab A Shamsi

1:40 (260-3) **Polypropylene Capillary-Channeled Fibers as a Stationary Phase for the Separation of Macromolecules in Micro-bore High-Performance Liquid Chromatography** KELUM M RANDUNU, Clemson University, R Kenneth Marcus

2:00 (260-4) **Porting Retention Data from Conventional to Miniaturized Ion Chromatography Systems** BOON K NG, University of Tasmania, Robert A Shellie, Greg William Dicinoski, Paul Raymond Haddad

2:20 **Recess**

2:35 (260-5) **QbD Approach to HPLC Method Development** IMRE L MOLNÁR, Molnár-Institute, HJ Rieger, K Monks

2:55 (260-6) **Do's and Don'ts of Method Development in Mixed-Mode Chromatography** VLAD ORLOVSKY, SIELC Technologies, Yury Zelechonok

3:15 (260-7) **Insights into the RPIP-HPLC Separation of Heparin and Heparan Sulfate Oligosaccharides** CHRISTOPHER J JONES, University of California, Riverside, Cynthia K Larive

3:35 (260-8) **Investigation into the Optimum Column Geometry for Use with a New Ultrahigh Pressure Liquid Chromatographic System** TODD D MALONEY, Eli Lilly and Company, Bryan C Castle, James W Treadway

SUNDAY POSTER SESSION Session 270

Sunday posters will be on display from 3:30 PM to 7:30 PM with authors present from 5:30 PM to 7:30 PM. Location of Sunday posters is Room W415, Valencia Ballroom C and D.

New Developments in Analytical Instrumentation and Software

Room W415, Valencia Ballroom C and D

(270-1 P) **A Sensitive and Robust Tool for ELISA and Peroxide Detection** JASON DALLWIG, Life Technologies, Mike Ignatius, Gerald Thomas

(270-2 P) **Photo-dissociation of Supercritical Fluid Carbon Dioxide in the Production of Breathable Oxygen** BRANDON N DOTSON, USMA, Matthew E Tullia, Walter D Zacherl, John D DeLong, Thomas M Spudich

(270-3 P) **Extraction of Lupeol from Dandelion Flowers** TSUNGHSUEH WU, University of Wisconsin, Aaron Hopkins

(270-4 P) **Advancements in Charged Aerosol Detection** IAN N ACWORTH, ESA Biosciences, Inc., Christopher A Crafts, Marc Plante, Bruce Bailey

(270-5 P) **Withdrawn**

(270-6 P) **Comparison of the Amides with the Aminopropyl Stationary Phase for the Separation of Polar Compounds in HILIC Mode** QUN J WANG, Chinese Academy of Agricultural Science

(270-7 P) **A Systematic Approach to Optimize Separation of a Complex Mixture by Mix-phase Technology in HPLC** SHUOLEI WANG, Chinese Academy of Agricultural Science, Qun J Wang

(270-8 P) **Passive and Sensitive Remote Scanning with FTIR: Advantages and Applications** WOLF MUENCHMEYER, Airsense Analytics, Andreas Walte, Cindy Siggelkow, Roland Harig

(270-9 P) **Determination of Amphetamine and Its Major Metabolites in Human Plasma and Human Blood Samples Utilizing MEPS and DART-TOF** MOHAMED ABDEL-REHIM, AstraZeneca

(270-10 P) **Determination of Nitrate in Nitrite Salts by Reduction with V (III) and Spectrophotometric Determination via Greiss Reaction** ROBERT S POMEROY, University of California, San Diego, Jonathan Falconer, George C Anderson

(270-11 P) **Method and Apparatus for Null Measurement of Optical Absorption Using Pulse-Width Modulation** DAVID RUSAK, University of Scranton, Brady Trexler

(270-12 P) **Correlation of Sample OD Measurements on a Multi-Volume (Micro) Plate** MICHAEL N SEVIGNY, BioTek Instruments, Inc., Peter Brescia

(270-13 P) **New Salt Analyzer Determines Chloride Ions Accurately and Quickly** JOHN D MACFARLANE, JM Science, Inc., Momoko Nagaya

(270-14 P) **Laser-Induced Breakdown Spectroscopy of Bone Samples** DAVID RUSAK, University of Scranton, Brett Taroli, Ryan M Marsico

(270-15 P) **A Variable Angle Internal and External Reflection FTIR Liquid Cell** JOSEPH P LUCANIA, Harrick Scientific Products, Inc., Ali Kocak

(270-16 P) **The New Multi-Modal Calorimeter (MMC)** PETER J RALBOVSKY, Netzsch Instruments

(270-17 P) **Dual Detector TCD/FUV GC for Coal Mine Safety Monitoring** JOHN N DRISCOLL, PID

Analyzers, LLC, George Sprague

(270-18 P) **High Performance Dual Channel Flash Gas Chromatography System** CLAUDE BEAUGRAND, Alpha MOS, Jean-Christophe Mifsud, François Loubet, Xavier Bredzinski, Marion Bonnefille

(270-19 P) **Measurement of Heterogeneous Reaction Rates: Indium Mediated Allylation** WENDI BACON, Hobart and William Smith Colleges, Rachel E Langenbacher, Walter J Bowyer

(270-20 P) **Effects of the Geometry of the System and Solvent on Rates of Heterogeneous Reactions** RYAN O YOUNG, Hobart and William Smith Colleges, Salvador A Forte, Walter J Bowyer

(270-21 P) **Full Automation of ASTM Method D6584-07 "Standard Test Method for the Determination of Free and Total Glycerin in B-100 Biodiesel Methyl Esters by Gas Chromatography"** JOHN STUFF, GERSTEL, Inc., Jacqueline Whitecavage

(270-22 P) **Insitu Measurement of Particle Size While Monitoring Shape Changes and Chemical Consumption** JERRY STEVEN FAUVER, Eastman Chemical

(270-23 P) **Laser Breakdown in Water and Alcohols by 1064 nm Nanosecond Pulses** VALERY BULATOV, Technion-Israel Institute of Technology, Gregory Toker, Tatiana Kovalchuk, Israel Schechter

(270-24 P) **UPLC and RRLC with the Corona Ultra Charged Aerosol Detector** IAN N ACWORTH, ESA Biosciences, Inc., Marc Plante, Christopher A Crafts, Bruce Bailey

(270-25 P) **Fast Method Development Using Conventional Instrumentation** THOMAS J WAEGHE, MAC-MOD Analytical, Robert T Moody, Carl L Zimmerman

(270-26 P) **Analysis of Volatile Organic Compounds in Decomposing Animal Remains** NGEE CHONG, Middle Tennessee State University, Samantha Keene

(270-27 P) **Simultaneous Determination of Polychlorinated Dibenzo-p-dioxins, Dibenzofurans, Dioxin-like Polychlorinated Biphenyls and Polychlorinated Naphthalenes in Single Extract of Fish Samples** JIAJIA WU, Chinese Academy of Sciences, Minghui Zheng, Bin Wang

(270-28 P) **Determination of Calcium, Magnesium, and Aluminum in Red Spruce (Picea rubens) and Fraser Fir (Abies fraseri) Foliage and Surrounding Soil from the Southern Appalachian Mountains Using Inductively Coupled Plasma Optical Emission Spectrometry** DAVID BUTCHER, Western Carolina University, Lucas Wilson, Matthew Rosenberg

(270-29 P) **Chemiluminescence Detection of Histidine with Enzymatic Reaction** AKIMITSU KUGIMIYA, Research Center for Advanced Science and Technology, Fumie Babe

(270-30 P) **Fabrication of Pt Based Amperometric Amino Acids Biosensors with Enzymatic Reaction** AKIMITSU KUGIMIYA, Research Center for Advanced Science and Technology, Kaori Kohara, Fumie Babe

(270-31 P) **Improving the Production Process and Durability of Amperometric Biosensors for**

Real-time Monitoring of Glucose and Cholesterol TYLER G MCCASLIN, Berry College, Alice C Harper

(270-32 P) **The Effect of 2,4-Dinitrofluorobenzene on the Voltammetry of Cytochrome C** BRANDON G MOORE, Berry College, Kevin R Hoke

(270-33 P) **Sensitive Methods for Detection of Acetaminophen and Hydrogen Peroxide Using Redox Polymers and Heme Proteins Trapped in Hydrogel** AMOS MUGWERU, Rowan University, Zuliang Shen

(270-34 P) **Morphological Analysis of Fission Yeast in its Wild-Type and Mutants Using Imaging Flow Cytometry** RADHA PYATI, University of North Florida, Umawattee Seenath, Lindsay Elvir, Thomas Wolkow

(270-35 P) **Probing Solvent-Polymer Interactions in Polymer Swollen Gels Using FT-IR-ATR** JAMES M SLOAN, U.S Army Research Lab

(270-36 P) **Application for Gravimetric Rapid Pore Size Distribution Technology** HENRY G NOWICKI, Pacs Testing, Consulting, Training, George Nowicki

(270-37 P) **Avoiding the Pitfalls of Protein Analysis by GFC** TACHDJIAN SABRINA, Showa Denko America Inc., Takashi Kotsuka

(270-38 P) **Pd-Hydrogen Nano Technology Study with a Scanning Tunneling Microscope** JOHN N DRISCOLL, PID Analyzers, LLC, Ben Anacleto, Franchesca Little, Walter Johnson, Jiwoon Kim, Pol Perov, Prashant Sharma, Nat Steinstultz

(270-39 P) **Rapid Arsenic Speciation Analysis in Water Samples** WARREN THOMAS CORNS, P S Analytical, Bin Chen, Jasmina Allen, Peter Bernard Stockwell

(270-40 P) **Determination of Methamphetamine and Amphetamine in Bodily Fluids by Accurate Mass Measurement** NGEE CHONG, Middle Tennessee State University, Vanessa E Hobbs

(270-41 P) **The Development of Novel Configuration Micro Channel Plates for Analytical Instrumentation Applications** BRUCE N LAPRADE, Photonis, William Netolicky

(270-42 P) **Extracting Infrared Absolute Reflectance from Relative Reflectance Measurements** SUSAN BERETS, Harrick Scientific Products, Inc., Jeff Christenson, Milan Milosevic

(270-43 P) **Improved Element Specific Detection in the Analysis of Phosphorous Pesticides** WILLIAM GOODMAN, PerkinElmer, Rosario Mannino, Joseph DiCesare, Andrew Tipler

(270-44 P) **Label-free Study of Analyte-cell Interaction Using Microcantilever Sensors** MEIJUAN HAN, Drexel University, Xin Yang, Jun Xi, Minghong Li, Hai-Feng Ji

(270-45 P) **The Continued Characterization and Modifications of a Mid/Longwave IR Emitter** CLAIRE E HEID, USMA, Kyle W Johnson, Blake A Rulison, Cynthia M Woodbridge, Thomas M Spudich

(270-46 P) **The Detection of Fumigants and Tics in High Speed Using a Hybrid Sensor Array (GDA2)** WOLF MUENCHMEYER, Airsense Analytics, Andreas Walte, Mario Schmidt, Nuno Ferreira

(270-47 P) **Mutagenicity Evaluation of Water from the Cauca River in the City of CaliI-Colombia Using the AMES Test** FERNANDO E LARMAT, Universidad del Valle, Enrique Bravo, Julio C Sierra, Neyla Benitez, Alejandro Soto

SUNDAY POSTER SESSION Session 280

Sunday posters will be on display from 3:30 PM to 7:30 PM with authors present from 5:30 PM to 7:30 PM. Location of Sunday posters is Room W415, Valencia Ballroom C and D.

Society for Applied Spectroscopy (SAS) Poster Session

Room W415, Valencia Ballroom C and D

(280-1 P) **Effects of pH, Orthophosphates and Exposure Time on the Corrosion of Copper Surfaces Viewed by Atomic Force Microscopy** STEPHANIE L DANIELS, Louisiana State University, Darren A Lytle, Jayne C Garno

(280-2 P) **Magnetic Properties of Individual FeNi3 Nanoparticles Characterized Using Contact-mode AFM Combined with Magnetic Sample Modulation** WILSON SEREM, Louisiana State University, Algernon T Kelley, Song Xu, Jayne C Garno

(280-3 P) **Nanofabrication of Self-assembled Monolayers Using Automated Scanning Probe Lithography** SAMANTHI THABREW DE SILVA, Louisiana State University, Zorabel LeJeune, Jing-jiang Yu, Tina L Brower-Thomas, Jayne C Garno

(280-4 P) **High Throughput Approaches Using Particle Lithography for Fabricating Arrays of Organosilane Nanostructures with Designed Surface Chemistries** KATHIE L LUSKER, Louisiana State University, Jayne C Garno

(280-5 P) **Forensic Analyses of Dyed Textile Fibers in the Undergraduate Laboratory** CHRISTOPHER R DOCKERY, Kennesaw State University, Krystle L Roberts, Mark J Segall

(280-6 P) **Conformational Stability and Structural Parameters of Trans and Gauche Isopropylamine, From Temperature Dependent Infrared Spectra of Krypton Solutions, and Vibrational Assignments** ARINDAM GANGULY, University of Missouri-Kansas City, James R Durig

(280-7 P) **Continuum Source Tungsten Coil Atomic Fluorescence Spectrometry** JIYAN GU, Wake Forest University, George L Donati, Bradley T Jones

(280-8 P) **Optimization of Radio-frequency Plasma - Fabricated Nano-structured Surfaces for Surface-Enhanced Raman Spectroscopy** ROBERT G MICHEL, University of Connecticut, Anthony M Palermo, David J Preli, Maria Parra

(280-9 P) **Assessing Variations in Electron Exchange Rates for Azurin, A Blue Copper Protein** TIMOTHY J PITCHKO, Berry College, Kevin R Hoke

(280-10 P) **Efficient Attenuated Total Reflectance (ATR) Fourier Transform Infrared (FT-IR) Imaging of Tissue** F NELL POUNDER, University of Illinois, Urbana-Champaign, Brynmor J Davis, Rong Kong, Rohit Bhargava

MONDAY, MARCH 1, 2010
MORNING

AWARD Session 290

Chromatography Forum of the Delaware Valley Dal Nogare Award - arranged by Mary Ellen P McNally, DuPont Crop Protection

Monday Morning, Room 206A

Mary Ellen P McNally, DuPont Crop Protection, Presiding

8:00 **Introductory Remarks - Mary Ellen P McNally**

8:05 **Presentation of the 2010 Dal Nogare Award to Lane C Sander, NIST, by Mary Ellen P McNally, Dal Nogare Award Chairman**

8:10 (290-1) **Progress Towards an Understanding of Shape Recognition in Liquid Chromatography** LANE C SANDER, NIST

8:45 (290-2) **The Role of Chromatography in the Development of Standard Reference Materials for Environmental, Clinical, and Nutritional Measurements** STEPHEN A WISE, NIST, Michele Miller Schantz, Karen W Phinney, Lane C Sander

9:20 (290-3) **Application of Low-Thermal Mass Liquid Chromatography for Tailored Separations** MATTHIAS PURSCH, Dow Deutschland GmbH, Binghe Gu, Patric Eckerle, Jim Luong, Hernan Cortes

9:55 **Recess**

10:10 (290-4) **Improving the Understanding of the Separation Mechanism of C30 Phases Employing Modern NMR Techniques** KLAUS ALBERT, Universitat Tubingen

10:45 (290-5) **Toward Simultaneous 2-D Planar Chromatography** JOHN G DORSEY, Florida State University, Bradley J VanMiddlesworth

AWARD Session 300

Pittsburgh Conference Achievement Award: Development and Application of Novel Technologies for Large-Scale Protein Sequence Analysis - arranged by Annette S Wilson, The Pittsburgh Conference

Monday Morning, Room 300

Gregg Gould, California University of Pennsylvania, Presiding

8:00 **Introductory Remarks - Annette S Wilson**

8:05 **Presentation of the 2010 Pittsburgh Conference Achievement Award to Joshua Coon, University of Wisconsin-Madison, by Gregg Gould, Chairman, Society for**

Analytical Chemists of Pittsburgh

8:10 (300-1) **Comprehensive Quantitative Comparison of Human ES, iPS, and Somatic Cell Proteomes** JOSHUA J COON, University of Wisconsin, Douglas Phanstiel, Justin Brumbaugh, Craig Wenger, Graeme McAlister, Danielle Swaney, Mark Tervo, Shulan Tian, Ron Stewart, James Thomson

8:45 (300-2) **New Developments in Ion/Ion Chemistry for Bioanalysis** SCOTT MCLUCKEY, Purdue University

9:20 (300-3) **Protein Sequence Analysis in Neuroscience** ANDREW K OTTENS, Virginia Commonwealth University

9:55 **Recess**

10:10 (300-4) **A Tissue-specific Atlas of the Mouse Phosphoproteome** STEVEN GYGI, Harvard Medical School

10:45 (300-5) **Driving Biological Discovery Using Quantitative Mass Spectrometry** JOHN R YATES, The Scripps Research Institute

SYMPOSIUM Session 310

ACS Division of Analytical Chemistry New Approaches to Address Emerging Environmental Pollutants - arranged by Charles S Henry, Colorado State University

Monday Morning, Room 207B

Charles S Henry, Colorado State University, Presiding

8:00 **Introductory Remarks - Charles S Henry**

8:05 (310-1) **Analysis of Ambient Aerosols by Lab on a Chip Technology** CHARLES S HENRY, Colorado State University, Scott D Noblitt, Collett D Jeffery, Susanne Hering

8:40 (310-2) **Measurement of Nitrophenols in Air and Rainwater** PURNENDU K DASGUPTA, University of Texas at Arlington

9:15 (310-3) **Analysis of Pharmaceuticals in Environmental Waters by CE and CE-MS** PAUL RAYMOND HADDAD, University of Tasmania, Mohamed Dawod, Michael C Breadmore, Rosanne Guijt

9:50 (310-4) **Ambient Organic Aerosol Characterization with High-Resolution Aerosol Mass Spectrometry** JOSE L JIMENEZ, University of Colorado-Boulder

10:25 (310-5) **Major Chemical Components of Wood Smoke in Particulate Matter and in Urine as Markers of Exposure** CHRISTOPHER P PALMER, University of Montana, Megan Bergauff, Tony Ward, Curtis Noonan, Christopher Migliaccio

SYMPOSIUM Session 320

Case Studies in Pharmaceutical Process Validation - arranged by Brian K Nunnally, Wyeth

Monday Morning, Room 311B

Brian K Nunnally, Wyeth, Presiding

8:00 **Introductory Remarks - Brian K Nunnally**

8:05 (320-1) **Process Validation in the 21st Century: An Analytical Chemist's View on the Future of Process Validation** BRIAN K NUNNALLY, Wyeth

8:40 (320-2) **Approach to Cell Bank Process Technology Transfer and Implementation of a Cell Bank Process Validation Program** JOY S STILL, Wyeth

9:15 (320-3) **The Relationship Between Design Space, Process Validation and Continuous Process Improvement - Taking Advantage of the New PV Guidance to Get a More Flexible Process with Higher Quality and Increasing Yields** ATTILA ARI, PharmEng Technology

SYMPOSIUM Session 330

Microfluidic Systems for Proteomics "WEBCAST" - arranged by Hugh Fan, University of Florida and Steve Soper, Louisiana State University

Monday Morning, Room 307D

Hugh Fan, University of Florida, Presiding

8:00 **Introductory Remarks - Hugh Fan**

8:05 (330-1) **Microfabricated Fluidic Devices for Peptide and Protein Analysis** J MICHAEL RAMSEY, University of North Carolina, Scott Mellors, Andrew Chambers, Roswitha Ramsey

8:40 (330-2) **Fully Integrated Microfluidic System for the Analysis of Integral Membrane Proteins** STEVEN A SOPER, Louisiana State University, John Osiri, Katrina Battle, Malgorzata A Witek, Mateusz Hubert

9:15 (330-3) **Single Cell Level Kinase Activity Measurement Using Concentration-enhanced Biochemical Assay** JONGYOON HAN, Massachusetts Institute of Technology

9:50 (330-4) **Miniaturized Plastic Devices for Protein Expression and Separation** HUGH Z FAN, University of Florida

10:25 (330-5) **Hybrid Microfluidics for Integrated Proteome Analysis** AARON WHEELER, University of Toronto

SYMPOSIUM Session 340

Non- and Minimally-Invasive Diagnostics of Biological Systems Using Vibrational Spectroscopy - arranged by Michael Walter Blades, University of British Columbia

Monday Morning, Room 311D

Michael Walter Blades, University of British Columbia, Presiding

8:00 **Introductory Remarks - Michael Walter Blades**

8:05 (340-1) **Evaluation of Musculoskeletal Tissue Health Using Non-invasive and Minimally Invasive Raman Spectroscopy and Imaging** MICHAEL D MORRIS, University of Michigan

8:40 (340-2) **Medical Imaging with Coherent Raman Imaging** CHRISTIAN W FREUDIGER, Harvard University, Brian Saar, Wei Min, Xiaoyin Xu, Qing Zeng, Santosh Kesari, Geoffrey Young, Xiaoliang Sunney Xie

9:15 (340-3) **Ultra-Sensitive Imaging of Cells and Cellular Organelles by Doubly-Resonant Four-Wave Mixing Microscopy** THOMAS R HUSER, University of California, Davis

9:50 (340-4) **Towards Systems Pathology Using Infrared Spectroscopic Imaging** ROHIT BHARGAVA, University of Illinois, Urbana-Champaign

10:25 (340-5) **Differentiation Status Indicators in Raman Microscope-based Spectra Obtained Non-invasively from Human Embryonic Stem Cells** MICHAEL WALTER BLADES, University of British Columbia, Georg Schulze, Stanislov Konorov, Robin Turner, James Piret

SYMPOSIUM Session 350

Push the Limits of Chemical Separations: Faster, Smaller, Better "WEBCAST" - arranged by Robert Kennedy, University of Michigan

Monday Morning, Room 311C

Robert Kennedy, University of Michigan, Presiding

8:00 **Introductory Remarks - Robert Kennedy**

8:05 (350-1) **Push the Limits of Chemical Separations: Faster, Smaller, Better** PETER W CARR, University of Minnesota, Dwight R Stoll

8:40 (350-2) **Selectivity in Comprehensive Two-dimensional Liquid Chromatography (LCxLC)** PETER J SCHOENMAKERS, University of Amsterdam

9:15 (350-3) **Liquid Chromatography with Micron-sized Particles and Ultra-High Pressures** JAMES W JORGENSON, University of North Carolina, Laura E Blue, Edward Franklin, Rachel A Lieberman

9:50 (350-4) **Automated Enzyme-based Differential Mobility Shift Assay: Application to Phosphopeptide Characterization** NORMAN DOVICHI, University of Washington

10:25 (350-5) **Microfabricated Analysis Systems: Faster and Smaller, but Still Working Toward Better** ADAM T WOOLLEY, Brigham Young University

SYMPOSIUM Session 360

The State-of-the-Art Analytical Technology that Supports Safety and Security in Future, Part I (JAIMA) - arranged by Koichiro Matsuda, Japan Analytical Instruments Manufacturers' Association (JAIMA)

Monday Morning, Room 207C

Koichiro Matsuda, Japan Analytical Instruments Manufacturers' Association (JAIMA), Presiding

8:00 **Introductory Remarks - Koichiro Matsuda**

8:05 (360-1) **Terahertz Technology for Security in Daily Life** MASANORI HANGYO, Osaka University

8:40 (360-2) **Terahertz Sensing for Label-free Protein Detection** YUICHI OGAWA, Tohoku University, Shin'ichiro Hayashi

9:15 (360-3) **Non-destructive Inspection of Illicit Drugs and Hazardous Substances in Mails Using Terahertz Waves** CHIKO OTANI, RIKEN Advanced Science Institute, Hiromichi Hoshina, Yoshiaki Sasaki, Aya Hayashi

9:50 (360-4) **A Mass Spectrometric Challenge: Developing a High-throughput Walkthrough Portal for Detecting Improvised Explosive Devices** YASUAKI TAKADA, Hitachi, Ltd.

10:25 (360-5) **Quick: What Is It? Application of the DART Ion Source to Safety and Security** ROBERT B CODY, JEOL USA, Inc.

WORKSHOP Session 370

AnIML: An Analytical Data Standard for the Lab and the Enterprise - arranged by Gary W Kramer, National Institute of Standards and Technology

Monday Morning, Room 205C

Gary W Kramer, National Institute of Standards and Technology, Presiding

8:00 **Introductory Remarks - Gary W Kramer**

8:05 (370-1) **Introduction to AnIML: What It Is and Where We're At** GARY W KRAMER, NIST

8:40 (370-2) **Composing and Decomposing Techniques in AnIML Files** MARK F BEAN, GSK

9:15 (370-3) **Data Sharing with AnIML across the Lab and Enterprise** DALE O'NEILL, Agilent Technologies

9:50 (370-4) **How AnIML Promotes Data Quality and Integrity** JAMIE MCQUAY, Scimatic Software

10:25 **Recess**

10:40 (370-5) **Converting Legacy JCAMP-DX and ANDI Data to AnIML** MAREN FIEGE, Waters GmbH

11:15 (370-6) **SEDD - A Path Forward ...** JOSEPH F SOLSKY, US Army Corps of Engineers, Anand R Mudambi

11:50 (370-7) **Lessons Learned from Implementing the Analytical Information Markup Language (AnIML)** BURKHARD A SCHAEFER, BSSN Software

12:25 **Discussion/Wrap Up**

ORGANIZED CONTRIBUTED SESSION Session 380

ACS Division of Analytical Chemistry Innovative Approaches to Analytical Science Education I

- arranged by Carol Korzeniewski, Texas Tech University and Cynthia Larive, University of California, Riverside

Monday Morning, Room 307A

Carol Korzeniewski, Texas Tech University, Presiding

8:00 (380-1) **Embedding Instrumentation Instruction within a Society Context** ALANAH FITCH, Loyola University, Chicago

8:20 (380-2) **Continuing Education in the Analytical Sciences: Development of a Mass Spectrometry Tutorial Series for Biomedical Researchers** JAMES A KELLEY, National Cancer Institute, Josip Blonder, Christopher C Lai, Terry L Sumpter, Timothy D Veenstra, Lawrence R Phillips

8:40 (380-3) **Teaching Concepts in Analytical Chemistry at the Introductory Graduate Level** CRAIG E LUNTE, University of Kansas

9:00 (380-4) **Making the Best of ASDL Resources: The Case of Lake Nakuru** ANNA G CAVINATO, Eastern Oregon University

9:20 **Recess**

9:35 (380-5) **Studies of the Effectiveness of Highly Interactive Software for Improving a Student's Analytical Laboratory Skills** ROGER K GILPIN, Wright State University, Joseph G Solch, Christina S Gilpin

9:55 (380-6) **Consensus Standards, Method Uncertainty and Quality Assurance in Analytical Chemistry Curricula** KEVIN ASHLEY, CDC/NIOSH

10:15 (380-7) **The Arsenic Project: Authentic Research Experiences for First-year Undergraduates** JULIAN TYSON, University of Massachusetts, Amherst

10:35 (380-8) **Development of an Electronic Chemistry Laboratory Workbook for Teaching Analytical Laboratory Skills** CHRISTINA S GILPIN, Select-O-Sep, LLC, Roger K Gilpin, Joseph G Solch

ORGANIZED CONTRIBUTED SESSION Session 390

ACS Division of Analytical Chemistry New Frontiers in Electrochemical Energy Conversion and Storage

- arranged by Stephen Maldonado, University of Michigan

Monday Morning, Room 311A

Stephen Maldonado, University of Michigan, Presiding

8:00 (390-1) **Plant Power: Electrochemical Energy Conversion Using Photosystem I** DAVID E

CLIFFEL, Vanderbilt University, Kane Jennings, Peter Ciesielski

8:20 (390-2) **Electrochemical and Photoelectrochemical Investigations of Cobalt Bipyridyl Redox Shuttles in Dye-Sensitized Solar Cells** THOMAS HAMANN, Michigan State University, Benjamin Klahr, Jesse Ondersma

8:40 (390-3) **Hydrothermal Synthesis and Characterization of $LiFePO_4$, A Li-Ion Battery Cathode Material** BART M BARTLETT, University of Michigan, Michael J Holland, Brendan J Liddle

9:00 (390-4) **Energy Conversion at Single Nanoparticles** BO ZHANG, University of Washington, Yongxin Li, Jonathan Cox

9:20 **Recess**

9:35 (390-5) **Materials for Solar Energy Conversion: Photoelectrochemical Power and Hydrogen Production from Silicon Rod Arrays** SHANNON W BOETTCHER, California Institute of Technology, Nathan S Lewis, Harry Atwater

9:55 (390-6) **Adsorption Microcalorimetry of Well-defined Surface Species: Implications for Theoretical and Experimental Research in Fuel Cells, Electrocatalysis, and Photovoltaics** MATTHEW C CROWE, University of Washington, Wanda Lew, J F Zhu, F Bebensee, O Lytken, J H Baricuatro, J A Farmer, H P Steinruck, J M Gottfried, E Karp, C Schoenbaum, C T Campbell

10:15 (390-7) **Novel Regenerative Fuel Cell (RFC)** GEORGE H MILEY, University of Illinois, Nie Luo, Xiaoling Yang

10:35 (390-8) **Ultratrace Interference-free Analysis of Solar Grade Silicon Wafers by ICP-MS** JIANMIN CHEN, PerkinElmer, Wilson You, Zoe Grosser

ORGANIZED CONTRIBUTED SESSION Session 400

Ionophore-based Chemical Sensors I- arranged by Philippe Buhlmann, University of Minnesota and Eric Bakker, Curtin University of Technology

Monday Morning, Room 206C

Philippe Buhlmann, University of Minnesota, Presiding

8:00 (400-1) **Synthesizing Inert Lipophilic Electrolytes and Lipophilic Room Temperature Ionic Liquids by Potentiometric Control** ERIC BAKKER, Curtin University of Technology, Debbie Silvester-Dean

8:20 (400-2) **Use of Ionic Liquid Salt Bridge for Accurate Determination of pH of Low Ionic Strength Samples** TAKASHI KAKIUCHI, Kyoto University

8:40 (400-3) **Ion-to-electron Transduction: Faradaic and Capacitive Processes** JOHAN BOBACKA, Abo Akademi University

9:00 (400-4) **Water Uptake of Electrically Conducting Polymer Based Solid-contact Ion-selective Electrodes Studied by FTIR-ATR Spectroscopy** TOM LINDFORS, Abo Akademi University, Fredrik Sundfors, Robert E Gyurcsanyi, Lajos Hofler

9:20 **Recess**

9:35 (400-5) **Interpretation of Chronopotentiometric Transients of Ion-selective Membranes with Two Transition Times** ERNO LINDNER, The University of Memphis, Justin M Zook, Sandor Bodor, Robert E Gyurcsanyi

9:55 (400-6) **Nanostructures Assisted Ion Sensing** ROBERT E GYURCSANYI, Budapest University of Technology and Economics, Gyula Jágerszki, Ágoston Takács, István Bitter

10:15 (400-7) **Novel Perfluoropolymer Membrane Ion-Selective Electrodes** PHILIPPE BUHLMANN, University of Minnesota, Chunze Lai, Li Chen, Elizabeth Lugert, Nicole Settergren

10:35 (400-8) **Fluorous Films: Teflon AF2400 and Supported Liquid Membranes** STEPHEN G WEBER, University of Pittsburgh, Hong Zhang, Lei Hong, Yanhong Yang, Dujuan Lu

ORAL SESSION Session 410

Biomedical I

Monday Morning, Room 307C

Hui Wang, University of Florida, Presiding

8:00 (410-1) **Fluorescent Nanosensor "Tattoos" for Monitoring Glucose Levels *In vivo*** MARY K BALACONIS, The Charles Stark Draper Laboratory, Kelvin L Billingsley, John M Dubach, Heather A Clark

8:20 (410-2) **A Minimally Invasive Glucose Sensor Using Micro-interferometry** JOERG MARTINI, Palo Alto Research Center, Michael I Recht, Jeffrey Roe, Francisco E Torres, Richard H Bruce

8:40 (410-3) **High Resolution Infrared Spectroscopic Quantification of Small Aldehydes** SCOTT REEVE, Arkansas State University, Sindhu Kaimal, William Burns

9:00 (410-4) **DNA Crosslinked Hydrogels for Photocontrollable Encapsulation and Release** HUAIZHI KANG, University of Florida, Haipeng Liu, Xiaoling Zhang, Weihong Tan

9:20 **Recess**

9:35 (410-5) **Analytical Characterization of Biotinylated Viral Antigens for Automated Clinical Immunoassays** DAVID CUNNINGHAM, Abbott Diagnostics, Tracey Rae, Glamarie Burgos

9:55 (410-6) **IR and EPR Spectra of L-ascorbic Acid (Vitamin C) and of Selected Oxidized, Anionic and Free-radical Forms** WILLIAM O GEORGE, University of Glamorgan, Damian M Bailey, Mariusz Gutowski

10:15 (410-7) **Deep UV Raman Spectroscopic Study of Spontaneous Refolding of Amyloid Fibrils** DMITRY KUROUSKI, Albany University, William Lauro, Igor K Lednev

10:35 (410-8) **Photon Regulated Cell-specific Tissue Engineering** HUI WANG, University of Florida, Ruowen Wang, Youngmi Kim, Weihong Tan

ORAL SESSION Session 420

Biosensors

Monday Morning, Room 205A

Garry Lynch, Bechtel Bettis Laboratory, Presiding

8:00 (420-1) **Developing Nanoscale Structures for Effective Electrochemical Monitoring and Bioanalytical Measurements** GREG S MCCARTY, North Carolina State University

8:20 (420-2) **Characterization of Microelectrodes Modified by Differently Functionalized Carbon Nanotubes for the Detection of Neurotransmitters** CHRISTOPHER B JACOBS, University of Virginia, B Jill Venton

8:40 (420-3) **Selective Implantable Nitric Oxide Microsensor with pM Detection Limit** XUEJI ZHANG, World Precisison Instruments, Inc., Nikki Scafa, Rosa Grossi, Harry Fein, Chenzhong Li, Chang Liu

9:00 (420-4) **Fabrication of Carbon Nanosensor to Evaluate Cancer Progression and DNA Repair Mechanism** SHRADHA V PRABHULKAR, Florida International University, Chenzhong Li, Subbiah Alwarappan

9:20 **Recess**

9:35 (420-5) **Electrode Coatings for Biomeasurements** RAPHAEL TROUILLON, Imperial College London, Christine Cheung, Zachary Combs, Bhavik A Patel, Danny O'Hare

9:55 (420-6) **Ultrasensitive Electrochemical Detection of Biotin Using Site-Oriented Immobilized Antibodies on Screen-Printed Electrodes** JA AN ANNIE HO, National Tsing Hua University, Wei-Ching Liao, Hsu Wei-Ling

10:15 (420-7) **Development of Electrochemical Dual Gas (NO/CO and NO/O_2) Microsensors and Their Biological Application** YOUNGMI LEE, Ewha Womans University, Sarah S Park, Minyoung Hong, Minah Suh

10:35 (420-8) **An Interference Localized Surface Plasmon Resonance Nanosensor Tailored for the Detection of Specific Biomolecular Interactions** HIEP M HA, Osaka University, Yoshikawa Yoshikawa, Eiichi Tamiya

ORAL SESSION Session 430

Environmental: Analysis of Organic and Biological Materials

Monday Morning, Room 308D

Edward Guthrie, Agilent Technologies, Inc., Presiding

8:00 (430-1) **Biomonitoring of Phthalate Metabolites in Human Specimens by Liquid Chromatography-tandem Mass Spectrometry** BUU N TRAN, New York State Department of Health, Wadsworth Center, Richard Okoniewski, Li Zhang, Robert Jansing, Kenneth M Aldous

8:20 (430-2) **MINIGAS: Miniaturized Photoacoustic Gas Sensor Based on Patented Interferometric Readout and Novel Photonic Integration Technologies** ARTO BRANDERS, Gasera Ltd., Mike Jenkins, Pentti Karioja, Kimmo Keränen, Ismo Kauppinen, Jyrki Kauppinen, Tom Kuusela, Boris Matveev, Luigi Pierno

8:40 (430-3) **Automated GC-MS Analysis of Amino Acids in Sludge Lysates** FATEN BELHADJ-KAABI, Veolia, Johanna Goldman, Fabien Vedrenne, Stephane Deleris, David Benanou

9:00 (430-4) **Analysis of Pesticides in Smokeless Tobacco by Comprehensive Two-Dimensional Gas Chromatography-Time of Flight Mass Spectrometry (GCxGC-TOFMS)** JOE E BINKLEY, LECO Corporation, Scott Pugh

9:20 **Recess**

9:35 (430-5) **New SRMs for Organic Contaminants in Air Particulate and Mussel Tissue** MICHELE MILLER SCHANTZ, NIST, W Clay Davis, John Kucklick, Jessica Reiner, Stacy Van derPol, Stephen A Wise, Rolf Zeisler

9:55 (430-6) **Applications of Chemical Ionization GC/MS/MS for the Trace Analysis of Pesticides in Foods** PHILIP L WYLIE, Agilent Technologies, Melissa Churley

10:15 (430-7) **Application of MIP SPE to Sample Clean Up and Analysis for Food and Environmental Contaminants** MICHAEL YE, Supleco/Sigma-Aldrich, Olga Shimelis, Dan Vitkuske

10:35 (430-8) **Novel Approach for Mapping Fats in Sludge: Hydrolytic Extraction-Gas Chromatography-Mass Spectrometry** FATEN BELHADJ-KAABI, Veolia, Khalil Fatima-Zahra, Fabien Vedrenne, Stephane Deleris, David Benanou

ORAL SESSION Session 440

Gas Chromatography: Fuels

Monday Morning, Room 308A

Frank L Dorman, Restek Corporation, Presiding

8:00 (440-1) **A New and Improved ASTM D3606 Method** TOM ADAMSKI, Alpha Omega Technologies, Inc.

8:20 (440-2) **Capillary Flow Technology for Advanced GC and Non-thermal GCXGC Modulation Applications for Fischer Tropsch Fuels Analysis** RANDY SHEARER, Rentech, Inc.

8:40 (440-3) **Analysis of Volatile Liquid and Liquefied Gas Samples by MicroGC** ALEJANDRO AMORIN, DCG Partnership I, Ltd., Louis D'Agostaro, Yvonne Diersche, Alejandro Gonzalez

9:00 (440-4) **New Methods to Characterize the Volatile Content in Crude Oil and Other Heavy Petrochemical Matrices** ANDREW TIPLER, PerkinElmer, William Goodman

9:20 **Recess**

9:35 (440-5) **Making Process Gas Chromatography Plug-and-Play** BRIAN G ROHRBACK,

Infometrix, Inc., John A Crandall, Carl Rechsteiner

9:55 (440-6) **Green Gasoline: Don't Guess** WALTER SPIEKSMA, Envantage

10:15 (440-7) **Novel Technology for Increasing the Throughput of Petrochemical Analyses Using Sub-ambient Gas Chromatography** ANDREW TIPLER, PerkinElmer, David Scott, Paul Schallis, Neil Green, Terrance Osenbach

ORAL SESSION Session 450

Materials Sciences: Materials Characterization (Half Session)

Monday Morning, Room 310B

Alan P Broske, Agilent Technologies, Inc., Presiding

8:00 (450-1) **Material Composition Analysis and Surface/depth Profiling with a Laser-induced Breakdown Spectrometer (LIBS)** ALEXANDER A BOL'SHAKOV, Applied Spectra Inc., Jhanis J Gonzalez, Jong H Yoo, Chunyi Liu, John R Plumer, Richard E Russo

8:20 (450-2) **Handheld FTIR and Determining the Strength of Thermally Stressed Composite Materials** STEVEN M DONAHUE, A2 Technologies, John Seelenbinder, Alan Rein, Dirk Heider, Joseph Deitzel, Pit Schulze

8:40 (450-3) **Magnetic Chiral Ionic Liquids Derived from Amino Acids** MIN LI, Louisiana State University, Sergio De Rooy, David K Bwambok, Bilal El-Zahab, John F DiTusa, Isiah M Warner

9:00 (450-4) **A Fundamental Study of Patterned Surfaces with Chemically-modified Ultra-microelectrodes** RAHUL THAKAR, Indiana University, Lane Baker

ORAL SESSION Session 460

Materials Sciences: Nanomaterials Characterization (Half Session)

Monday Morning, Room 310B

Alan P Broske, Agilent Technologies, Inc., Presiding

9:35 (460-1) **Size-dependent Cytotoxicity Studies of Nonporous and Porous Silica Nanoparticles** YU-SHEN LIN, University of Minnesota, Christy L Haynes

9:55 (460-2) **CNTS Modified with Porphyrin Units: New Materials for Chemical Sensing** LARISA LVOVA, University of Rome "Tor Vergata," Marco Mastroianni, Giuseppe Pomarico, Corrado Di Natale, Arnaldo D'Amico, Roberto Paolesse

10:15 (460-3) **Using Fluorescence Spectroscopy to Characterize Self-Assembling Nanocapsules** JENA L WHETSTINE, University of Missouri, Katrina Kline, Cheryl M Ragan, Charles L Barnes, Jerry L Atwood, Sheryl A Tucker

10:35 (460-4) **Morphology and Structure of Boron-doped Ultrananocrystalline Diamond Evaluated by SEM, HRTEM and EELS** VERNON M SWOPE, Michigan State University, Greg Swain

ORAL SESSION Session 470

MS-Bioanalytical

Monday Morning, Room 310A

Mary A Kaiser, DuPont Corporate Center for Analytical Sciences, Presiding

8:00 (470-1) **Withdrawn**

8:20 (470-2) **A New AP-MALDI Ion Source for Producing Singly or Multiply-Charged Molecular Ions at Will** ELLEN INUTAN, Wayne State University, Thushani Herath, Charles N McEwen, Sarah Trimpin

8:40 (470-3) **A New Characterization Method for Nonvolatile and Nonpolar Lipids: Laser-Induced Acoustic Desorption/Chemical Ionization in a Fourier Transform Ion Cyclotron Resonance Mass Spectrometer** ZHICHENG JIN, Purdue University, Hilkka I Kenttämaa

9:00 (470-4) **Increasing MS Sensitivity by Overcoming Ion Transmission Biases and Inefficiencies in the ESI MS Interface** JASON S PAGE, Pacific Northwest National Laboratory, Ryan T Kelly, Ioan Marginean, Keqi Tang, Richard D Smith

9:20 **Recess**

9:35 (470-5) **Spatial Distribution of Lipids in Single Cells Studied by Mass Spectrometry Imaging** INGELA LANEKOFF, University of Gothenburg, Michael Kurczy, Peter Sjovall, Andrew G Ewing

9:55 (470-6) **On-line Detection of Tobacco Smoke Constituents by Single Photon Ionization Time–of-Flight Mass Spectrometry** RALF ZIMMERMANN, Helmholtz Zentrum München, Mohammad Saraji, Markus S Eschner, Matthias Bente

10:15 (470-7) **Enhancing the Detection of Chemically Cross-linked Peptides in Mass Spectrometry: Rendering Enrichment Potential or Revealing Specific Gas-Phase Fragmentation Pathways** BO WANG, University of Michigan, Kristina Hakansson

10:35 (470-8) **Effect of Chain Length on "b" Fragment Structures in Collision-induced Dissociation of Protonated Peptides** XIAN CHEN, University of Florida, Long Yu, Jos Oomens, Jeffrey Steill, Nick Polfer

ORAL SESSION Session 480

MS-Homeland Security/Forensics/Environmental

Monday Morning, Room 205B

Rabih E Jabbour, Science Applications International Corporation, Presiding

8:00 (480-1) **Tandem Mass Spectrometry of Oligomeric Open-Chained Peroxides** JESSICA LYNNE FRISCH, University of Central Florida, Douglas Clark, Michael E Sigman

8:20 (480-2) **Quantitative Analysis of Nerve Agents and Drugs of Abuse Via SPE-ID-ESI-TOF-MS** REBECCA L WAGNER, Duquesne University, Howard M Kingston

8:40 (480-3) **Detection and Forensic Analysis of Triacetone Triperoxide (TATP) in Uninitiated and Initiated Samples** MICHAEL E SIGMAN, University of Central Florida, Douglas Clark, Kim Painter

9:00 (480-4) **Accurate Quantification of Dipicolinic Acid Using ESI-ID-TOF-MS and MALDI-ID-TOF-MS in Bacterial Endospores without Using Calibration Curves** GREGORY M ZINN, Duquesne University, Howard M Kingston, G M Mizanur Rahman, John C Kern, Matt Pamuku

9:20 **Recess**

9:35 (480-5) **Microstrip Plasma Coupled to Hydride Generation for Mass Spectral Detection of Metalloids and Volatile Organics** KEVIN P PFEUFFER, Indiana University, Jacob T Shelley, Steven J Ray, José AC Broekaert, Gary Martin Hieftje

9:55 (480-6) **Quantification of Arsenic Species in Drinking Water Using Speciated Isotope Dilution Mass Spectrometry** BRYAN M SEYBERT, Duquesne University, Rebecca L Wagner, Timothy Fahrenholz, G M Mizanur Rahman, Howard M Kingston

10:15 (480-7) **Interlaboratory Comparison Study of the Measurement of Polychlorinated Biphenyl (PCB) Congeners from Sediment Samples with High Resolution (HRMS) and Low Resolution Mass Spectrometry (LRMS)** WAYNE J WHIPPLE, US EPA, Amanda Wroble, Jaana Pietari

10:35 (480-8) **Evolved Gas Analysis in Thermal Analysis by Soft Single Photon Ionization Mass Spectrometry: New Instrumental Concepts** RALF ZIMMERMANN, Helmholtz Zentrum München, Matthias Bente, Markus S Eschner, Mohammad Saraji, Thomas Denner

ORAL SESSION Session 490

Neurochemistry II

Monday Morning, Room 309AB

David Rahni, Pace University, Presiding

8:00 (490-1) **Fluorinated Xerogel-Derived Microelectrode for the Amperometric Detection of Nitric Oxide in Murine Brain Slices** PAUL L WALSH, University of North Carolina, Chapel Hill, Richard B Keithley, Benjamin J Privett, Mark H Scoenfisch, Mark Wightman

8:20 (490-2) **Monitoring the Alterations in Nitric Oxide Release from Myenteric Neurons and Glial Cells During the Onset of Ulcerative Colitis** BHAVIK A PATEL, University of Brighton, Keith Sharkey, Sarah MacEachern

8:40 (490-3) **Subsecond Detection of Physiological Hydrogen Peroxide Concentrations Using Fast-Scan Cyclic Voltammetry at Carbon Fiber Microelectrodes** LESLIE SOMBERS, North Carolina State University, Leyda Z Lugo-Morales, James G Roberts, Audrey L Sanford, Stephen W Morton, Kelsey L Whitehouse, Hannah M Oara, Philip L Loziuk

9:00 (490-4) **Capillary Electrophoresis Results Reveal Astrocytic Vesicles Contents of D-Ser and**

Other Putative Signaling Molecules TING SHI, University of Illinois, Magalie Martineau, Jean-Pierre Mothet, Jonathan V Sweedler

9:20 **Recess**

9:35 (490-5) **The Making of D-Amino Acids in Aplysia: Characterization of a New Racemase Enzyme Using CE-LIF** NOBUTOSHI OTA, University of Illinois, Urbana-Champaign, Liping Wang, Jonathan V Sweedler

9:55 (490-6) **Using Liquid Chromatography-Mass Spectrometry to Study Peptide Amidation in Mouse Pituitary** PING YIN, University of Illinois, Urbana-Champaign, Suresh P Annangudi, Danielle Bousquet-Moore, Betty A Eipper, Richard E Mains, Jonathan V Sweedler

10:15 (490-7) **Rapid Detection of Oscillating Concentrations of the Peptide Hormone Gonadotropin Releasing Hormone Using Carbon-fiber Microelectrodes** B JILL VENTON, University of Virginia, Katarzyna Glanowska, Suzanne Moenter

10:35 (490-8) **Determining the Feasibility of Using Electroosmosis for Solute Transport in Brain Tissue** AMIR H FARAJI, University of Pittsburgh, Yifat Guy, Hongjuan Xu, Johnathan A Engh, Stephen G Weber

ORAL SESSION Session 500

Pharmaceutical Analysis of Quality and Purity

Monday Morning, Room 308B

Stephen Gozo, Celgene Corporation, Presiding

8:00 (500-1) **Metals Determination in Excipients and Final Products Using ICP-MS** ZOE GROSSER, PerkinElmer, Lee Davidowski, Laura Thompson, Lorraine Foglio

8:20 (500-2) **Determination of Water in a Lyophilized Drug Product Using Fourier Transform Near Infra-Red Analysis** JOSEPH C HELBLE, Infinity Pharmaceuticals Inc.

8:40 (500-3) **Tablet Identification Using an FT-Near-IR Integrating Sphere with Principal Component Analysis** FRANK S WESTON, Varian, Inc., Jim Steensrud

9:00 (500-4) **Implementation and Validation of Non-destructive Near-infrared Methods for Determination of Tablet Content Uniformity in a Highly Regulated Pharmaceutical Environment** DONG XIANG, Novartis Pharmaceutical Corporation, James Cheney, Busolo Wabuyele

9:20 **Recess**

9:35 (500-5) **Developing a Cyanopropylphenyl (G43) Capillary Column Chemistry for Ubiquitous Use in Pharmaceutical Impurity Analyses** RICK LAKE, Restek Corporation, Rebecca E Wittrig, Frank L Dorman, Ty Kahler

9:55 (500-6) **The Use of Direct Mass Spectrometric Analysis of Counterfeit Drugs** ROBERT S PLUMB, Imperial College, Marian Twohig

10:15 (500-7) **Development of a Resin Screening Kit to Remove Electrophilic Potential Genetoxic Impurities from Pharmaceutical Compounds** CLAIRE LEE, Merck & Co, Inc., Mohammad Al-Sayah, Roy Helmy, Christopher Strulson

10:35 (500-8) **A Comparative Study for the Determination of Doxycycline HCL in Pharmaceutical Formulations by Flow Injection-activated Chemiluminescence and Kinetic Spectrophotometric Methods** SUHAM TOWFIQ AMEEN, University of Tikrit, Abdul Majeed K Ahmeed

ORAL SESSION Session 510

Process Analytical - Techniques and Chemistry I

Monday Morning, Room 206B

Vincent Venturella, Ventura Associates, Presiding

8:00 (510-1) **Strategies to Combine Spectroscopic Data for Raw Material Analysis** MAUREEN LANAN, Biogen Idec

8:20 (510-2) **Fiber Probes for Process Spectroscopy from 55500 to 550 cm-1** VIACHESLAV ARTYUSHENKO, Fibre Photonics

8:40 (510-3) **Hyperspectral Monitoring of Moving Pharmaceutical Samples** GABOR J KEMENY, Middleton Research, Gina Stuessy, Gard Groth

9:00 (510-4) **Automated 2D Scale Invariant Band Recognition for Raman Spectroscopy** NIKOLAS J NERIC, Cleveland State University, John F Turner

9:20 **Recess**

9:35 (510-5) **Biomarker Identification Using Affinity MALDI-MS and Mass Spectrometry** TIAN ZHANG, Rensselaer Polytechnic Institute, Linda B McGown

9:55 (510-6) **Effects of Sulphur Addition on PAH Concentration Levels in the Flue Gas of a Grate-fired Bark Boiler Utilizing Resonance Enhanced Multi Photon Ionization Time-of-flight Mass Spectrometry (REMPI-TOFMS)** THORSTEN STREIBEL, University of Rostock, Robert Geissler, Mohammad Saraji, Fabian Muehlberger, Henrik Bjurstroem, Hermann Nordsieck, Ralf Zimmermann

10:15 (510-7) **Analytical Applications of Multi-Photon Ionization Spectroscopy** VALERY BULATOV, Technion-Israel Institute of Technology, Yuheng Chen, Nataly Vainrot, Victoria Fun-Young, Vladimir V Gridin, Liviu Feller, Israel Schechter

10:35 (510-8) **Experimental Analytical Optimization Study of Resonance-enhanced Laser-induced Breakdown Spectroscopy (RELIBS)** CHRISTIAN L GOUGUEL, INRS-EMT, Stéphane Laville, Hakim Loudyi, François Vidal, Mohamad Sabsabi, Mohamed Chaker

ORAL SESSION Session 520

Separation Science - Chromatography (SFC, SEC & Electrophoresis)

Monday Morning, Room 308C

Lisa Ann Holland, West Virginia University, Presiding

8:00 (520-1) **From Supercritical Fluid Chromatography to Simplified Fluid Chromatography** JODY CLARK, Selerity Technologies, Alberto Pereira, Frank David, Pat J Sandra, Melissa Dunkle, Gerd Vanhoenacker

8:20 (520-2) **Mass Directed Preparative Supercritical Fluid Chromatography for Chiral Compound Purifications-stacking Injections and Collections on Mass-Directed Platform** ZIQIANG WANG, TharSFC, Steve Zulli, Dan Rolle, Harbaksh Sidhu

8:40 (520-3) **Nanoparticle Purification Using Surfactant-free Size Exclusion Chromatography for SERS Studies** NIRAJKUMAR HEMANTBHAI PANDYA, University of Iowa, Amanda J Haes, Maryuri Roca

9:00 (520-4) **An SEC/MALS/VISC/DRI/UV Study of Chemical Heterogeneity and Its Consequences in Co-polymer Characterization** IMAD A HAIDAR AHMAD, Florida State University, Andre M Striegel

9:20 **Recess**

9:35 (520-5) **The SEC Intraparticle Obstruction Factor and Its Relation to Pore Size, Particle Size, and Solvent** DUSTIN J RICHARD, Florida State University, Andre M Striegel

9:55 (520-6) **Caveats When Analyzing Ultra-high Molar Mass Polymers by SEC** ANDRE M STRIEGEL, Florida State University, Gregory L Cote, Samantha L Isenberg

10:15 (520-7) **Electrophoretic Exclusion: A Novel Separations Method for the Differentiation of Molecular Species** MICHELLE M MEIGHAN, Arizona State University, Michael W Keebaugh, Jared Vasquez, Stacy M Kenyon, Mark A Hayes

10:35 (520-8) **Investigation of a Novel Electrophoretic Exclusion Device for the Separation of Small Molecules** STACY M KENYON, Arizona State University, Meighan M Michelle, Michael W Keebaugh, Mark A Hayes

ORAL SESSION Session 530

UV Raman/Surface Enhanced Raman

Monday Morning, Room 307B

Susan Marine, Miami University, Middletown, Presiding

8:00 (530-1) **Deep UV Narrow Band Photonic Crystal Notch Filters** LULING WANG, University of Pittsburgh, Justin J Bohn, Dan Qu, Sanford A Asher

8:20 (530-2) **Controllable Nanofabrication of Aggregate-Like Nanoparticle Substrates and Evaluation for Surface Enhanced Raman Spectroscopy** MICHAEL J SEPANIAK, University of Tennessee, Sabrina Wells, Scott Retterer, Jenny Oran, Deepak Bhandari

8:40 (530-3) **Synthesis and Characterization of Internally Etched Silica-Coated Gold Nanoparticles** MARIE CARMELLE SERVIANE PIERRE, University of Iowa, Amanda J Haes

9:00 (530-4) **Salt Dependence of α-helical Peptide Folding Energy Landscapes** KAN XIONG, University of Pittsburgh, Eliana K Asciutto, Jeffry D Madura, Sanford A Asher

9:20 **Recess**

9:35 (530-5) **UV Raman Study of the Peptide Conformation of Dependence on Salt Bridge Formation in an Alanine Based Peptide** ZHENMIN HONG, University of Pittsburgh, Sanford A Asher

9:55 (530-6) **Gold Nanoshell on Silica Nanoparticle Core: Synthesis, Assembly, and Application** DEOK-IM JEAN, Miami University, Ohio, Jianbo Zeng, Shouzhong Zou

10:15 (530-7) **Elucidation of Electronic Transitions in Peptide Conformations through UV Resonance Raman Spectroscopy and Raman Depolarization Ratios** BHAVYA SHARMA, University of Pittsburgh, Sanford A Asher

10:35 (530-8) **Surfaces-enhanced Raman Scattering (SERS) on Copper Electrodes in 1-n-butyl-3-methylimidazoliun Tetrafluorbarate (BMI.BF4): the Adsorption of Benzotriazole (BTAH)** JOEL C RUBIM, University of Brasilia, Leonardo A Costa, Christian R Brandão, Harumi S Breyer

POSTER SESSION Session 540

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Art/Archaeology: Materials Analysis

Monday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(540-1 P) **Determining the Efficacy of Non-Destructive Pre-Treatment Methods on Known Age Textile Samples by Gas Chromatography-Mass Spectrometry Analysis** DEIDRE HARDEMON, Eastern Michigan University, Ruth Ann Armitage

(540-2 P) **Characterization of the Binders in the Rock Art of Cueva La Conga, Nicaragua** RAN LI, Eastern Michigan University, Ruth Ann Armitage

(540-3 P) **Near-Infrared Spectroscopic Monitoring of the Diffusion Process of Deuterium-Labeled Molecules in Thermal Treated Wood** INAGAKI TETSUYA, Nagoya University, Mitsui Katsuya , Tsuchikawa Satoru

(540-4 P) **FT-IR, XRD and Thermal Analysis for Estimation of Firing Temperature of Archaeological Pottery Shreds Recently Excavated in Tamilnadu, South India** G VELRAJ, Periyar University, R Hemamalini

(540-5 P) **Methodological Study of Two Derivatization Methods for Proteinaceous Binders in Rock Paintings** GENEVE MAXWELL, Eastern Michigan University, Ruth Ann Armitage

(540-6 P) **Qualitative and Quantitative Analyses of Lipidic Binders in Rock Paintings** CHRISTINA PHILLIPS, Eastern Michigan University, Ruth Ann Armitage

POSTER SESSION Session 550

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Biomedical Analyses

Monday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(550-1 P) **Analysis of Biofilm Forming Bacteria by AP – MALDI-TOF-MS** SARA M KALLOP, Duquesne University, Stephanie J Wetzel, Ellen Gawalt, Luanne Stoodley, Mark Longwell

(550-2 P) **Quantitative Determination of the Microdosed Cyclosporin A Metabolites Using LC-MS** SANGGOO S KIM, Korea Basic Science Institute, Joo Hee Chung, Jinwoo Chung, Young-Ran Yoon

(550-3 P) **Development of DNA Aptamer Fingerprints for Lung Squamous Cell Carcinoma** MEGHAN B O'DONOGHUE, University of Florida, Weihong Tan, Kwame Sefah, Elizabeth Jimenez

(550-4 P) **GC-MS Analysis of the Essential Oil from the Leaves of Momordica Charantia, A Phyto-Medication for Diabetes** MODUPE OGUNLESI, University of Lagos, Wesley O Okiei, Elizabeth Adejoke Osibote, Onye Onyebuchi

(550-5 P) **Identification of the Constituents of the Essential Oil in the Leaves of Nuclea Latifolia Collected in Different Modes** WESLEY O OKIEI, University of Lagos, Modupe Ogunlesi, Elizabeth Adejoke Osibote

(550-6 P) **Aptamer Array Combined with Surface Plasma Resonance (SPR) for Circulating Tumor Cells (CTCs) Capture and Monitoring** KELONG WANG, University of Florida, Weihong Tan

(550-7 P) **Measuring Peptide Release from Stimulated Brain Tissue Using Mass Spectrometry** KASIA CUDZILO, University of Illinois, Urbana-Champaign, Shifang Ren, Jonathan V Sweedler

(550-8 P) **The Disulfiram Metabolite Carbamathione: A New Pharmacological Tool in Alcohol and Cocaine Addiction** SWETHA KAUL, University of Kansas, Craig E Lunte, Morris D Faiman, Todd D Williams

(550-9 P) **Simultaneous Determination Method of Galactosemia and Homocystinuria from Dried Blood Spot as a Newborn Screening Test Using HPAEC-PAD** JIYE LEE, Kyung Hee University, Seon-Pyo Hong

(550-10 P) **Development of a Urinary Leukotriene E4 (uLTE4) Assay to Support Osteo-Arthritis (OA) Clinical Studies** KIMBERLY WADE, Pfizer, Joe Palandra

(550-11 P) **Development and Validation of HPLC/UV-DAD Method for the Determination of Colchicine and Demecolcine in Human Plasma** MALKHAZ JOKHADZE, Tbilisi State Medical University, Jumber Kuchukhidze, Aliosha Bakuridze, Nino Qurdiani, Vakhtang Mshvildadze

(550-12 P) **Characterization of Serotonin Transporter Bioconjugated Gold Nanoparticles and Its Applications for High-throughput Screening** YU-SHEN LIN, National Taiwan University, Chiu Tai-Chia, Hu Cho-Chun, Kung-Tien Liu, Huan-Tsung Chang

(550-13 P) **Development of a Dot-Blot Method for Screening and Identifying Monoclonal Antibodies to the Anti-Convulsant Drug Carbamamzepine** RAD NAIR, Abbott Laboratories, Yon-Yih Chen, Zhihong Lin, Robynn O'Hara, Jeffrey Fishpaugh, Kevin R Rupprecht

POSTER SESSION Session 560

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Biomedical Techniques and Technology

Monday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(560-1 P) **Photothermal Therapy Using Silica-gold-silica Sandwich Nanoaggregates** SONG LIANG, University of North Dakota, Julia X Zhao, Shay Hartvickson, Shuping Xu

(560-2 P) **pH Induced Conformational Changes in HIV - gp140 Glycoprotein** CLAUDIA MJUAT, Malvern Instruments, Mark Gostock, Ana Morfesis, David Fairhurst

(560-3 P) **In vitro Evaluation of Chitosan Beads for Drug Delivery Applications** LIDIA RODRIGUEZ, University of Toledo, Arunan Nadarajah, Nicolas Chiaia

(560-4 P) **Small Molecule Detection Using Surface Plasmon Resonance Based Molecular Imprinted Hydrogel Sensor** JING WANG, University of Delaware, Karl S Booksh

(560-5 P) **Withdrawn**

(560-6 P) **Exploring the Phosphorylation Sites of the ZU-5 Domain of the Tight Junction Protein ZO-1 Through Capillary Electrophoresis** MICHAEL B CAMMARATA, Trinity University, Jonathan M King, Michelle M Bushey

(560-7 P) **Identification of UV Absorbing Species in Arabidopsis Thaliana and Cucumis Sativus Seedlings** MICHELLE M BUSHEY, Trinity University, James R Shinkle, Christopher Schardon, Kyle Meinhardt

POSTER SESSION Session 570

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Biomedical: Applications of Spectroscopy

Monday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(570-1 P) **Study on Effects of Metal Ions on Amyloid Fibrils Formation** HIROMICHI ASAMOTO,

Nihon University, Takahashi Daisuke, Minamisawa Hiroaki, Izumi Tsuyoshi

(570-2 P) **Molecular Imprinting of Proteins in 2D Films of Polyacrylamide Hydrogel** ABRAHAM AVALOS, University of Toledo, Arunan Nadarajah

(570-3 P) **Interaction of Polymeric Micro/Nanoencapsulated Monocatonic Porphyrin with HeLa Cells by Fluorescence Spectroscopy and Confocal Fluorescence Microscopy** DAIANA K DEDA, University of Sao Paulo, Manuel F Huila, Christiane Pavani, Eduardo Carita, Mauricio S Bapstista, Henrique E Toma, Koiti Araki

(570-4 P) **ATR-FTIR Imaging and Raman Mapping as a Comprehensive Approach for Kidney Biopsy Analysis** HEATHER J GULLEY-STAHL, Miami University, Ohio, Sharon Bledsoe, Andrew Evan, Andre J Sommer

(570-5 P) **Identification of Photoacoustically Active Imaging Dyes and Indicators** KEVIN W DAVIES, James Madison University, Kathryn M Nesbitt

POSTER SESSION Session 580

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Chemometrics

Monday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(580-1 P) **Qualitative Analysis of Chlorinated Solvents Using Raman Spectroscopy and One-Sided Classification Machine Learning Techniques** FRANK G GLAVIN, NUIG, Michael G Madden

(580-2 P) **Reconstruction of Out-of-range Peaks Using Exponentially Modified Gaussian Peak Shape** YURI KALAMBET, Ampersand International, Inc., Yuri Kozmin, Xenie Mikhailova, Igor Nagaev, Pavel Tikhonov

(580-3 P) **Self-modeling Factor Analysis Combined with Analysis of the Signal Derivative for Separation of Incompletely Separated Chromatographic Peaks** YURI KALAMBET, Ampersand International, Inc., Yuri Kozmin, Sergey Maltsev

(580-4 P) **Withdrawn**

(580-5 P) **Confidence Interval for Weighted Polynomial Calibrations** YURI KALAMBET, Ampersand International, Inc., Sergey Maltsev

(580-6 P) **Synthetic Optimization and Characterization of Type I and Type II Core/Shell Cadmium Chalcogenide Quantum Dots for Use in Polymer/Quantum Dot Photovoltaic Energy Production** MURPHY GARCIA BRASUEL, Colorado College, Spencer Williams

(580-7 P) **Withdrawn**

(580-8 P) **Withdrawn**

(580-9 P) **Substrate Independent Discrimination of Organic and Explosive Materials Via Target Factor Analysis of Their Molecular Optical Signature** CAITLIN RINKE, University of Central Florida, Christopher Brown, Matthieu Baudelet, Douglas Clark, Michael E Sigman

POSTER SESSION Session 590

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Drug Discovery

Monday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(590-1 P) **Comparative Study of Library Purifications in Drug Discovery by Mss-Directed Preparative HPLC and SFC** RUI CHEN, TharSFC, Peter Ridgway, Burkhard Matthes, Stefan Bühler

(590-2 P) **Use of 2x50 mm C18 Monolithic Chromatography in a Discovery Setting: A Means for the 3X-Reduction of Cycle Times** JOHN M HOLLEMBAEK, Pharmacokinetics Dynamics & Metabolism, Brian Rago, Amanda King-Ahma, Christopher L Holliman

(590-3 P) **Electric Field Induced Reversible pH Microarrays** KEVIN H BETTENDORF, Southern Illinois University, Carbondale, Pradeep Ramiah Rajasekaran, Punit Kohli

(590-4 P) **Ensuring Higher Levels of Purity in Target Submissions in Drug Discovery by Employing a Multi-detector Approach in Flash Chromatography** DENNIS K MCCREARY, WR Grace, Adam Lesniowski, Romulus Gaita, Scott Anderson, Kathy Lawrence

(590-5 P) **Minimizing Purification Bottlenecks Using a Multi Detector Approach to Flash Chromatography while Achieving Maximum Sample Recovery in Post Synthetic Workups** DENNIS K MCCREARY, WR Grace, Adam Lesniowski, Romulus Gaita, Scott Anderson, Kathy Lawrence

(590-6 P) **Synthesis and Biological Activities of Hydroxytriazenes and Their Cu(II) Complexes** AJAY KUMAR GOSWAMI, ML Sukhadia University, Deepti Sharma

POSTER SESSION Session 600

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Gas Chromatography

Monday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(600-1 P) **Optimization and Improvement on the Determination of Impurities in Isoprene by Capillary Gas Chromatography** MERCIA DELIA ATALA ANDRADE, Brashem, Marcos Vinício Almeida, Fernanda Vieira, Marcio Menezes

(600-2 P) **Analysis of Methyl Laurate Content in Low Concentration Biodiesel Blends (B1, B2) with Multidimensional Gas Chromatography System** LAI CHIN HUI-LOO, Shimadzu Asia Pacific Pte. Ltd., Novalina Lingga, Cynthia Melanie Lahey, Mark Taylor, Zhuangzhi "Max" Wang, Ryosuke Kamae, Masanao Furukawa

(600-3 P) **Programmed Temperature Vaporizer (PTV) vs On-Column Injection Techniques for Triglycerides Determination in Biodiesel** MANUELA BERGNA, Dani Instruments S.p.A., Andrea Bonsanto

(600-4 P) **Fast GC Approach for PCBs Determination** MANUELA BERGNA, Dani Instruments S.p.A., Ilaria Ferrante, Antonella Siviero

(600-5 P) **Determination of Chlorobenzenes and Chlorotoluenes on Textiles by a Novel Sol-gel Polyethylene Glycol Single-walled Carbon Nanotubes-based Headspace Solid-phase Microextraction Coupled with Gas Chromatography-Electron Capture Detection** CAIYING WU, Wuhan University, Weiya Zhang, Yin Sun, Jun Xing, Jianying Li, Chengming Wang

(600-6 P) **Comparison of a Non-radioactive Electron Capture Detector versus a Photoionization Detector for the Measurement of Diacetyl in Foods** MATTHEW MONAGLE, AIC Corporation

(600-7 P) **High Temperature Headspace Techniques (150°C to 300°C) for the Determination of Volatile Impurities in Materials of Interest** ROGER BARDSLEY, Teledyne Tekmar, Anne Jurek, Thomas Hartlein, Stephen Lawson

(600-8 P) **Determination of Volatile Organic Compounds (VOC) in Various Consumer Paint by Headspace Techniques** ROGER BARDSLEY, Teledyne Tekmar, Anne Jurek, Thomas Hartlein, Stephen Lawson

(600-9 P) **Enhanced Productivity with a New Gas Chromatography System** RONALD D SNELLING, Shimadzu Scientific Instruments, Mark Taylor, Richard R Whitney, Zhuangzhi "Max" Wang

(600-10 P) **New Applications of Comprehensive Two Dimensional Gas Chromatography** RONALD D SNELLING, Shimadzu Scientific Instruments, Mark Taylor, Richard R Whitney, Zhuangzhi Wang

(600-11 P) **Electrochemical Detector for a Gas Chromatograph Employing a Sol-Gel Solid-Electrolyte and Three-Phase Boundary Geometry** WILLIAM H STEINECKER, Miami University, Ohio, Zechariah D Sandlin, James A Cox, Gilbert E Pacey

(600-12 P) **A New Generation of Capillary Advanced Flow Technology for Gas Chromatography Applications** RONALD D SNELLING, Shimadzu Scientific Instruments, Mark Taylor, Richard R Whitney, Zhuangzhi Wang

(600-13 P) **The Use of Thermal Desorption/Extraction to Screen "Chinese Wall Board" and Other Novel Concerns** STEPHEN D WESSON, CDS Analytical, Thomas Wampler, Karen Jansson, Gary Deger, Ben Peters

(600-14 P) **Purge & Trap; The Truth in Advertising!** STEPHEN D WESSON, CDS Analytical, Thomas Wampler, Karen Jansson, Gary Deger, Ben Peters

(600-15 P) **The Effect of Equilibration Time and Temperature on CO2 Determination by Headspace GC** DAVID S HEAKIN, TestAmerica

(600-16 P) **Simultaneous SCD and qMSD Signals Acquisition with a Post Column Splitter for the Characterization of Petroleum Fractions Using Thermal Modulator GCxGC with Flow Controlled Cold Jet** GIANLUCA STANI, SRA Instruments SpA, Armando Miliazza

(600-17 P) **Comparison of Sample Preparation Methods for Determination of PCBs(polychlorinated byphenyls) in Transformer Oil Using Gas Chromatography** SEOGWON EOM, Seoul Metroplitan Government Institute Health & Environment

(600-18 P) **Considerations for Cryofocusing Ultratrace Levels of Highly Volatile Compounds** ANTHONY SCHLEISMAN, Air Liquide

POSTER SESSION Session 610

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Materials Sciences: Materials Characterization

Monday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(610-1 P) **Titanium Substrate Lead Dioxide** MUHAMMAD ASHRAF, University of Engineering and Technology, Inam-ul Haque

(610-2 P) **Characterization of Individual Calcium Carbonate Platelet Extracted from Nacre** XINQI CHEN, Northwestern University

(610-3 P) **Versatile Continuous pH Monitoring Barcode System Based in Ionogels** FERNANDO BENITO-LOPEZ, Dublin City University, Robert Byrne, Dermot Diamond

(610-4 P) **Rapid-synthesis of Fluorescent Gold Quantum Dots by Neurotransmitters for Sensing Metal Ions** HENG CHIA CHANG, National Tsing Hua University, Ja an Annie Ho

(610-5 P) **Comparative Study on Thin Film Thickness Measurements** CARSTEN FUELBER, Roenalytic GmbH, Reinhard Singer, Ferdinand Seitz, Johannes Eschenauer, Martin Eckhardt

(610-6 P) **Characterization of Nanoparticles Aerosols** CHANTAL DION, IRSST, Alexandra Noel, Yves Cloutier, Annie Ouellet, Robert Tardif, Ginette Truchon

(610-7 P) **Withdrawn**

(610-8 P) **Low Power and Cost Microscopy Aids Sorbent Analysis** HENRY G NOWICKI, Pacs Testing, Consulting, Training, George Nowicki

(610-9 P) **Characterization of Lacquers Using EGA-Probe IAMS** MASAMICHI TSUKAGOSHI, Meisei University, Toshiya Sato, Yuki Kitahara, Seiji Takahashi, Toshihiro Fujii

(610-10 P) **Nanoslit with Enhanced Transmission and Suppressed Beam Divergence** CHUANHONG ZHOU, Southern Illinois University, Pradeep Ramiah Rajasekaran, Justin P

Wolff, Punit Kohli

(610-11 P) **Study of Patterns in a Nonlinear Media** MAHENDRA KUMAR MAURYA, Banaras Hindu University, Tarun K Yadav

(610-12 P) **The Effect of Particle Size, Shape, and Size Distribution on the Cohesive Strength of Powders** CHARLES L ROHN, Rohn and Associates, Inc., Mihaela Jitianu

(610-13 P) **Solvent Effect on the Photophysical Properties of 2,6-dicyanoparaphenylenediamine** MUHAMMAD ZAHID, Technical University Graz, Austria, Guenter Grampp

(610-14 P) **X-ray Diffraction Techniques for Characterization of Thin Film Solar Cells** IULIANA CERNATESCU, PANalytical, Woitok Joachim, Brian Litteer, Sandeep Rekhi

POSTER SESSION Session 620

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Materials Sciences: New Materials

Monday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(620-1 P) **Phyllanthus Amarus Extract as Green Corrosion Inhibitor for Aluminum in HCl Solution** OLUSEGUN KEHINDE ABIOLA, Federal University of Petroleum Resources, Abimbola O Ogunsipe, Abiodun A Phillips

(620-2 P) **Engineering the Next Generation of Nanostructured & Complex Fluids** SAMIUL AMIN, Malvern Instruments Limited, Stephen Carrington, Fred Mazzeo

(620-3 P) **Potential Assisted Packing of Alkanethiol Monolayers on Ag Electrodes** IVAN L LENOV, Truman State University, Kyle C Bantz, Nathan J Wittenberg, Christy L Haynes

(620-4 P) **Withdrawn**

(620-5 P) **Synthesis, Characterizations and Anti Microbial Activity of Metal Complexes of 1-(benzoil)-3-methyl-4-(2-carboxyphenylhydrezone)-2-pyrazolin-5-one** PIYUSHKUMAR J VYAS, Sheth M. N. Science College

POSTER SESSION Session 630

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Microscopy: New Instrumental Techniques

Monday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(630-1 P) **SEM Study of Signal Characteristics in ULV Condition from the Experiments of**

Ecological Materials Observation ATSUSHI MUTO, Hitachi High Technologies Corporation, Shuichi Takeuchi, Atsushi Miyaki, Dan Yukari, Tetsuya Sawahata

(630-2 P) **Automated Image Acquisition of +/- 90Automated Image Acquisition of +/- 90° TEM Tilt Series** MISA HAYASHIDA, National Institute of Advanced Industrial Science

(630-3 P) **Lipid Vesicle Characterization for Single Molecule FRET Experiments** WILL BLACK, Wayne State University, Amanda Solem, David Rueda

(630-4 P) **Implementation of Next Generation Electron Beam Analyzer in Contamination Diagnostics** TIMOTHY DRAKE, Aspex Corporation, Marie Vicens

POSTER SESSION Session 640

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Pharmaceutical Separations

Monday Morning, Gray Area - Hall B4, Aisles 3400-3900

(640-1 P) **Pharmaceutical Method Development Made Easier Through the Use of Alternative Selectivity Offerings in Reversed Phase HPLC** RITU ARORA, Varian Inc., Hema Chauhan, David Jones, Ben Yong

(640-2 P) **Improving the Quantitation of Unknown Trace Impurity Analysis of Active Pharmaceutical Ingredients Using HPLC with Charged Aerosol Detection** BRUCE BAILEY, ESA Biosciences, Inc., Marc Plante, Christopher A Crafts, Ian N Acworth, Paul H Gamache, John Waraska

(640-3 P) **The Use of Gossypol and Other Targets as Probes to Examine the Orthogonal Abilities of Unique Silica Coated Cellulose Carbamate Phases to Investigate Photo, Chemical and Biological Degradation Pathways** LESLIE BROWN, MicroSolv Technology Corporation, Gregory K Webster, Raj Rao, Lorraine Henriques

(640-4 P) **Cellulose-Based Chiral Stationary Phase: Preparation and Application** WILLIAM H CAMPBELL, Supleco/Sigma-Aldrich, Charles Mi, Jauh-Tzuoh Lee, Wayne Way, Richard A Henry

(640-5 P) **Analysis of Common Drugs Using a TSK-GEL ODS-140HTP 2.3µm High-throughput Reversed Phase Column** ATIS CHAKRABARTI, Tosoh Bioscience LLC, J Kevin O'Donnell

(640-6 P) **Fast LC Analysis with Ultra High Pressure Liquid Chromatography (UHPLC) Compatible Columns for Pharmaceuticals and Natural Products** MIN SEOK CHANG, Varian Inc., Norwin V Doehren, Wilroy Bennen, Janice Perez, David Jones, Ritu Arora

(640-7 P) **Analysis of Surfactants and Excipients Commonly Used in Pharmaceutical Formulations: Composition and Lot-lot Variability** CHRISTOPHER A CRAFTS, ESA Magellan Biosciences, Bruce Bailey, Marc Plante, Ian N Acworth, Paul H Gamache, John Waraska

(640-8 P) **Combining New Column Technologies to Fully Characterize Excipients, Salts, and**

APIs in Final Product Formulation CHRISTOPHER A CRAFTS, ESA Magellan Biosciences, Bruce Bailey, Marc Plante, Ian N Acworth, John Waraska, Paul H Gamache

(640-9 P) **Comprehensive Analysis of Pharmaceutical Cations and Anions Using Mixed Mode HPLC Column and Charged Aerosol Detector (CAD) Combined with Ion Chromatography Techniques** LULU DAI, Genentech, Kelly Zhang, Nik Chetwyn

(640-10 P) **High Speed and Resolution of Impurity Profiling Using Sub 2 um HPLC Columns** SUSAN DIAZ, Grace Discovery Sciences, Karin Hallberg, Reno Nguyen, Scott Anderson, Laura Kaepplinger

(640-11 P) **Simultaneous Determination of Gamma-hydroxybutyric Acid (GHB) and Gamma-butyrolactone (GBL) in Beverages** ANNE SHEARROW, Metrohm USA, German Bogenschuetz

(640-12 P) **Improved Analysis of Saponins (Jujobosides) in Spine Date Seed** RONGJIE FU, Agilent Technologies, William Long, John W Henderson Jr, Maureen Joseph

(640-13 P) **Development and Validation of a HPLC Method to Determine Guaiphenesin in Syrups** HUMBERTO GOMEZ-RUIZ, Facultad de Química UNAM, Alvarez Piotr

(640-14 P) **Improving HPLC Method Sensitivity for Insulin-Related Compounds in Insulin Inhalation Powder by Reducing Baseline Noise** ELIZABETH A HARRIS, Mannkind Corporation

(640-15 P) **Investigation of the Impurities in Dronabinol Samples by LC/MS/MS** HUAHUA JIAN, Cerilliant Corporation, Isil Dilek, Uma Sreenivasan, Kenan Yaser

(640-16 P) **High-performance Liquid Chromatography Method of Cardiac Glycosides by Pulsed Amperometric Detection** HA-JEONG KWON, Kyung Hee University, Seon-Pyo Hong, Yongduk Park

(640-17 P) **Separation and Analysis of 14 Ginsenoside Using Reversed-phase HPLC-PAD Method** SA IM LEE, Kyung Hee University, Seon-Pyo Hong

(640-18 P) **New Generation of HPLC Silica-Based C18 Column for Both Highly Acidic and Basic pH** CHARLES LEVESQUE, SiliCycle, Inc., Vincent Bédard, François Béland

(640-19 P) **Improved Analysis of Saponins (Jujobosides) in Spine Date Seed** WILLIAM LONG, Agilent Technologies, Maureen Joseph, John W Henderson Jr, Rongjie Fu

(640-20 P) **Sulfobutylether-beta-cyclodextrin: An Effective Mixed Mode Modifier for Reversed Phase HPLC Separations** KEN NGIM, Genentech, Q Max Zhong, Chris Goretski

(640-21 P) **The Benefits of the Condensation Nucleation Light Scattering Detection for Highly Sensitive Detection of Pharmaceutical Compounds and Impurities in a Single Run** RENEE MOSING, Quant Technologies, Derek Oberrett, Cindy Barnes

(640-22 P) **Evaluation Condensation Nucleation Light Scattering Detection for Ultrafast HPLC Separations** RENEE MOSING, Quant Technologies, Derek Oberrett, Cindy Barnes

(640-23 P) **Development and Validation of a Stability-indicating HPLC Method for Simultaneous Determination of Salicylic Acid, Betamethasone Dipropionate and**

Their Related Compounds in Diprosalic Lotion MINSHAN SHOU, Schering-Plough, Abu M Rustum

(640-24 P) **HPAEC-PAD Method for Detecting Paeoniflorin and Albiflorin in Paeoniae Radix Using Solid-phase Extraction** HEE-JUNG SIM, Kyung Hee University, Hong Seon-Pyo

(640-25 P) **Applications of a New HILIC Stationary Phase** MARK WOODRUFF, Fortis Technologies Ltd, Ken Butchart

(640-26 P) **The Retention Behavior of Pharmaceutical Organic Amines Using Ion-Pair Reversed-Phase High-Performance Liquid Chromatography (IP-RPLC)** JUN LU, Schering-Plough, Yu Chien Wei, Robert J Markovich, Abu M Rustum

(640-27 P) **Peak Capacity Versus Speed in UHPLC Analysis** MARK WOODRUFF, Fortis Technologies Ltd, Ken Butchart

(640-28 P) **Recycling Efficiency Study on Preparative Supercritical Fluid Chromatography** JOHN WHELAN, Thar Instruments, A Waters Company, Ziqiang Wang, Harbaksh Sidhu

(640-29 P) **The Development of Single-Use, Biocompatible SPME Fibers for HPLC Use** ROBERT E SHIREY, Supleco/Sigma-Aldrich, Craig R Aurand, Dajana Vuckovic, Katherine Stenerson, Yong Chen, Leonard Sidisky

(640-30 P) **Evaluation of Acyl Glucuronide Metabolites During Drug Quantification in Bioanalysis by LC-MS/MS: From Sample Collection to Autosampler Stability** FABIO GAROFOLO, Algorithme Pharma Inc., Melanie Bergeron, Jean-Nicholas Mess, Milton Furtado

(640-31 P) **Development of a Discriminating Method for a Novel Pharmaceutical Compound Using Dissolution Apparatus 2** LISA A JUNNIER, GlaxoSmithKline, Shadi Madieh, Esteban Bornancini, Fran Muller

POSTER SESSION Session 650

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Pharmaceutical: Novel Developments

Monday Morning, Gray Area - Hall B4, Aisles 3400-3900

(650-1 P) **Fiber Optic Dissolution- Early Phase Formulation Support** MARYANN BEGGY, Boehringer Ingelheim Pharmaceuticals, Inc., Stephen Cafiero, Richard Simmons, Kevin C Bynum, Henry Zhao

(650-2 P) **Evaluation of New Topical Ophthalmic Formulations** DANIEL ROBERT BRANNEGAN, Pfizer, Matthew D Desmarais, Bryan Braxton, Richard A Ferraina, David Jaeger, Ruchi Thombre

(650-3 P) **Optimization of Active Principle Bitterness Masking Using an Experimental Plan and an Electronic Tongue** XAVIER BREDZINSKI, Alpha MOS, Jean-Christophe Mifsud, Michaël Lebrun, Marion Bonnefille

(650-4 P) **Development of a Generic Approach to Sample Preparation of Osmotic Dosage Forms** IVELISSE COLON, Pfizer Global R&D, Geoffrey Okelo, Beverly Nickerson

(650-5 P) **Validation and Uncertainty of a Karl Fischer Method: Impact of Residual Water on Reference Materials for Quantitative Applications** ISIL DILEK, Cerilliant Corporation, Bryan Dockery, Ning Chang, Huahua Jian, Uma Sreenivasan

(650-6 P) **Utilizing NIR Chemical Imaging for Pharmaceutical Process Understanding** JANIE DUBOIS, Malvern Instruments, Gerald Sando, E Neil Lewis

(650-7 P) **Thermal Decomposition Process of Cisplatin: EGA-Mass Spectrometry** MARTA JUHASZ, Meisei University, Masamichi Tsukagoshi, Seiji Takahashi, Yuki Kitahara, Toshihiro Fujii

(650-8 P) **Application of Dual Angle Dynamic Light Scattering Measurement in Protein Aggregation Evaluation** CHARLES C LAI, Hospira, Inc., Eduardo N Villegas, Jenny J Yan

(650-9 P) **Evaluation Method Robustness to Physical and Batch to Batch Variances of a Handheld Raman Spectrometer for Bulk Raw Material Authentication** JEREMY A LINOSKI, Ahura Scientific Inc., Robert C Brush, Christopher D Brown, Robert L Green

(650-10 P) **Bioinformatics Predictions and Experimental Verification of Some Novel Antipyrine Based Monobactam Skeletons Assisting in Novel Drug Delivery** JYOTSNA SUDHIR MESHRAM, Nagpur University, Parvez Ali

(650-11 P) **Use of Instrumental Measurement to Select the Best-Tasting Food Matrix for Pediatric Drug Administration** JEAN-CHRISTOPHE MIFSUD, Alpha MOS, Xavier Bredzinski, Michaël Lebrun

(650-12 P) **Quantitative Analysis of Eprosartan in Bulk Drug and Tablets Through UV and FTIR Spectroscopy** HARSHA UMESH PATEL, Shri Sarvajanik Pharmacy College, Bhanubhai N Suhagia, Chhaganbhai N Patel

(650-13 P) **Structural and Physiochemical Studies on Dasatinib Hydrate and Anhydrate** ROSALYNN QUINONES, University of Michigan, Adam J Matzger

(650-14 P) **The Rapid Classification of Pulmonary Lung Surfactant by ASAP and ESI Mass Spectrometry** KRISTEN RILEY, Discovery Laboratories, John Nikelly

(650-15 P) **Quantitative Determination of Lidocaine, Ropivacaine and Bupivacine in Whole Human Blood Samples Utilizing Microextraction by Packed Sorbent Online with Liquid Chromatography-tandem Mass Spectrometry (MEPS-LC-MS/MS)** RANA SAID, Karolinska University, Mohamed Abdel-Rehim

(650-16 P) **Synthesis, Characterization and Antimicrobial Activities of 4-{4-(2-phenyl-4-benzylidene-5-oxo-imidazol-1-yl)phenyl}-6-(substitutedphenyl) -5,6-dihydropyrimidin-2-one** RAJIVKUMAR ARVINDBHAI SHAH, Sheth LH Science College

(650-17 P) **Using Microdialysis Sampling to Study Inhibitors of 11ß-HSD1 as Drug Candidates** SARA THOMAS, University of Kansas, Craig E Lunte

(650-18 P) **Ultrasonic and Viscometric Investigation of Antibiotic with Myristic Acid** G VELRAJ,

Periyar University, C Roumana, PE Akilandeswari, MGM Kamil

(650-19 P) **Analysis of Residual Solvents in Drugs Using Headspace Thermal Desorption (HS-TD) Technology** NICOLA M WATSON, Markes International Ltd., Elizabeth Woolfenden, John Dwan

(650-20 P) **Confirmation of Pharmaceutical Antioxidant Selection by Dissolved Oxygen Monitoring** GREGORY K WEBSTER, Abbott Laboratories, Robert A Craig, Cynthia A Pommerening, Ian N Acworth, Paul H Gamache

(650-21 P) **Selection of Pharmaceutical Antioxidants by Hydrodynamic Voltammetry** GREGORY K WEBSTER, Abbott Laboratories, Robert A Craig, Cynthia A Pommerening, Ian N Acworth, Paul H Gamache

(650-22 P) **Synthesis and Characterization of Some New Substituted Thiazolidinones and Azetidinones Derivatives and Study of Their Antimicrobial Activities** PANKAJKUMAR SHIVUBHAI PATEL, Sheth LH Science College

(650-23 P) **Engineered Glycosylation for Protein Stability: Human Growth Hormone** JAMIE L WENKE, University of Kansas, Melinda L Toumi, Heather Desaire, Kathryn R Rebecchi, Jennifer S Laurence

POSTER SESSION Session 660

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Sampling & Sample Preparation - LC, GC, & MS

Monday Morning, Gray Area - Hall B4, Aisles 3400-3900

(660-1 P) **Simultaneous Determination of Airborne Ozone and Carbonyls Using a Two-Bed Sampling Cartridge Containing trans-1,2-Bis(2-pyridyl)ethylene and 2,4-Dinitrophenylhydrazone** JAMES L DESORCIE, Supleco/Sigma-Aldrich, Leonard Sidisky, Shigehisa Uchiymama

(660-2 P) **Automated GPC Cleanup of QuEChERS Pesticide Extracts for Dietary Supplements** JACK COCHRAN, Restek Corporation, Julie Kowalski, Rick Lake, Jason D Thomas, Michelle Misselwitz, Tom K Dobbs, Jeff Wiseman, Jennifer Salmons

(660-3 P) **Analysis of Melamine and Cyanuric Acid in Milk Products** WILLIAM BREWER, University of South Carolina, Hongxia Guan, Stephen L Morgan, Frederick D Foster, Alexander J Krynitsky

(660-4 P) **Development of Surface Molecularly Imprinted Xerogels as Antibiotic Selective Sorbents in Environmental Chemistry** ELMER-RICO E MOJICA, State University of New York at Buffalo, Jochen Autschbach, Diana S Aga, Frank V Bright

(660-5 P) **Application of QuEChERS to Detect Pesticide Residues in Raw Materials** MARIA CESARINA ABETE, Istituto Zooprofilattico/CReAA, Stefania Squadrone, Gian Luca Ferro, Francesca Fasano

(660-6 P) **Analysis of Urine for Pain Management Drugs Using LC/MS/MS** WILLIAM BREWER, University of South Carolina, Frederick D Foster

(660-7 P) **Thermal Sampling Techniques for the Analysis of Oils from Algae** THOMAS WAMPLER, CDS Analytical, Karen Jansson, Gary Deger, Ben Peters, Stephen D Wesson

(660-8 P) **Ultra Trace Detection of Perfluorocarbon Traces by Means of Thermal Desorption-Gas Chromatography-Electron Capture Detector (TD-GC-ECD) System** MANUELA BERGNA, Dani Instruments S.p.A., Ilaria Ferrante

(660-9 P) **Enhanced Sample Preparation for the Mass Spectrometric Imaging of Neuropeptides** TYLER A ZIMMERMAN, University of Illinois, Urbana-Champaign, Elena V Romanova, Stanislav S Rubakhin, Kevin R Tucker, Jonathan V Sweedler

(660-10 P) **Extraction of 1st Century BC Encaustic Art Samples by Supercritical Carbon Dioxide for GC/MS, HPLC-FTIR and Radiocarbon Dating** ROLF SCHLAKE, Applied Separations, Al Kaziunas, Kathy Pearl, Ruben Savizky, John Bove

(660-11 P) **Point-of-use Polishers for the Production of High Purity Water Tailored to Specific Analytical Needs** CECILIA RENAULT, Millipore SAS, Coralie Monferran, Maricar Tarun, Estelle Riche, Daniel Darbouret

(660-12 P) **GC–MS Analysis of Crocetane, Phytane and Some of Their Stereoisomers Using Cyclodextrin-based Stationary Phases** KE HUANG, University of Texas at Arlington, Daniel Armstrong

(660-13 P) **Derivatized Cycloinuloheptaose as New Chiral Stationary Phases for HPLC** CHUNLEI WANG, University of Texas at Arlington, Daniel Armstrong

(660-14 P) **New Applications for Multidimensional Gas Chromatography** RONALD D SNELLING, Shimadzu Scientific Instruments, Mark Taylor, Richard R Whitney, Zhuangzhi "Max" Wang

(660-15 P) **Compact Coriolis Mass Flow Sensor** WYBREN JOUWSMA, Bronkhorst Cori-Tech B.V.

(660-16 P) **New Integrated EZ-Guard Range for Mid-Polar GC Columns** JOHAN KUIPERS, Varian B.V., Peter Heijnsdijk, Janice Perez, Max B Erwine

(660-17 P) **A Reversed-Phase/Anion-Exchange/Cation-Exchange Trimodal Stationary Phase and Its Uses** XIAODONG LIU, Dionex Corporation, Chris Pohl

(660-18 P) **Analysis of Cationic Surfactants Using Acetonitrile and Alternative Solvents** XIAODONG LIU, Dionex Corporation, Mark Tracy, Chris Pohl

(660-19 P) **New Generation of Thermal Liquid Flow Sensors** JOOST CONRAD LÖTTERS, Bronkhorst High-Tech B.V.

(660-20 P) **Substrate Dependency of Low Volume Non-contact Dispensing** MARY CORNETT, IDEX Health & Science, David Martin

POSTER SESSION Session 670

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the

Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Sensors for Bioanalysis

Monday Morning, Gray Area - Hall B4, Aisles 3400-3900

(670-1 P) **Enzymatic Sensors for Detection of Neurotransmitter** JASON BENNETT, University of Pittsburgh, Rebecca S Belan

(670-2 P) **Cooperative Evolution of Ligands by Exponential Enrichment (CoELEX): A Novel Method to Screen DNA Aptamers from a Random Library Pool** CHRISTOPHER J EASLEY, Auburn University, Joonyul Kim

(670-3 P) **Highly Sensitive Optical Sensors for Non-Intrusive Monitoring of pH in Biological Range** DEREK A GUENTHER, Ocean Optics, Inc., Mahmoud R Shahriari

(670-4 P) **Enzyme-Linked Assay for Point-of-Care Dry-Reagent Strip Biosensors** ABDEL-NASSER KAWDE, King Fahd University, Guodong Liu

(670-5 P) **Immobilization of Biomolecules Based on Electrochemically Assisted Modification of Electrode Surfaces and Its Feasibility for the Immunoassay** KYUWON KIM, University of Incheon, Al-Monsur J Haque

(670-6 P) **Fabrication of Nanostructured Films on Electrodes by Electrochemically Assisted Sol-Gel Processing** LAYLA B MEHDI, Miami University, Ohio, David Ranganathan, James A Cox

(670-7 P) **Single Molecule Colorimetric Biosensing Using Nonbleaching Color Coded Plasmon Resonant Nanoparticles** LEHUI XIAO, Hunan University, Yan He, Edward S Yeung

(670-8 P) **Investigation of the Surface Preparation Effect on the Performance of Surface Plasmon Resonance Biosensor Developed for *Escherichia coli* Enumeration** OZLEM TORUN, Hacettepe University, Ismail H Boyaci

(670-9 P) **Integrated Electrokinetic (EK) Separations with Surface Plasmon Resonance (SPR) Spectroscopic Sensing of Biomolecules** QIONGJING ZOU, University of Delaware, Michael R Malone, Karl S Booksh

(670-10 P) **Coupling Antibody Binding to Enzyme Activation in a Miniaturized Immunosensor** MEHNAAZ F ALI, Tulane University School of Medicine, Robert C Blake II, Nan Zhang, Janarthanan Jayawickramarajah, Mark A DeCoster, Senaka Kanakamedala, Haidar Taher, Ji Fang, Diane A Blake

(670-11 P) **Electrochemical Immunoassay for DNA Sensor** I-JANE CHEN, University of Maryland, Eric Hoppmann, Ian White

(670-12 P) **Novel Sources for Optical Sensors: III-Nitride Semiconductor-Base Deep Ultraviolet Light Emitting Diodes** REMIS GASKA, Sensor Electronic Technology, Inc., Jinwei Yang, Yuriy Bilenko, Wenhong Sun, Max Shatalov, Xuhong Hu, Alex Lunev, Robert Kennedy, Ajay Sattu, Jianyu Deng, Igor Shturm, Michael Shur

(670-13 P) **Poly(Lipid) Bilayers for Development of an Ion Channel-Based Sensing Platform** BENJAMIN A HEITZ, University of Arizona, Robert P Cordero, S Scott Saavedra, Craig A

Aspinwall

(670-14 P) **Solid-phase Bioluminescent Detection of MicroRNAs** ERIC A HUNT, Indiana University Purdue University Indianapolis, Manoj Kumar, Spencer Romstadt, Avneet Kaur, Sapna Deo

(670-15 P) **Modification of Gold Nanoparticles by the Spontaneous Grafting of Diazonium Salts** LARS LAURENTIUS, University of Alberta, Ni Yang, Dwayne Shewchuk, Mark McDermott

(670-16 P) **A Study of Agarose Film Leaky Waveguides for Chemical and Biochemical Sensing Applications** ROLAN MANSOUR, University of Manchester, Behnam Bastani, Nick Goddard

(670-17 P) **SERS-based DNA Hybridization Assay** NICOLE E MAROTTA, Georgia Tech, Lawrence A Bottomley

(670-18 P) **SPR and QCM Based Sensors for Detection of Bovine Leukemia Virus Antigen** ALMIRA RAMANAVICIENE, Vilnius University, Julija Baniukevic, Justina Kirlyte, Asta Kausaite-Minkstimiene, Zigmas Balevicius, Asta Makaraviciute, Arunas Ramanavicius, Tatjana Romaskevic

(670-19 P) **Development of Electrochemical Biosensor by the Electrochemical Activation of Single Walled Carbon Nanotubes** SUBBIAH ALWARAPPAN, Florida International University, Chang Liu, Shradha V Prabhulkar, Chenzhong Li

(670-20 P) **Label-Free Colorimetric Detection of Picomolar Thrombin in Blood Plasma Using a Gold Nanoparticle–Based Assay** CHUAN-KUO CHEN, National Taiwan University, Chih-Ching Huang, Huan-Tsung Chang

POSTER SESSION Session 680

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Sensors: Novel Approaches

Monday Morning, Gray Area - Hall B4, Aisles 3400-3900

(680-1 P) **Aptamer-encoded Nanopore Detects Single Molecules of Bioterrorist Agent Ricin** LI-QUN GU, University of Missouri, Shu Ding, Changlu Gao

(680-2 P) **Supercritical Fluid Deposition of Metals on Polymer and Composite Materials** AL KAZIUNAS, Applied Separations, Rolf Schlake

(680-3 P) **Hybrid Gas Sensor Array (GDA2s) Providing Broad Range Chemical Supervision of Sensitive Infrastructure** WOLF MUENCHMEYER, Airsense Analytics, Andreas Walte, Bert Ungethuem, Karen Xin Wang, Mariana Rivero

(680-4 P) **Voltammetric Sensor for Primary Alcohols Based on Electrocatalysis at a 3-Dimensionally Ordered Macroporous Carbon Electrode** SCOTT N THORGAARD, University of Minnesota, Secil Koseoglu, Melissa A Fierke, Andreas Stein, Philippe Buhlmann

(680-5 P) **Withdrawn**

(680-6 P) **Advances in On-the-Fly Labeling of Chemical and Biological Aerosols for Rapid Detection and Identification** MATTHEW B HART, Naval Research Laboratory, Anali Makoui, HB Lin, Jay D Eversole

(680-7 P) **Withdrawn**

(680-8 P) **Photo-electric Sensors for Real-time Detection of Aqueous Bacterial Pathogens** ERICA N MEJIA, University of North Florida, Christy L Hyun, Jay S Huebner, Doria F Bowers

(680-9 P) **Surface Plasmon Resonance Immunosensor Using Power Free Pump** TOBITA TATSUYA, NTT Advanced Technology Co., Hemmi Akihide, Nakajima Hizuru, Imato Toshihiko

CONFEREE NETWORKING

Monday, March 1, 2010

9:00 - 11:00 AM

A Step by Step Approach to International Patent Protection Facilitated by: Zareefa Flener, Ladas & Parry, LLP, Room 312B
Analytical Techniques for Pharmaceutical Counterfeit Detection Facilitated by: Ravi Kalyanaraman, Bristol-Myers Squibb, and Miriam Malet-Martino, NMR Group, Room 311F
How Can You Develop and Maintain a Successful Research Career at a Primarily Undergraduate Institution (PUI)? Facilitated by: Kimberley Frederick, Skidmore College, Room 311E
ICP-MS and Chromatography for Metals Speciation Facilitated by: Larry Irr, Bechtel Marine Propulsion Corporation, Room 312C
Mid-IR Laser Spectroscopy Facilitated by: Sohrab Zarrabian, MAXION Technologies, Room 311H
Open-Access Instruments: Benefits, Challenges, Advances and Learnings Facilitated by: James Roberts, GlaxoSmithKline, Room 311G
The Application of Hyphenated Instruments on Food Safety and Cosmetic Facilitated by: Perry Wang, US FDA, Room 312A

MONDAY, MARCH 1, 2010
AFTERNOON

AWARD Session 690

Charles N Reilley and Young Investigator Awards - arranged by Allen J Bard, University of Texas at Austin

Monday Afternoon, Room 300

Allen J Bard, University of Texas at Austin, Presiding

2:00 **Introductory Remarks - Alan J Bard**

2:05 **Presentation of the 2010 Charles N Reilley Award to Richard M Crooks, University of Texas at Austin by Allen J Bard, University of Texas at Austin**

2:10 (690-1) **Bipolar Electrode Arrays** RICHARD M CROOKS, University of Texas at Austin, Francois Mavre, Kwok-Fan Chow, Eoin Sheridan, Byoung-Yong Chang, John Crooks

2:45 (690-2) **Studying Intermediates on Electrode Surfaces by Scanning Electrochemical Microscopy** ALLEN J BARD, University of Texas at Austin, Joaquín Rodríguez-López, Qian Wang

3:20 (690-3) **Spectroelectrochemical Investigations of Nanostructured Electrode Interfaces** KEITH J STEVENSON, University of Texas at Austin, Robert A May, Lilia Kondrachova, Jing Wu

3:55 **Recess**

4:05 **Presentation of the 2010 Young Investigator Award to Christy L Haynes, University of Minnesota, by Allen J Bard, University of Texas at Austin**

4:10 (690-4) **Assessing Nanoparticle Toxicity** CHRISTY L HAYNES, University of Minnesota, Bryce J Marquis, Sara A Love, Melissa A Maurer-Jones

4:45 (690-5) **Measuring Other Transmitters Besides Dopamine** MARK WIGHTMAN, University of North Carolina, Chapel Hill

SYMPOSIUM Session 700

ACS Division of Analytical Chemistry Microfluidic Systems with Electrochemical Detection for the Investigation of Biological Processes- arranged by Susan M Lunte, University of Kansas

Monday Afternoon, Room 307B

Susan M Lunte, University of Kansas, Presiding

2:00 **Introductory Remarks - Susan M Lunte**

2:05 (700-1) **Capillary Electrophoresis into Microfluidics for Single Vesicle Analysis: What Fraction of Transmitter is Released During Exocytosis?** ANDREW G EWING, Penn State University/University of Gothenburg, Donna M Omiatek, Yan Dong, Kelly Adams, Lisa Josefina Mellander, Michael L Heien

2:40 (700-2) **Use of Microchip-based Flow Injection Analysis and Thin-Layer Mercury/Gold Microelectrodes to Measure Endogenous Thiols** R SCOTT MARTIN, Saint Louis University

3:15 (700-3) **Bioanalytical Possibilities of Diffusion Potentials at Water-Water Boundaries in Microfluidics** DAMIEN ARRIGAN, Tyndall National Institute

3:50 (700-4) **Folding-Based Electrochemical Biosensors** REBECCA Y LAI, University of Nebraska-Lincoln

4:25 (700-5) **Neurochemical Applications of Microchip Electrophoresis with Electrochemical**

Detection SUSAN M LUNTE, University of Kansas, Matthew K Hulvey, Anne Regel, David F Fischer, Thomas Linz, Ryan Grigsby

SYMPOSIUM Session 710

Advances in Miniaturization and Nanotechnologies for Analytical Instrumentation "WEBCAST" - arranged by Vassili Karanassios, University of Waterloo

Monday Afternoon, Room 205C

Vassili Karanassios, University of Waterloo, Presiding

2:00 **Introductory Remarks - Vassili Karanassios**

2:05 (710-1) **SOI Platform Technology for Microsensors** WILLIAM I MILNE, Cambridge University

2:40 (710-2) **Chip-Scale Mass Spectrometry** AKINTUNDE I AKINWANDE, Massachusetts Institute of Technology, Luis F Velasquez-Garcia, Liang-yu Chen, Kerry Cheung

3:15 (710-3) **Using Nano-Microscale Fabrication Methods for a New Cancer Cell Metastatic Monitor** JAMES CASTRACANE, CNSE-University at Albany

3:50 (710-4) **Highly Miniaturized Mass Spectrometer** J MICHAEL RAMSEY, University of North Carolina, William Whitten, Stanley Pau, M Bonner Denton

4:25 (710-5) **Battery-operated Micro- and Nano-Plasmas on Chips** VASSILI KARANASSIOS, University of Waterloo

SYMPOSIUM Session 720

Analysis of Pharmaceuticals: Current Status, Trends and Regulations in Chromatography and Mass Spectrometry Applications - arranged by Arindam Roy, Consultant, Chromatography and Mass Spectrometry and Mike S Lee, Milestone Development Services

Monday Afternoon, Room 311A

Arindam Roy, Consultant, Chromatography and Mass Spectrometry, Presiding

2:00 **Introductory Remarks - Arindam Roy**

2:05 (720-1) **Impurity Analysis in Pharmaceuticals** ARINDAM ROY, Consultant, Chromatography and Mass Spectrometry

2:40 (720-2) **Implementation of Quality by Design for Analytical Methods During Development Thru Technology Transfer** ROSARIO LOBRUTTO, Novartis Pharmaceutical Corporation

3:15 (720-3) **Impurity Control and Process Analytical Technology in Drug Substance Development** HEEWON LEE, Boehringer Ingelheim Pharmaceuticals, Inc., Nelu Grinberg, Shengli Ma, Sherry Shen

3:50 (720-4) **Structural Characterization of Impurities and Degradation Products in Drug Substances Using Liquid Chromatography/Mass Spectrometry** BIRENDRA N

PRAMANIK, Schering-Plough

4:25 (720-5) **Recent Advances in Trace Analysis of Pharmaceutical Genotoxic Impurities** DAVID Q LIU, GlaxoSmithKline, Alireza S Kord

SYMPOSIUM Session 730

Capillary HPLC - It's Not Just for Proteomics "WEBCAST" - arranged by Stephen G Weber, University of Pittsburgh

Monday Afternoon, Room 307D

Stephen G Weber, University of Pittsburgh, Presiding

2:00 **Introductory Remarks - Stephen G Weber**

2:05 (730-1) **Two-dimensional Capillary LC** TYGE GREIBROKK, University of Oslo

2:40 (730-2) **Monolithic Capillary Columns for Bioanalysis** MILTON L LEE, Brigham Young University, Yun Li, Yuanyuan Li, Xin Chen, Kun Liu, H Dennis Tolley

3:15 (730-3) **Capillary LC: Electrically Assisted/Generated Flows** LUIS A COLON, University at Buffalo, SUNY, Jared S Baker, Stefan Vujcic, Wenjuan Guo, Ivonne M Ferrer, Amber D Moore

3:50 (730-4) **Capillary LC-MS: Scaling Down Metabolomics** ROBERT T KENNEDY, University of Michigan

4:25 (730-5) **Post Column Reactors with Capillary HPLC: Fast, Sensitive Determination of Serotonin** STEPHEN G WEBER, University of Pittsburgh, Anne M Andrews, Yansheng Liu, Jing Zhang

SYMPOSIUM Session 740

Micro- and Nanotechnologies for Ultrasensitive Bioanalysis "WEBCAST" - arranged by Shana Kelley, University of Toronto

Monday Afternoon, Room 311C

Shana Kelley, University of Toronto, Presiding

2:00 **Introductory Remarks - Shana Kelley**

2:05 (740-1) **Optical and Microfluidic Techniques for Ultrasensitive Bioanalysis** DANIEL T CHIU, University of Washington

2:40 (740-2) **Ion Transport Through Nanopores: From Living Cells to Diodes and Transistors** ZUZANNA S SIWY, University of California, Irvine, Ivan Vlassiouk, Eric Kalman, Matthew Powell

3:15 (740-3) **Fluorescence Detection for Capillary Electrophoresis with a Millionfold-Dynamic Range** NORMAN DOVICHI, University of Washington

3:50 (740-4) **Ultrasensitive Detection of Proteins Using Single Molecule Arrays (SiMoA)** DAVID R WALT, Tufts University, David C Duffy, David M Rissin, Linan Song, Jeffrey Randall

4:25 (740-5) **Nanostructured Sensors for Ultrasensitive Biomarker Analysis** SHANA KELLEY, University of Toronto

SYMPOSIUM Session 750

New Spectroscopic Approaches to Protein Structure - Understanding Amyloid Fibrils - arranged by Igor K Lednev, University at Albany, SUNY

Monday Afternoon, Room 311B

Igor K Lednev, University at Albany, SUNY, Presiding

2:00 **Introductory Remarks - Igor K Lednev**

2:05 (750-1) **Amyloid Protein Structure: Long-Range Stereo Chirality Probed by Vibrational Optical Activity** LAURENCE A NAFIE, Syracuse University

2:40 (750-2) **Studies of Structure of Amyloid Fibrils by Solution X-ray Scattering Techniques** ALEXANDER V GRISHAEV, LCP, NIDDK, NIH

3:15 (750-3) **Mass Per Unit Length Defines the Symmetry of Protein Fibers** JOSEPH WALL, Brookhaven National Lab

3:50 (750-4) **Crystallographic Studies of Amyloid Protein Segments** STUART A SIEVERS, University of California, Los Angeles, David Eisenberg

4:25 (750-5) **Deep UV Resonance Raman Spectroscopy for Comparative Structural Characterization of Amyloid Fibril Polymorphs** IGOR K LEDNEV, University at Albany, SUNY, Dmitry Kurouski, Ludmila Popova, Vitali Sikirzhytski

SYMPOSIUM Session 760

The 21st James L Waters Annual Symposium - Early Instrumentation for LC-MS - arranged by Janeth K Pifer and Amit Ghosh, PPG Industries, Inc.

Monday Afternoon, Room 205A

Janeth K Pifer, PPG Industries, Inc., Presiding

2:00 **Introductory Remarks - Janeth K Pifer**

2:05 (760-1) **A Historical Review of the Moving Belt Interface in LC/MS** WILLIAM HAMILTON MCFADDEN, Retired

2:40 (760-2) **The Rise and Fall of Thermospray as a Practical Interface Between LC and MS** MARVIN L VESTAL, Virgin Instruments Corporation

3:15 **Recess**

3:30 (760-3) **The Evolution of Direct Liquid Introduction (DLI) LC/MS to Ion Spray LC/MS** JACK HENION, Advion BioSciences

4:05 (760-4) **The Rise and Fall of LC/MS Interface Instrumentation** THOMAS R COVEY, MDS/Sciex

SYMPOSIUM Session 770

The Analysis of Modern Artists' Paints - arranged by Gregory Dale Smith, Buffalo State College

Monday Afternoon, Room 205B

Gregory Dale Smith, Buffalo State College, Presiding

2:00 **Introductory Remarks - Gregory Dale Smith**

2:05 (770-1) **The Analysis of Paints Used on Modern and Contemporary Works of Art** THOMAS J LEARNER, Getty Conservation Institute

2:40 (770-2) **''Plastic" Paints and the Perceived Role of Static Charge in Dirt Accumulation on Modern Art** GREGORY DALE SMITH, Buffalo State College, Jamie Abbott

3:15 (770-3) **LDMS: A New Tool in the Conservation Laboratory** DANIEL KIRBY, Harvard Art Museum

3:50 (770-4) **Ripolin, or 'La Santé des Couleurs' (Good Health for Colors): Investigating Early 20th Century House-Paints in the Works of Pablo Picasso and His Contemporaries** FRANCESCA CASADIO, The Art Institute of Chicago

4:25 (770-5) **"Gossiper II": A Technical Study of a Painted Outdoor Sculpture by Jean Dubuffet** MICHAEL ROY SCHILLING, Getty Conservation Institute, John Campbell, Herant Khanjian

SYMPOSIUM Session 780

The State-of-the-Art Analytical Technology that Supports Safety and Security in Future, Part II (JSAC) - arranged by Koichiro Matsuda, Japan Analytical Instruments Manufacturers' Association (JAIMA)

Monday Afternoon, Room 207C

Koji Suzuki, Japan Society for Analytical Chemistry (JSAC) , Presiding

2:00 **Introductory Remarks - Hiroshi Nakamura**

2:05 (780-1) **Creation of Chemical Sensors for Improving QOL** KOJI SUZUKI, Keio University

2:40 (780-2) **Analytical Technique and Quality Control for Food Safety** TAKAHO WATANABE, Food and Drug Safety Center

3:15 (780-3) **Nanomaterials for Developing Portable Environmental and Clinical Sensing Devices** OSAMU NIWA, National Institute of Advanced Industry Science and Technology (AIST)

3:50 (780-4) **Using the LCMS IT-TOF for Identification of Steroids and Low-Level Emerging**

Environmental Compounds JESSE B HINES, Shimadzu Scientific Instruments

4:25 (780-5) **Optical Spectroscopy for Human Safety Through Accurate Screening and Diagnostic Measurements** RENATA LEWANDOWSKA, HORIBA Scientific

WORKSHOP Session 790

Advances in Biotechnology Workforce Education - arranged by

R Kevin Pegg, Florida State College at Jacksonville

Monday Afternoon, Room 308A

R Kevin Pegg, Florida State College at Jacksonville, Presiding

2:00 **Introductory Remarks - R Kevin Pegg**

2:05 (790-1) **Training to Meet Regional Needs: The FSCJ Institute for Food Safety - A Public/Private Partnership** R KEVIN PEGG, Florida State College at Jacksonville, Kathryn Birmingham

2:25 (790-2) **Funding of Biotechnology Workforce Education by the National Science Foundation** LINNEA FLETCHER, National Science Foundation

2:45 (790-3) **Scripps Florida: At the Front Lines of Hope** HARRY ORF, Scripps Florida

3:05 (790-4) **Biotech Skills Development Research Program: An RT-PCR Case Study at the Community Colleges** JAMES HARBER, Oxnard College

3:25 **Recess**

3:40 (790-5) **Factors that Impact Success of Online Team Projects with Companies** RICHARD CONROY, University of Maryland, Rana Khan

4:05 (790-6) **Education and Training for a STEM Career in Biomanufacturing** SONIA WALLMAN, Northeast Biomanufacturing Center and Collaborative (NBC2)

4:25 (790-7) **Educating the Next Generation of Biotechnology Founders and Managers** YALI FRIEDMAN, thinkBiotech

4:45 **Discussion/Wrap Up**

ORGANIZED CONTRIBUTED SESSION Session 800

ACS Division of Analytical Chemistry Innovative Approaches to Analytical Science Education II - arranged by Carol Korzeniewski, Texas Tech University

Monday Afternoon, Room 307A

Carol Korzeniewski, Texas Tech University, Presiding

2:00 (800-1) **The Excellent Undergraduate Program in Analytical Chemistry** JEANNE E PEMBERTON, University of Arizona, Cynthia K Larive

2:20 (800-2) **Analytical Chemistry and the Bologna Process – Current Status and Further Needs** REINER SALZER, Technical University Dresden

2:40 (800-3) **Collaborative- and Project-based Learning in the Undergraduate Analytical Chemistry Curriculum** THOMAS J WENZEL, Bates College

3:00 (800-4) **Authentic Modeling of the Method of Scientific Inquiry During the Senior Year** KIMBERLEY A FREDERICK, Skidmore College, Devin Limoto

3:20 **Recess**

3:35 (800-5) **A Theme-based Approach to Analytical Chemistry: Preparation and Implementation** MICHAEL J SAMIDE, Butler University, Olujide T Akinbo, Jody Britten

3:55 (800-6) **ANAPOGIL- An Innovation in Analytical Chemistry Education Using Process Oriented Guided Inquiry Learning** SHIRLEY FISCHER-DROWOS, Widener University, Juliette Lantz, Renee Cole

4:15 (800-7) **Education Through Research: An Innovative Model for Teaching Analytical Science** KEITH J STEVENSON, University of Texas at Austin

4:35 (800-8) **Open Access Publishing and Digital Libraries: Changing the Teaching/Learning/Publishing Landscape** ALEXANDER SCHEELINE, University of Illinois, Urbana-Champaign, Heather A Bullen, Richard S Kelly

ORGANIZED CONTRIBUTED SESSION Session 810

Counterfeit and Substandard Pharmaceuticals: Problems, Identification and Analyses - arranged by Perry G Wang, Food and Drug Administration

Monday Afternoon, Room 311D

Perry G Wang, Food and Drug Administration, Presiding

2:00 (810-1) **Ambient Ionization Mass Spectrometry for Rapid In-situ Pharmaceutical Screening** R GRAHAM COOKS, Purdue University, Juan Garcia-Reyes, Guangming Huang, Joshua S Wiley, Ayanna Jackson

2:20 (810-2) **Pharmaceutical Counterfeit Identification and Product Authentication Using Molecular Spectroscopy** RAVI KALYANARAMAN, Bristol-Myers Squibb

2:40 (810-3) **Identification and Quantification of Counterfeit Protein Pharmaceuticals by Mass Spectrometry with Stable Isotopic Labeling** HONGPING YE, FDA

3:00 (810-4) **Fighting Drug Counterfeiting: Lessons from Other Industries** ALBERT I WERTHEIMER, Temple University

3:20 **Recess**

3:35 (810-5) **Analysis of Suspected Counterfeit Drugs: Application of Emerging Analytical Methods** RICHARD JOSEPH STEINBEISER, Merck & Co, Inc., Anthony Zook, Leah Buhler

3:55 (810-6) **Forensic Analysis of Counterfeit Pharmaceuticals... Past, Present and Future** FRED FRICKE, USFDA, Mark Witkowski

4:15 (810-7) **Challenges Encountered in Counterfeit Narcotic Drug Analysis: A Pharmaceutical Industry Perspective** JENNIFER GIORDANO, Purdue Pharma LP

4:35 (810-8) **Challenges of Suspect Counterfeit Drug Investigations: Learning to Think Like the Bad Guys** JACQUELINE LAREW, Eli Lilly and Company

ORGANIZED CONTRIBUTED SESSION Session 820

Ionophore-based Chemical Sensors II- arranged by Philippe Buhlmann, University of Minnesota and Eric Bakker, Curtin University of Technology

Monday Afternoon, Room 207B

Eric Bakker, Curtin University of Technology, Presiding

2:00 (820-1) **Optode-Based High-Resolution Chemical Imaging of 2D Surfaces** MIKLOS GRATZL, Case Western Reserve University, Punkaj Ahuja, Sumitha Nair

2:20 (820-2) **Chemical Sensors and Immunosensors Fabricated by Inkjet Printing** DANIEL CITTERIO, Keio University, Koji Abe, Kaori Kotera, Yushi Kameoka, Tomoaki Li, Koji Suzuki

2:40 (820-3) **Ammonium-Selective Electrode Fabricated with Self-assembled Monolayers of Ionophoric Receptors Based on the Ion-channel Mechanism** HAKHYUN NAM, Kwangwoon University, Sunmin Jin, Hyung Wan Song, Youngjea Kang, Jae Ho Shin, Geun Sig Cha, Sang Hoon Lee, Aasif Helal, Hong-Seok Kim

3:00 (820-4) **I-Dots and Ultrabubbles** ELIZABETH (LISA) A HALL, University of Cambridge, Peilun Lin, Jamie Walters, Rene M Gonzalez Campos

3:20 **Recess**

3:35 (820-5) **Enhancing the Selectivity of Ionophore-Based Anion-Selective Electrodes Using Pulstrode Mode of Measurement** KEBEDE LEMMA GEMENE, The University of Michigan, Mark E Meyerhoff

3:55 (820-6) **Fluorescent Ion Optodes with Highly Stable NIR Probes** YU QIN, Nanjing University, Jingwei Zhu

4:15 (820-7) **Wireless Chemical Sensor Networks Incorporating Polymer Membrane Ion-Selective Electrodes** ALEKSANDAR RADU, Dublin City University, Salzitsa Anastasova, Finbarr Quinlan, Stephen Beirne, Alan Mathewson, Dermot Diamond

4:35 (820-8) **A Novel pH Optode Based on Lipophilic Bromophenol Blue Derivative and Related Ion-Selective Fiber-Optical Sensors** MUSLINKINA LIYA, Institut National d'Optique, Serge Caron

ORAL SESSION Session 830

Biomedical II

Monday Afternoon, Room 307C

Ronald Orlando, CCRC/University of Georgia, Presiding

2:00 (830-1) **Noninvasive Determination of Exhaled Propofol: A GC-MS/PTR-MS Study** PATRICIA FUCHS, University Rostock, Henny Usmawati, Svend Kamysek, Jan P Roesner, Maren Mieth, Sabine Kischkel, Jochen K Schubert, Wolfram Miekisch

2:20 (830-2) **Accelerator Mass Spectrometry Provides Quantitative Analysis of Carboplatin-DNA Adducts Giving Insight into Breast Cancer Drug Resistance and Developing Assays for Personalized Cancer Treatment** TEESTA JAIN, University of California, Tao Li, Miaoling He, Chong-Xian Pan, Paul T Henderson

2:40 (830-3) **Aptamer-Facilitated Cell Sorting in Microfluidic Devices for Cancer Detection** RAHUL KAMATH, University of Florida, Joseph A Phillips, Ye Xu, Weihong Tan, Hugh Z Fan

3:00 (830-4) **Applications of Microfluidic Flow Cytometry** JOSHUA K HERR, University of North Carolina, Chapel Hill, Soren Johnson, Jean Pierre Alarie, Norman Sharpless, J Michael Ramsey

3:20 **Recess**

3:35 (830-5) **Multiparametric BioMEMS Platform to Simultaneously Study Drug Efflux and Resulting Oxygen Consumption from Single Resistant Cancer Cells** DISHA B SHETH, Case Western Reserve University, Russell Hardesty, Miklos Gratzl

3:55 (830-6) **Long-Term Functionality of the Sliver Sensor In vitro in Serum and In vivo in the Skin of Mice for Monitoring Diabetes Related Parameters** SUMITHA NAIR, Case Western Reserve University, Lorrie Rice, Shawn McCandless, Miklos Gratzl

4:15 (830-7) **Molecular Assembly of an Aptamer–Drug Conjugate for Targeted Drug Delivery to Liver Cancer In vivo** LING MENG, University of Florida, Kwame Sefah, Afshan Noorali, Chen Liu, Weihong Tan

4:35 (830-8) **Use of Laser Speckle Method for Surface Roughness Determination** ALEXANDER J LESNICK, CW Optics, Inc., William J Naramore, Matthew S Alley, Leonard W Winchester

ORAL SESSION Session 840

Environmental Spectroscopic Analyses

Monday Afternoon, Room 308C

Eugene Barry, University of Massachusetts Lowell, Presiding

2:00 (840-1) **Probing the Local Microenvironment within Binary Mixtures of 1-Butyl-3-Methylimidazolium Tetrafluoroborate and H_2O** MICHAEL J DABNEY, University at Buffalo, SUNY, Nadine Kraut, Frank V Bright

2:20 (840-2) **Towards In situ Characterization of Carbonate Minerals within Hydrocarbon Seep Ecosystems via Infrared-attenuated Total Reflection Spectroscopy** YULIYA

LUZINOVA, Georgia Institute of Technology, Laura Lapham, Gary Dobbs, Boris Mizaikoff, Jeff Chanton

2:40 (840-3) **Improved Linearity in Photoacoustic NDIR-Based Multi-Gas Analysis with Novel Model-Based Non-Linear Compensation** ARTO BRANDERS, Gasera Ltd., Kari Roth, Aleksi Helle, Juha Fonsen, Henrik Kronholm

3:00 (840-4) **Multivariate Environmental Analysis of Arsenate/Phosphate Mixtures Using the Vanadomolydbate Reagent** STUART J CHALK, University of North Florida, Jennifer Charlton

3:20 **Recess**

3:35 (840-5) **Analysis of Car Exhaust Gas by Low-Resolution FTIR Spectroscopy Using High-resolution Reference Spectra Calculated Based on the HITRAN Database** JENS EICHMANN, Hamburg University of Technology, Lars Schomann, Gerhard Matz, Roland Harig

3:55 (840-6) **Monitoring Metal Contamination in Automobile Industry Effluents with a Simultaneous ICP-OES for Regulatory Compliance** PRAVEEN SAROJAM, PerkinElmer Analytical Sciences, Zoe Grosser, Anil Nimkar

4:15 (840-7) **Trace Metal Analysis in Aqueous Effluents Using Inductively Coupled Plasma-Mass Spectrometry with Dynamic Reaction Cell Technology** ELAINE DAWBER, Urenco UK Ltd, Thomas H Hodgson, Sarah L Shepherd, John Shannon, Fadi Abou-Shakra

4:35 (840-8) **P-Nitro CALIX[6]ARENE Hydroxamic Acid for Liquid–Liquid Extraction, Separation, Preconcentration and Determination of Vanadium by Spectrophotometry and ICP-MS** JIGAR JASHUBHAI SHAH, C.U. Shah Science College

ORAL SESSION Session 850

Fluorescence/Luminescence in Bioanalytical Analysis

Monday Afternoon, Room 206C

Leonid L Moroz, University of Florida, Presiding

2:00 (850-1) **Supercontinuum Rapid Excitation-Emission Matrix (ScREEM) Detection in Capillary Electrophoresis** TIMOTHY C CORCORAN, California State Polytechnic University, Pomona, Christopher M Dettmar, Ryan A Kudla, Jacob B Balthazor, Phillip G Allen, Harris Handoko, M Consuelo Loverme, Hossein Ahmadzadeh

2:20 (850-2) **A New Series of Solvatochromic Fluorescent Dyes with Long-Wavelength Emission for Analytical Application** YOSUKE ANDO, Keio University, Yuya Homma, Yuki Hiruta, Daniel Citterio, Koji Suzuki

2:40 (850-3) **A Universal Self-Regulated Protein Inhibitor Aided by a Feedback Control Circuit** YAN CHEN, University of Florida, Weihong Tan

3:00 (850-4) **Pyrene Excimer Detection of Nucleic Acids Based on Hybridization Chain Reaction (HCR)** JIN HUANG, University of Florida, Yanrong Wu, Haipeng Liu, Yan Chen, Liu Yang, Weihong Tan

3:20 **Recess**

3:35 (850-5) **Characterization of Thermoassociative Binary Guanosine Gels for Analytical Applications** ADAM W NEISIUS, Rensselaer Polytechnic Institute, Linda B McGown, Yuehua Yu

3:55 (850-6) **Chemiluminescent Detection of S-Nitrosothiols Using a Selective and Sensitive Organoselenium Catalyst** NATALIE R WALKER, University of Michigan, Mark E Meyerhoff

4:15 (850-7) **Bulk and Single Molecule Analysis of the Effects of 2' Modifications on Molecular Beacons** SHARLA WOOD, Wayne State University, David Rueda

4:35 (850-8) **Novel Time-Resolved Fluorescence Microscope System Using TCSPC and Multi-Frequency Techniques** LIN CHANDLER, Horiba Jobin Yvon, Jim Mattheis

ORAL SESSION Session 860

Management of Laboratory Informatics

Monday Afternoon, Room 310A

John P Helfrich, VelQuest Corporation, Presiding

2:00 (860-1) **The Integrated Laboratory - Meeting the Expectations of Laboratory Informatics** STEVE BOLTON, Labtronics Inc.

2:20 (860-2) **How to Select a Laboratory Information Management System (LIMS)** PHILIP ENGLER, LabAnswer

2:40 (860-3) **How to Have a Successful LIMS Implementation – Avoid Detours** BILL TUMBLESON, CSols, Inc.

3:00 (860-4) **Instrument Integration to any LIMS in a cGMP Quality Operation** JOHN P HELFRICH, VelQuest Corporation

3:20 **Recess**

3:35 (860-5) **Can One Electronic Laboratory Notebook Meet R&D and QA/QC Needs?** STEVE BOLTON, Labtronics Inc.

3:55 (860-6) **LIMS and NELAC Compliance – Piece of Cake** CHARLES HINDBAUGH, Accelerated Technology Laboratories, Inc., Hong Ling Cao

4:15 (860-7) **Getting a New LIMS is a Project: Treat it as One!** CHARLES HINDBAUGH, Accelerated Technology Laboratories, Inc., David Bruketta

4:35 (860-8) **e-Learning HPLC Troubleshooting** RABIN LAI, Academy Savant, Dennis Saunders

ORAL SESSION Session 870

Nanotechnology - Imaging, Fluorescence, and Light Scattering

Monday Afternoon, Room 308D

Kurt S Rothenberger, U.S. Department of Energy-NETL, Presiding

2:00 (870-1) **Real-Time Probing of Efflux Mechanisms of Single Living Cells Using Photostable Single Nanoparticle Optics** KERRY J LEE, Old Dominion University, Lauren Browning, Tao Huang, Prakash D Nallathamby, X Nancy Xu

2:20 (870-2) **Aptamer Conjugated Nanoflowers for Selective Targeting and Multimodal Imaging of Cancer Cells** MOHAMMED IBRAHIM SHUKOOR, University of Florida, Weihong Tan

2:40 (870-3) **Biofunctionalized Phospholipid-Capped Mesoporous Silica Nanoshuttles for Targeted Drug Delivery** JA AN ANNIE HO, National Tsing Hua University, Li-chen Wu, Li-Sheng Wang, Li-Ling Chang, Chia-Min Yang

3:00 (870-4) **Cyclic RGD-Conjugated Nanoparticles for Bioimaging** SAM FY LI, National University of Singapore

3:20 **Recess**

3:35 (870-5) **Bestowing Lanthanide Luminescence through Nanoencapsulation** JOSHUA E SMITH, Armstrong Atlantic State University, Eric J Werner, Boris Makhinson, Alexandra K Duncan, Ashley R Elam, Kirsten M Reeves

3:55 (870-6) **Nanoparticle Verification Standards – Measurement by Dynamic Light Scattering of the NIST Gold Colloid Standards RM 8011, 8012 and 8013** ALAN F RAWLE, Malvern Instruments, Dave Dolak, Carlos Rega, Ana Morfesis, Ulf Nobbmann, Robert Jack

4:15 (870-7) **Novel High Concentration Zeta Potential Measurements** ULF NOBBMANN, Malvern Instruments, Ana Morfesis, Andrew Jones, Michael Kaszuba

4:35 (870-8) **Ultrafast Laser Induced Breakdown Spectroscopy (LIBS) for Nanoscale Chemical Analysis in the Optical Far- and Near-fields** VASILEIA ZORMPA, Lawrence Berkeley National Laboratory, Xianglei Mao, Richard E Russo

ORAL SESSION Session 880

Neurochemistry III (Half Session)

Monday Afternoon, Room 309AB

Scott Shippy, University of Illinois Chicago, Presiding

2:00 (880-1) **Examination of Localized Drug Responses in the Rat Striatum Using Iontophoresis for Quantitative Drug Delivery** ANNA BELLE, University of North Carolina, Chapel Hill, Natalie R Herr, Mark Wightman

2:20 (880-2) **Characterization of Dopamine D2 and D3 Autoreceptors in the Striatum Using Fast Scan Cyclic Voltammetry** FRANCIS K MAINA, Wayne State University, Tiffany A Mathews

2:40 (880-3) **Evaluation of the Autoreceptor Function of D2-like Receptors in Drosophila Using Fast Scan Cyclic Voltammetry** TRISHA L VICKREY, University of Virginia, B Jill Venton

3:00 (880-4) **Using Fast Scan Cyclic Voltammetry to Investigate the Correlation Between Resting Dopamine Level and Auto-Inhibition** YUEXIANG WANG, University of Pittsburgh, Adrian C Michael

ORAL SESSION Session 890

Pharmaceutical Spectroscopy

Monday Afternoon, Room 310B

Michael Woodman, Agilent Technologies, Presiding

2:00 (890-1) **Developing Supported Membrane Interfaces on a Calcinated Au Chip for Multiplexed SPR Study of Membrane Protein Interactions with EGFR** MATTHEW LINMAN, University of California, Riverside, Heather Ferguson, Pei Wang, Cheng Liu, Jun Ling, Quan Cheng

2:20 (890-2) **Application of Cantilever Enhanced Photoacoustic FTIR for Pharmaceutical Samples** GABOR J KEMENY, Middleton Research, Juho Uotila

2:40 (890-3) **Stress Degradation Studies of Nelfinavir Mesylate: A Raman Spectroscopic Approach** RANJANA MEHROTRA, National Physical Laboratory, Parul Singh

3:00 (890-4) **Comparison of Optical Microscopy and Raman Chemical Imaging for Ingredient Specific Particle Sizing** RYAN PRIORE, ChemImage Corporation, Oksana Olkhovyk, Oksana Klueva

3:20 **Recess**

3:35 (890-5) **Direct Measurement of Cleaning Validation and Surface Preparation via Hand-Held FTIR Reflectance Spectroscopy** JOHN SEELENBINDER, A2 Technologies, Alan Rein, Frank Higgins

3:55 (890-6) **Spectroscopic Method for Rapid Screening of Heparin Adulteration** APRYLL STALCUP, University of Cincinnati, Floyd Stanley

4:15 (890-7) **Investigating Crystallization of Pharmaceutical Materials with Simultaneous DSC and Raman Spectroscopy** RICHARD SPRAGG, PerkinElmer, Kevin P Menard, Dean Brown

4:35 (890-8) **A Ultimate PAT NIR Sensor Powered by MEMS Technology** IGOR NAZAROV, Polychromix

ORAL SESSION Session 900

Process Analytical - Techniques and Chemistry II (Half Session)

Monday Afternoon, Room 206B

Dean Tzeng, The Pittsburgh Conference, Presiding

2:00 (900-1) **pH Measurement** GUENTER TAUBER, SI Analytics GmbH

2:20 (900-2) **Production Solid Mixing Uniformity Traced via InSb Focal Plane Array Chemical Imaging** DAVID L WETZEL, Kansas State University, Mark D Boatwright, Lauren R Brewer

2:40 (900-3) **Automated FTIR and Process Analysis Systems for Testing Calibration Gas Mixtures** DOUG C KING, Airgas

3:00 (900-4) **Laser Induced Breakdown Spectroscopy for Online Minerals Analyses on a Conveyor** MICHAEL GAFT, LDS

ORAL SESSION Session 910

Raman/Raman Bioanalytical

Monday Afternoon, Room 206A

John F Jackovitz, University of Pittsburgh, Presiding

2:00 (910-1) **Raman Imaging Helping the War Fighter: Rapid Reagentless Diagnosis of Leishmania** KATHRYN S KALASINSKY, Armed Forces Institute of Pathology

2:20 (910-2) **Accurate Identification Powders: the Power of x-axis Stability** STUART FARQUHARSON, Real-Time Analyzers, Carl Brouillette, Michael Patient, Michael Donahue, Wayne Smith

2:40 (910-3) **Intensity Calibration of Spectrographs** EDWARD GOODING, Princeton Instruments, Jason McClure

3:00 (910-4) **Spectroscopic and Microscopic Characterization of Nanocrystalline Cellulose** MARK MCDERMOTT, University of Alberta, Roya Lahiji, Greg Kaufman, Lars Larentius, Yaman Boluk, Liyan Zhao

3:20 **Recess**

3:35 (910-5) **Towards In vivo Fiber-optic Raman Mapping of Metastases in Mouse Brains** REINER SALZER, Technical University Dresden, Christoph Krafft, Allison Stelling, Matthias Kirsch, Daniel Martin, Gabriele Schackert

3:55 (910-6) **Water Matrix and Age Effects on Bacterial Spectra with Raman Microspectroscopy** A PETER SNYDER, Department of Defense-Army, Patrick J Treado, Jason H Neiss, Matthew P Nelson, Ashish Tripathi, Rabih E Jabbour

4:15 (910-7) **Surface-Enhanced Raman Scattering Inside Metal Nanoshells** PENG ZHANG, New Mexico Tech, Yanyan Guo, Wenbing Li

4:35 (910-8) **Surface Enhanced Raman Scattering of Bacterial Cell Culture Growth Media** LAWRENCE A BOTTOMLEY, Georgia Tech, Nicole E Marotta

ORAL SESSION Session 920

Sampling & Sample Preparation - SPE

Monday Afternoon, Room 308B

Scott Hazard, OI Analytical, Presiding

2:00 (920-1) **Determining Endocrine Disrupting Hormones in Water Utilizing Solid Phase Extraction (SPE)** MICHAEL EBITSON, Horizon Technology, Inc., Jay Rowden

2:20 (920-2) **Determination of Oil and Grease Using SPE: Comparison of Disk and Cartridge Methodologies** ERIC S FRANCIS, Dionex, Brian C Dorich, David E Knowles, Richard E Carlson, Brett J Murphy, Jennifer Peterson, Bruce Richter

2:40 (920-3) **Methanol Compliance with EPA 1664A Oil and Grease Method Modifications Regarding Co-Solvent Elution When Using Automated Solid Phase Extraction (SPE)** DAVID GALLAGHER, Horizon Technology, Inc., Jay Rowden

3:00 (920-4) **Determination of Pesticides in Water Using SPE: Comparison of Cartridge and Disk SPE Methods** DAVID E KNOWLES, Dionex, Eric S Francis, Brian C Dorich, Brett J Murphy, Richard E Carlson, Jennifer Peterson, Bruce Richter

3:20 **Recess**

3:35 (920-5) **Optimization of Solid Phase Extraction (SPE) Media and Concentration Methodology for Rapid Processing of Large Volume Environmental Water Samples for the Analysis of Pharmaceuticals and Personal Care Products (PPCPS)** WILLIAM R JONES, Horizon Technology, Inc., Kevin Dinnean, Julie McGettrick

3:55 (920-6) **Optimization of Solid Phase Extraction Technology for the Determination of Dispersed Oil in Water from Norway in Compliance with the Ospar Convention** BRETT HOLMES, Horizon Technology, Inc., Robert Johnson, Michael Ebitson

4:15 (920-7) **Improvement of Sample Preparation with the Bead-Beating Technology in Omics Studies** ROMAIN VEROLLET, Bertin Technologies

POSTER SESSION Session 930

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

ACS Division of Analytical Chemistry Poster Session

Monday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(930-1 P) **Recovery Studies for Pesticide Residue Analysis in Apples Using Quechers and GC/MS** KARYN MAE USHER, West Chester University

(930-2 P) **Using Fluorescence Anisotropy to Investigate Protein-ligand Interactions** LIN WANG, Southern Illinois University, Matthew McCarroll, Luke Tolley

(930-3 P) **Detection of Short dsDNAs Using Conical Nanopore Sensor** KAAN KECECI, University of Florida, Charles Martin, Lindsay Sexton

(930-4 P) **Towards Accurate Speciation Analysis of Selenium in Human Serum** PETRU JITARU, Laboratoire National de Métrologie et d'Essais (LNE), Guillaume Labarraque, Sophie Vaslin-Reimann , Paola Fisicaro

(930-5 P) **Quartz Crystal Nanobalance and Voltammetric Approaches for DNA Hybridization Detection. Influence of Cr (VI), Pesticides, and Herbicides on DNA Biosensor Response** MARIA HEPEL, State University of New York at Potsdam, Anna M Nowicka, Agata Kowalczyk, Zbigniew Stojek

(930-6 P) **Enhancing Biosensor Sensitivity Using Recirculation in Microfluidic Channels by the Interplay of Capillary and Centrifugal Forces** JOSE GARCIA-CORDERO, Dublin City University, Lourdes Basabe-Desmots, Antonio J Ricco, Caroline Barry, Richard O'Kennedy

(930-7 P) **Realizing Fluorescence Standardization – New Guidelines and Reference Materials for Fluorometer Qualification** PAUL DEROSE, NIST

(930-8 P) **A General Method to Determine Select Residual Solvents in Drug Substance by Headspace Gas Chromatography with Flame Ionization Detection** MARIUS NARIS, Abbott

(930-9 P) **Comparing Chemometric Algorithims for the Direct Determination of Lipids** GERARD G DUMANCAS, Oklahoma State University, Mary Muriuki, Neil Purdie, Lisa Reilly

(930-10 P) **Exploring the Fidelity of DNA Polymerases by Smart Fluorescence Probes** MEIPING ZHAO, Peking University, Chen Song, Chen Zhang

(930-11 P) **Studies of Sulfonylurea Binding to Glycated Human Serum Albumin by High-performance Affinity Chromatography** K S JOSEPH, University of Nebraska, David S Hage

(930-12 P) **Electrochemical Study and Surface Characterization of Carbon Nanotube Based Electrodes for Biosensing Applications** TINA HUANG, Lafayette College, Milan Patel, Adam Nye

(930-13 P) **Detection of Coli Using a Membrane-based Nan biosensor** CHEE-SENG TOH, National University of Singapore, Ming Soon Cheng, Lin Zhuo

(930-14 P) **Determination of Citrulline by Double Isotope Liquid Chromatography-tandem Mass Spectroscopy Methodology** JOSHUA BROWN, University of Arkansas, Prem K Gutpa, Martin Hauer-Jensen, Howard Hendrickson

(930-15 P) **The Effects of Hydration on Lipid Membrane Structure** HEATH AARON HUCKABAY, University of Kansas, Philip W Livanec, Robert C Dunn

(930-16 P) **Separation of Functionalized Nanoparticles by Capillary Electrophoresis and Dielectrophoresis** CHRISTIAN M WHITE, West Virginia University, Lisa A Holland, Xingwei Wu, Parviz Famouri

(930-17 P) **Measurement and Modeling of Real-time Changes in Electroosmotic Flow under Dynamic Buffer Conditions** KATHERINE ROGUSKI, Skidmore College, Marissa Civic,

Emese Lipscey-Magyar, Rachel Roe-Dale, Kimberley A Frederick

(930-18 P) **Resonance Elastic Light Scattering Assays Based on Selectively-Crosslinked Gold Nanoparticle Network Assembly** MAGDALENA STOBIECKA, State University of New York at Potsdam, Jeffrey Deeb, Maria Hepel

(930-19 P) **Resonance Energy Transfer in a Multicomponent Fluorescent Dye System Influenced by Gold Nanorod Quadrupole Surface Plasmon Coupling** KAITLIN COOPERSMITH, State University of New York at Potsdam, Magdalena Stobiecka, Maria Hepel

(930-20 P) **Chemoselective Probes for Enrichment and Profiling of Alcohol-Containing Metabolites** ERIN E CARLSON, Indiana University, Jennifer L Hass

(930-21 P) **Novel Thermophilic and Cellulytic Enzyme Isolated Using Dynamic Isoelectric Focusing** SHANNON COURTNEY BANNING, Southern Illinois University Carbondale, Jordan Shick, Xuegang Jia, Luke Tolley

(930-22 P) **New Matrix of MALDI-TOF MS for Analysis of Small Molecules** SHAOXIANG XIONG, Chinese Academy of Sciences, Shu Zhang

(930-23 P) **A Surface Plasmon Resonance Sensor on a Compact Disk-Like Microfluidic Device** AKIHIDE HEMMI, Mebius Advanced Technology Ltd., Tatsuya Tobita, Akihiro Moto, Toshihiko Imato, Takashi Usui, Katsumi Uchiyama, Hizuru Nakajima

(930-24 P) **Direct Observation of Single-DNA Molecule Digestion Using Exonuclease by Dual-Color Total Internal Reflection Fluorescence Microscopy** SEONG HO KANG, Ames Lab-USDOE, Iowa State University, Seungah Lee, Edward S Yeung

(930-25 P) **Monitoring Glycation Effects on Hemoglobin by Glucosamine and Reducing Sugars** PRAVEEN K PAMPATI, University of Rhode Island, Menashi A Cohenford, Sreekanth Suravajjala, Joel A Dain

(930-26 P) **Evaluation of Near Infrared Fluorescent Nano-GUMBOS for Biomedical Imaging** DAVID K BWAMBOK, Louisiana State University, Bilal El-Zahab, Santhosh Challa, Min Li, Lin Chandler, Gary Baker, Isiah M Warner

(930-27 P) **Effects of Glycation on the Activity and Kinetic Constants of Glutathione Peroxidase** SREEKANTH SURAVAJJALA, University of Rhode Island, Menashi A Cohenford, Praveen K Pampati, Joel A Dain

(930-28 P) **Studies on the Behavior of Meglumine Antimoniate in the Human Body** FLAVIA A VIEIRA, Cidade Universitária, Norbert F Miekeley, Armando O Schubach

(930-29 P) **A Study on the Direct Separation and Detection of Polyamines and Biogenic Amines by Ion-Pair High Performance Liquid Chromatography with Chemiluminescent Nitrogen Detector** JINGSHUN SUN, Amgen, Inc.

(930-30 P) **Sensitivity Enhancement of Surface Plasmon Resonance Biosensor by Silica-Coated CdTe Quantum Dots** YING MU, Zhejiang University, Qinhan Jin, Lei Tao, Wei Jin

(930-31 P) **Quantitative Analysis of Three Mercury Species in Blood Using Speciated Isotope Dilution Mass Spectrometry (EPA Method 6800)** TIMOTHY FAHRENHOLZ, Duquesne

University, Joshua Z Seither, G M Mizanur Rahman, Matt Pamuku, Laura Hinjosa Reyes, Panxi Zhao, Howard M Kingston

(930-32 P) **Synthesis, Improved Solubility and Selective Cytotoxicity Characteristics of Pentaphosphoquercetin** SAMUEL KALLAVI MWILU, SUNY-Binghamton, Omowunmi A Sadik

(930-33 P) **Amplified Fluorescence Quenching of Poly (p-phenylene-ethynylene)s by Organophosphonates in Presence of Copper Ions** SINGARAVELU VELAYUDHAM, Michigan Technological University, Haiying Liu, Sarah A Green

(930-34 P) **Monitoring of Biological Matrices by GC-MS/MS for Chemical Warfare Nerve Agent Detection** JEFFREY M MCGUIRE, US Army ECBC, Edward M Jakubowski, Sandra A Thomson

(930-35 P) **Innovative Technologies for Natural Products Discovery** ERIN E CARLSON, Indiana University, Antoinette Y Odendaal, Darci J Trader

(930-36 P) **Phase Inverted Polyamic Acid Membranes for Sensing and Isolating Engineered Nanoparticles** NIAN DU, SUNY-Binghamton, Cheuk W Wong, Omowunmi A Sadik

(930-37 P) **Rapid Pesticide Exposure Analysis Using Surface-Enhanced Raman Spectroscopy** KEVIN M SPENCER, EIC Laboratories, Inc., Susan L Clauson, Sarah A Spencer, James M Sylvia, Quirina M Vallejos, Sara A Quandt, Thomas A Arcury

(930-38 P) **HPLC/MS/MS Multiresidual Analytical Method for Simultaneous Detection and Quantification of Human Pharmaceuticals and Synthetic Hormones for Environmental Application** NAJAT A AL-ODAINI, Universiti Putra Malaysia, Mohamad P Zakaria, Mohammad I Yaziz, Salmijah B Surif

(930-39 P) **A Comparative Study of Ultra Performance Liquid Chromatography and Ion Chromatography for the Analysis of Perchlorate Contamination on a Military Installation** DOUGLAS MICHAEL PAPENMEIER, Naval Surface Warfare Center, Crane, Steve Weddle, John E Spencer

(930-40 P) **Determination of Pollution Levels by Polycyclic Aromatics Hydrocarbons in Water of the Cauca River** RODRIGO ANDRES VILLA SARRIA VILLA, Universidad del Valle, William Ocampo-Duque, Martha Paez-Melo, Marta Schuhmaher

(930-41 P) **Investigation of Molybdenum Blue Reagent Formulations for the Determination of Arsenic and Phosphorus** JAMES K KEARNS, University of Massachusetts

(930-42 P) **Ultrafiltration and Immunoassay-Based Bacterial Pathogen Detection** CHAD LEWIS COWLES, University of Nevada Reno, Zhu Xiaoshan

(930-43 P) **Applications of New Silica-based SPE Cartridges** BRUCE RICHTER, Dionex, SLCTC, David E Knowles, Richard E Carlson, Brian C Dorich, Kannan Srinivasan, SM Rahmat Ullah, Eric S Francis

(930-44 P) **Role of Metal Ions in Photocatalytic Degradation of Brilliaint Blue** RAMESHWAR AMETA, Govt. Meera Girls College

(930-45 P) **Analysis of Natural and Artificial Vanilla Flavored Food Products Using**

Atmospheric-pressure Solids Analysis Probe PETER J LEE, Waters Corporation, Ann Marie Ruel, Alice Di Gioia, Michael P Balogh

(930-46 P) **Analysis of Absinthe by Solid Phase Extraction and LC-M/MS: A Simple Test for Thujone Concentration** JEFFERY HACKETT, Northern Tier Research, Michael Telepchak, Michael J Coyer

(930-47 P) **Purification of Biodiesel for Cold-flow Properties** DALE LECAPTAIN, Central Michigan University, Mike Todd, David Allan

(930-48 P) **Employment of Factorial Design for Optimization of Chloride Content Analysis in Brazilian Automotive Fuel Ethanol** FLAVIA A VIEIRA, Cidade Universitária, Camille R Chaves, Suelene F Silva, Rodolfo Lorençatto, Akie K Avila, Humberto B Novaes

(930-49 P) **A New Atomization Micro-cell for Trace Metal Determinations by Tungsten Coil Atomic Spectrometry** GEORGE L DONATI, Wake Forest University, Robert B Wildman, Bradley T Jones

(930-50 P) **Trace Analysis of Non-volatile Heterocyclic Amines in Cigarette Smoke Condensate and Its Fractions by Silylation-GC-MS** SIYUAN LIU, Virginia Tech, Larry T Taylor, Michael F Borgerding, William M Coleman III, Besty R Bombick

(930-51 P) **Studies and Evaluation of the Methods of Preparation of Sol-Gel for Enzyme Immobilization and Analytical Applications** CHU-NGI HO, East Tennessee State University, Suzana Hamdan

(930-52 P) **Exploring Microchip Electrophoresis as a Means of Separating and Detecting Peroxynitrite: A Potent Endogenous Oxidant** EMILIE R MAINZ, University of Kansas, Susan M Lunte

(930-53 P) **Novel Approach to Microfluidics Education** CHENG WEI TONY YANG, University of British Columbia, Eric Ouellet, Adrian C Lee, Jake Abbott, Cameron E Lawson, Eric T Lagally

(930-54 P) **Effects of Glucose and PUGNAc on *O*-GlcNAc Protein Modification in Pancreatic Islets of Langerhans** ANNA R LOMASNEY, Florida State University, Michael G Roper

(930-55 P) **Parallel Microfluidic Arrays for Surface Plasmon Resonance Imaging** ERIC OUELLET, Michael Smith Laboratories, UBC, Christopher Lausted, Leroy Hood, Eric T Lagally

(930-56 P) **MALDI of Proteins Captured by Antibody Microarrays on Silica Colloidal Crystals** DAVID A EGAS, University of Arizona, Mary J Wirth, Erin Johnson, Vicki H Wysocki, Saliya Ratnayaka

(930-57 P) **Investigations of Binding Targets of the Pro-Mutagen 2-Aminoanthracene** EMILIA O ZARGHAM, Southern Illinois University, Luke Tolley, Jay C Means

(930-58 P) **SILAC and Mass-spectrometry for the Assessment of Effects of Arsenite on the Global Protein Expression in the Human HL-60 Cells** LEI XIONG, University of California, Riverside, Yinsheng Wang

(930-59 P) **Using Thermo-responsive Guanosine Gels for In-capillary Preconcentration in CE** SARAH BASHAW, Skidmore College, Ann K Kotze, Kimberley A Frederick

(930-60 P) **Tracer Pulse Chromatographic Investigations of Reversed-Phase, Gradient Elution HPLC** JENNIFER MALLETTE, University of Mississippi, Mei Wang, Jon F Parcher

(930-61 P) **Integration of Direct Analysis in Real Time with a Low Cost Mass Selective Detector (MSD) for Utilization in Food, Forensics, and Pharmaceutical Analysis** ELIZABETH CRAWFORD, IonSense, Inc., Jordan Krechmer, Brian D Musselman, Michael Festa, Ron Shomo, John Manos, David Manura

(930-62 P) **An Integrated Fluorescence Detection System Using Organic Light Emitting Diodes as Light Source** YUKIKO OKUMA, Kyushu University, Mayo Miyake, Akihide Hemmi, Toshihiko Imato, Masayuki Yahiro, Chihaya Adachi, Katsumi Uchiyama, Hizuru Nakajima

(930-63 P) **Real-Time Detection of High Explosives Using Photo-Electric Chemical Sensors** JAY S HUEBNER, University of North Florida, Jarrod Mousa

(930-64 P) **Detecting Explosives in the Presence of Real-World Interferences Using Surface-Enhance Raman Spectroscopy** KEVIN M SPENCER, EIC Laboratories, Inc., Sarah A Spencer, Susan L Clauson, James M Sylvia

(930-65 P) **Surety Analysis of Water Supplies Using Surface-Enhanced Raman Spectroscopy (SERS)** KEVIN M SPENCER, EIC Laboratories, Inc., James M Sylvia, Sarah A Spencer, Susan L Clauson

(930-66 P) **Production of Nanoparticle Substrates of Platinum and Palladium for Ultraviolet Surface-Enhanced Raman Spectroscopy Using Electroless Deposition** ERIK DAVID EMMONS, U.S. Army Edgewood Chemical Biological Center, Augustus W Fountain

(930-67 P) **Data Security Considerations in the Hosted LIMS Environment** MICHELLE SHARRON

(930-68 P) **Evaluating New Directions to Improve Biofouling Resistance of Metal(oxide) Substrates** ANTHONY HASKAMP, Northern Kentucky University, Jonathan Pahren, Aaron Swomley, Allen Morris, Heather A Bullen

(930-69 P) **On Electrical Characteristics of Ion-Selective Polymeric Membranes** EUGENIA EFTIMIE TOTU, University Politehnica of Bucharest, Aurelia Cristina Nechifor, Ioana Diaconu, Elena Ruse

(930-70 P) **Chemically Stable High Resolution Surface Patterning by Thiolated DNA for Self Assembly of Nanocircuits** NITESH MADAAN, Brigham Young University, Robert C Davis, Helmut Schlaad, Matthew R Linford

(930-71 P) **Nano Spray Dryer - Submicron Particles of Small Sample Quantities at High Yields** CORDIN ARPAGAUS, Büchi Labortechnik AG

(930-72 P) **Corrosion Inhibition of Carbon Steel in Nitric Acid Media Using Nanomagnetic Fluid as a Novel Approach to Corrosion Resistance** SMITA MEENU JAUHARI, Sardar Vallabhbhai National Institute of Technology

(930-73 P) **A Combined Scanning Probe and Spectroscopic Approach to a New Room-Temperature Deposition Technique for 2-Dimensional Single-Walled Carbon Nanotube Networks** QINGHUI ZHANG, University of Georgia, Marcus D Lay

(930-74 P) **Nanocomposites of Multi-Walled Carbon Nanotubes and Iron Oxide Nanoparticles for the Separation of Trace Toxic Ions** JUSTINE MARIE MINISH, Alma College, Julia X Zhao, Aize Li

(930-75 P) **Application of Percolation Theory to the Electronic Behavior of Single-Walled Carbon Nanotube (SWNT) Networks Deposited via Laminar Flow Deposition** QINGHUI ZHANG, University of Georgia, Marcus D Lay

(930-76 P) **Dispersion of Single-Walled Carbon Nanotubes in Aqueous Solution** MEAGAN A CAUBLE, University of Georgia, Pornnipa Vichchulada, Qinghui Zhang, Marcus D Lay

(930-77 P) **An "Electrospun" Nanofiber Enzyme-Based Electrode for Rapid *in vivo* Neurochemical Measurements** LEYDA Z LUGO-MORALES, North Carolina State University, Christina Tang, Saad A Khan, Stephen W Morton, Philip L Loziuk, Leslie Sombers

(930-78 P) **Determination of the Odor Signature of Human Remains Using Non-contact, Dynamic Airflow Sampling** LAURYN E DEGREEFF, Florida International University, Kenneth G Furton

(930-79 P) **Determination of Inorganic Anion Impurities in a Water-insoluble Pharmaceutical by Ion Chromatography with Suppressed Conductivity Detection** BRIAN M DE BORBA, Dionex Corporation, Khalil Divan, Jeffrey S Rohrer

(930-80 P) **Determination of Sulfamate and Sulfate in Topiramate by Ion Chromatography with Suppressed Conductivity Detection** BRIAN M DE BORBA, Dionex Corporation, Jeffrey S Rohrer

(930-81 P) **Electrochemistry/Liquid Chromatography/Mass Spectrometry for the Simulation of the Oxidative Metabolism of Drugs** UWE KARST, University of Münster

(930-82 P) **Electrical Impedance Spectroscopy Study on Colloidal Suspensions for Particle Size Determination** YANLIN ZHAO, University of Leeds, Mi Wang, Robert Hammond

(930-83 P) **Development and Validation of a Fast Reversed-Phase High-Performance Liquid Chromatography Method for Assay of Common Preservatives that are used in Pharmaceutical and Cosmetic Products** SATISH KUMAR, Schering-Plough, Shilpa Mathkar, Chantale Romero, Robert J Markovich, Abu M Rustum

(930-84 P) **Novel Binding Sites of Cisplatin to Albumin Revealed by LC-MS/MS** FUYI WANG, Institute of Chemistry, CAS, Wenbing Hu, Qun Luo

(930-85 P) **Genotoxic Impurities: Evaluation, Quantitation, and Control Strategy for a Drug Substance Synthesis** KRISTINE LYNN CAPPUCCIO, Merck & Co, Inc., Robert Hartman, Stephen Marcinko, Monica Yang, Cameron Cowden, Daniel Kumke, Feng Xu, Theresa Natishan

(930-86 P) **Determination of Spectrophotometric Absorptivity by Analytical** M SENTHIL RAJA, Opp. To Boys Higher Secondary School

(930-87 P) **Rapid Method for Assessing Coating Performance in Capillary Electrophoresis** ASHLEY STINGEL, Skidmore College, Leah Sussman, Stephen Crowley, Kimberley A Frederick

(930-88 P) **Fragmentation of Multiply-Charged Polymers Using ESI-FTMS** CYNTHIA J KAESER, University of the Cumberlands, Sasa M Miladinovic, Charles L Wilkins

(930-89 P) **Binder Free Thin Layer Chromatography Plates Assembled Through Microfabrication** DAVID S JENSEN, Brigham Young University, Li Yang, Jun Song, John Evans, Richard Vanfleet, Robert C Davis, Michael A Vail, Andrew Dadson, Matthew R Linford

(930-90 P) **Nanosecond Time-Domain Fluorescence: A Mixture Analysis Perspective** MARK H VAN BENTHEM, Sandia National Laboratories, Gregory D Gillispie

(930-91 P) **Potentiometric Studies of Some Mixed Ligand Complexes in 1:1:2.5 Concentration** DILIP SHRICHAND PABREJA, Science College

(930-92 P) **Single Microspherical SERS Probe for Molecular Detection** LILIN PIAO, Seoul National University, Taek Dong Chung

(930-93 P) **Volatile Organic Compounds in Headspace Over Electrical Components** NEIL D PAZ, New Mexico State University

(930-94 P) **Application of Parameter Design in Method Development** YUMING CHEN, Covidien, Michael D Bonfanti, Xinqun Huang, Shaoxiong Huang, Robert R Wilhelm, Michael Matchett

(930-95 P) **Melamine Detection in Dairy Matrices Using Photo-electric Chemical Sensors** ANGELA N MIGUES, University of North Florida, Jay S Huebner, Brett Younginger

(930-96 P) **After a "Dirty Bomb": A Low-Cost, Field-Portable Instrument to Determine Sr in Environmental Samples** ARTHUR L SALIDO, Western Carolina University, Collin Jones, Harrison Burke, Bradley T Jones

(930-97 P) **New Approach to Analyzing Total Organic Carbon (TOC) in Wastewater** THOMAS SZAKAS, GE Analytical Instruments, Caryn Cullen, Steve Austin

(930-98 P) **Objective and Robust Metric for the Comparison of Chemometric Classifications** JAMES J HARYNUK, University of Alberta, Nikolai A Sinkov

(930-99 P) **Structures of Novel Sulfated Chemoenzymatic Oligomers of 4-hydroxycinnamic Acid Through Dynamic Affinity Chromatography and Mass Spectrometry** AIYE LIANG, Virginia Commonwealth University, Jay N Thakkar, Michael Hindle, Umesh R Desai

(930-100 P) **Investigation of the Energy Transfer from Fluorescent Proteins to Metal Nanoparticles and Surfaces** DRAGAN ISAILOVIC, University of Toledo, Suraj Saraswat, Terry P Bigioni, Lijun Guo, Peter Lu, Lindsay Sanzenbacher

(930-101 P) **Sensitive Electrochemical Immunosensor for Matrix Metalloproteinase-3 based on Single-wall Carbon Nanotubes** BERNARD S MUNGE, Salve Regina University, Jacqueline Fisher, Lines N Millord, Colleen E Krause, Richard S Dowd

(930-102 P) **Tobacco Specific Nitrosamine (TSNA) Method Comparison Using UHPLC-MS/MS** JOHN A MATHIS, Global Laboratory Services, Inc., Po Ying Yeung

(930-103 P) **Detection of Malondialdehyde in Rat Liver During Ischemia/Reperfusion Using**

Microdialysis Sampling JUSTIN C COOLEY, University of Kansas, Craig E Lunte

(930-104 P) **Development of a Dual Electrode Liquid Chromatography (LC-EC) Method for the Detection of Co-enzyme Q_{10} (Co-Q_{10})** MEGAN DORRIS, University of Kansas, Craig E Lunte

(930-105 P) **Development of a Novel On-capillary Dual-electrode Detection Scheme for Capillary Electrophoresis (CE)** MEGAN DORRIS, University of Kansas, Eric W Crick, Craig E Lunte

POSTER SESSION Session 940

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Affinity-based Analysis

Monday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(940-1 P) **Square Capillaries Used as a Simple Microfluidic Device for Bioanalysis** JENNIFER A MARTIN, University of Florida, Joseph A Phillips, Weihong Tan

(940-2 P) **CE-SELEX: Developing Aptamers Against Subcellular Proteins** THANE TAYLOR, University of Minnesota-Twin Cities, Edgar A Arriaga, Michael T Bowser

(940-3 P) **Applying Pyrroloquinoline Quinone (PQQ) Loaded Polymeric Nanospheres to DNA Binding Assays** LAURA B ZIMMERMAN, University of Michigan, Dongxuan Shen, Brittany M Mitchell, Mark E Meyerhoff

(940-4 P) **CE-SELEX Based Development of Aptamers with Selectivity for Targets Containing Post-Translational Glycosylation Mimics** TREVOR M AXELROD, Santa Clara University, Michael J Hayes, Christopher M Rose, Scott F Hickey, Steven Suljak

POSTER SESSION Session 950

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Biomarker Discovery and Analysis

Monday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(950-1 P) **Investigation of Urinary Pteridine Levels as Potential Biomarkers for Non-invasive Cancer Diagnosis** SANJEEWA GAMAGEDARA, Missouri University of Science & Technology, Rami Owera, Stephen E Gibbons, Yinfa Ma

(950-2 P) **Surface-enhanced Raman Spectroscopy for the Detection of Inflammatory and Vasoactive Mediators Produced During Allergic Response** AUDREY F GUERARD, University of Minnesota, Kyle C Bantz, Christy L Haynes

(950-3 P) **Quantification of Biochemically Relevant Analytes in Microalgae Using FTIR and Chemometric Methods** REBECCA HORTON, University of Tennessee, Eduard Duranty, Morgan McConico, Meaghan Robbins, Frank Vogt

(950-4 P) **Fucosylated Glycoproteins as Potential Biomarkers for Early Hepatocellular Carcinoma** YASHU LIU, University of Michigan

(950-5 P) **Sensitive Cytokine Detection in Complex Samples Using Silicon Photonic Microring Resonator Arrays** MATTHEW S LUCHANSKY, University of Illinois, Ryan C Bailey

(950-6 P) **Comparison of SPR-based and Capillary-based biosensors for Monitoring Pain Biomarkers** NAUMIH NOAH, SUNY Binghamton, Samuel Kallavi Mwilu, Omowunmi A Sadik

POSTER SESSION Session 960

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Biomolecular Interaction Analysis

Monday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(960-1 P) **Investigating Molecular Interactions Using FRET Based Polydiacetylene Liposomes** NAVNEET DOGRA, Southern Illinois University, Xuelian Li, Punit Kohli

(960-2 P) **Biointeraction Analysis of Binding by Sulfonylurea Drugs to HSA in Diabetes** JEANETHE A ANGUIZOLA, University of Nebraska-Lincoln, David S Hage

(960-3 P) **Modeling Complex Cell Adhesive Environments with Multicomponent, Biomolecular Gradients Fabricated via Direct Photochemical Attachment** TERESA A FRATERMAN, University of Illinois, Urbana-Champaign, Christine R Toh, Diana A Walker, Ryan C Bailey

(960-4 P) **Optical Spectroscopy of Guanosine Gels and Their Interactions with Biological Molecules** BROOKE O'CONNELL, Rensselaer Polytechnic Institute, Yuehua Yu, Linda B McGown

(960-5 P) **Kinetic Studies of Drug-Protein Interactions by High-Performance Affinity Chromatography** ZENGHAN TONG, University of Nebraska-Lincoln, David S Hage

POSTER SESSION Session 970

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Fluorescence/Luminescence Applications

Monday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(970-1 P) **Development of a Gas Phase Chemiluminescence System for the Measurement of**

Arsenic in Environmental Samples KIRUBEL ASSEGID, George Mason University

(970-2 P) **Investigating Partial Reversibility of Colorimtery and Fluorescence** CHANTELL SKYE EVANS, Southern Illinois University, Punit Kohli, Xuelian Li

(970-3 P) **Porous Silicon as a Chemical Sensor Platform** MICHELLE M MCGOORTY, University at Buffalo, SUNY, Randi E Cattoi, Nadine Kraut, Frank V Bright

(970-4 P) **Gold Nanodot-Based Luminescent Sensor for the Detection of Hydrogen Peroxide and Glucose** YEN-CHUN SHIANG, National Taiwan University

(970-5 P) **Analysis of Mono-Hydroxy Polycyclic Aromatic Hydrocarbons Biomarkers in Urine Samples via High-Performance-Liquid Chromatography and Laser-Excited Time-Resolved Shpol'skii Spectroscopy** HUIYONG WANG, University of Central Florida, Walter B Wilson, Andres D Campiglia

(970-6 P) **High-Throughput Analysis of Droplet Samples in Polymer Microfluidic Channels for Drug Discovery** LEE WONBAE, Louisiana State University, Namwon Kim, Subramanian Balamurugan, Dimitris E Nikitopoulos, Michael C Murphy, Steven A Soper

(970-7 P) **Investigate the Efficacy of Triclosan on Vibrio Fischeri Using Bioluminescence Techniques** LAILA ALI, FDA

(970-8 P) **Two Dye Near-Infrared Fluorophore Aggregates: New Tool for Bioanalyses** GABOR PATONAY, Georgia State University, Garfiled Beckford, Lucjan Strekowski, Maged Henary, Sang Hoon Kim

(970-9 P) **Fluorescence Stability of Quantum Dots in Immuno-Buffers** XIAOSHAN ZHU, University of Nevada Reno, Dayue Duan, Steen Madsen

(970-10 P) **Low Concentration Nitrogen Dioxide Calibration Mixtures: Cylinder Preparation and Stability Effect** JOACHIM BARBE, Air Liquide, Rob Wessel, Gerard Nieuwenkamp, Klaus Karrenbauer

(970-11 P) **Universal Surface for Surface-enhanced Spectroscopic Techniques** HIROYUKI TAKEI, Toyo University, Tetsuji Yamaguchi, Takatoshi Kaya, Misao Aoyama

(970-12 P) **Development of Smart Cuvettes for Non-intrusive Monitoring of DO in Small Samples** HARISH DABHI, Ocean Optics, Inc., Mahmoud R Shahriari

(970-13 P) **Gold Nanoparticle Based Colorimetric Screening Method for Pesticides Residual** CHIUNG-KUN HUANG, Biomedical Engineering and Environmental Sciences, I-Hsiang Hsu, Shin-Fu Chiou, Yuh-Chang Sun

(970-14 P) **Optical Fiber Core as a Spectroscopic Tool to Study Swelling/Deswelling Kinetics of Soft Matters** SERGEY V KAZAKOV, Pace University

(970-15 P) **Withdrawn**

(970-16 P) **Fluorescence-based Translucent Sol-gel Matrix Doped Fiber-optic Biosensor for Picomolar Detection of Arginine** GURNOOR KAUR, Punjabi University, Neelam Verma, Denys N Wheatley

(970-17 P) **Analysis and Comparison of Protein Conformational Changes Caused by Microwave and Conventional Heating Methods** NICHOLAS MIZENKO, Westminster College, Helen M Boylan, Ryan Konik, Natasha A Kassim

POSTER SESSION Session 980

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Food Science - Sensory and Elemental Analyses

Monday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(980-1 P) **Withdrawn**

(980-2 P) **A Highly Sensitive and Quantitative Approach for Flavor Compound Analysis in Alcohol Containing Beverages Using Active SPME / GCMS Analysis** THOMAS XAVIER ROBINSON, Entech Instruments, Inc., Daniel B Cardin, Christopher Casteel

(980-3 P) **Analysis of Beers for Heavy Metals via Flame Stomic Absorption and UV-VIS: Focus on Iron, Chromium and Lead** MARK T STAUFFER, University of Pittsburgh at Greensburg, Samuel J Tokich

(980-4 P) **Preliminary Study of Phosophate Levels in Human Hair Due to Consumption of, and Exposure to, Fast Food** MARK T STAUFFER, University of Pittsburgh at Greensburg, Christina M Miller

(980-5 P) **Complementary Techniques Used for Enhancing GC/MS Analysis of Flavour and Fragrance Components in Consumer Beverages** NICOLA M WATSON, Markes International Ltd., Elizabeth Woolfenden, John Dwan

(980-6 P) **A New Syringe Needle Concentration System for the Analysis of Volatiles by HRGC-MS** LINDSEY H PYRON, EST Analytical, Rene Trost

(980-7 P) **Combustion Nitrogen/Protein Determination in Food Matrices Using a Macro Sample Mass** MASON MARSH, LECO, Dennis Lawrenz, Liliane Eichenbaum, Shruti Juyal

(980-8 P) **Determination of Total Mercury in Rice by Direct Solids Analysis** LINDSAY R DRENNAN, University of Massachusetts//PerkinElmer, Inc., Laura Thompson, Dennis A Yates, Julian Tyson

(980-9 P) **Sensory Quality Control of Peanut Products Using an E-Nose** JULIE MARSHALL, JLA, Jean-Christophe Mifsud, Michaël Lebrun, Xavier Bredzinski

(980-10 P) **Discrimination of Wheat Varieties Using an Electronic Nose** ODEAN M LUKOW, Agriculture and Agri-Food Canada, Kathy Adams

(980-11 P) **PrepLinc Automated Melamine Workstation for Automated Sample Cleanup Prior to Chromatographic Analysis** TOM K DOBBS, J2Scientific

(980-12 P) **Assessment of Metal Contamination Leaching from Recycling Plastic** XIAOLIANG CHENG, Missouri S&T

(980-13 P) **Fragrance Profiling of Consumer Products Using a Fully Automated Dynamic Headspace System** ANDREAS HOFFMANN, GERSTEL GmbH, Oliver Lerch, Volker Hudewenz

(980-14 P) **Flavor and Taste Evaluation by Electronic Nose & Tongue to Guide the Development of New Food Products** XAVIER BREDZINSKI, Alpha MOS, Jean-Christophe Mifsud, Michaël Lebrun, Marion Bonnefille

(980-15 P) **Applications of TG-GCMS to Contaminants in Food** KEVIN P MENARD, PerkinElmer, Craig Sellman

(980-16 P) **Applications of Automated Thermometric Titrimetry in Routine Process and Quality Control of Fats and Oils** GEORGE PORTER, Metrohm USA, Thomas K Smith, Christian Haider

POSTER SESSION Session 990

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

FTIR and Raman-Materials Analysis

Monday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(990-1 P) **Characterization of Drug-Eluting Coronary Stents by Confocal Raman Microscopy and Multivariate Analysis** MAUREEN F CHISHOLM, Cordis, Karin M Balss, Cynthia A Maryanoff

(990-2 P) **Characterization of Archaeological Findings by XRD and FT-IR Spectroscopy** G VELRAJ, Periyar University, P Sathya

(990-3 P) **Tomographic 3D-Reconstruction of Gas Clouds Based on Scanning Imaging Infrared Spectroscopy** ROLAND HARIG, TUHH, Peter Rusch

(990-4 P) **Surface-Enhanced Raman Scattering Between Metal Nanocore and Nanoshell** SUNG WOO HEO, Pohang University of Science and Technology, Sehoon Jung, Seung Bin Kim

(990-5 P) **Withdrawn**

(990-6 P) **Reproducibility of FTIR Mineral Spectra Using Alternate Single Reflection Diamond ATR Configurations** JOSEPH P LUCANIA, Harrick Scientific Products, Inc., Ali Kocak

(990-7 P) **Self Assembled Monolayers: Comparison of FTIR Sampling Techniques** FRANK S WESTON, Varian, Inc., Ellen V Miseo

(990-8 P) **Effect of Nanoparticle Shape Over Performance of SERS Based Sandwich Immunoassay** ERHAN TEMUR, Gazi University, Ismail H Boyaci, Ugur Tamer

(990-9 P) **ATR-Raman Microspectroscopy: Theoretical Considerations and Experimental**

Validations WILLIE TRAN, Miami University, Ohio, Andre J Sommer

(990-10 P) **The Fastest High Definition Raman Imaging of Carbon Nanotubes Bridged Between Electrodes** TOMOYA UCHIYAMA, Nanophoton Corporation, Minoru Kobayashi, Taisuke Ota, Masamichi Yoshimura

(990-11 P) **The Fastest High Definition Raman Imaging of Compositional Distribution on the Lithium-ion Battery Electrode** TOMOYA UCHIYAMA, Nanophoton Corporation, Minoru Kobayashi, Taisuke Ota

(990-12 P) **In-situ Raman Analysis of Nitrogen Doped Zinc Oxide Films** CRAIG A DAMIN, Miami University, Ohio, Lei Guo, Wei Mu, Lei L Kerr, Andre J Sommer

(990-13 P) **A New Hand Held FTIR for Surface Analysis** JOHN SEELENBINDER, A2 Technologies, Steven M Donahue, Frank Higgins, Alan Rein

(990-14 P) **Development of portable RAMAN Imaging System for Material Analysis of Cultural Properties** HISAMITSU HIGASHIYAMA, ST Japan

(990-15 P) **Towards the Development of a Rationally Designed Surface Architecture SERS Platform Using Atomic Layer Deposition** JOSHY JOHN, University of Tennessee, Shannon Mahurin, Sheng Dai, Michael J Sepaniak

(990-16 P) **Adsorption of Quinolinium Tricyanoquinodimethanides Probed by SERS** RHONDA PATRICE MCCOY, Howard University, Melissa Fletcher, Charles Hosten, Orest Glembocki

(990-17 P) **Probing the Orientation of Self-Assembled DAFO Using SERS and STM** RHONDA PATRICE MCCOY, Howard University, Raymond Butcher, Charles Hosten, Alberto Vivoni

(990-18 P) **Chemical Analysis for Customer Service** ELLEN V MISEO, Varian, Inc., Jim Steensrud, Sidharth Sood

(990-19 P) **The Effects of Particle Size, Shape and Optical Properties on the Ability to Detect and Collect Spectra Free of Spectral Artifacts Using Infrared Microspectroscopy** HEATHER J GULLEY-STAHL, Miami University, Ohio, Zachary Wenker, Andre J Sommer

(990-20 P) **Building a Bridge – Addressing the Fundamental Differences Between Macro- and Micro-analysis in Experimental Design and Data Interpretation of Raman Measurements of Pharmaceutical Tablet** EUNAH LEE, Horiba Jobin Yvon, Inc., Fran Adar, Sergey Mamedov, Andrew Whitley

POSTER SESSION Session 1000

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Mass Spectrometry in Homeland Security/Forensics

Monday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(1000-1 P) **Daily Reinforcement and Determination of Detection Limits for Detection Canines Through the Use of a Universal Non-target Calibration Compound(s)** KATYLYNN

BELTZ, Florida International University, Kenneth G Furton

(1000-2 P) **Solid-Phase Microextraction Gas-Chromatography Mass-Spectrometry of Sulfur Mustard Metabolites in Hair** AMANDA S APPEL, South Dakota State University, Robert P Oda, Mitchell R Dobberpuhl, Wendy K Maserek, Brian A Logue

(1000-3 P) **Analysis of Drugs of Abuse Using Gas Chromatography Mass Spectrometry Coupled with Infrared Detector** MARK TAYLOR, Shimadzu Scientific Instruments, Ronald D Snelling, Richard R Whitney, Zhuangzhi "Max" Wang

(1000-4 P) **A Study of Complex Mixtures from Fire Debris by Summed Ion Spectra** MARY R WILLIAMS, University of Central Florida, Kelly McHugh, Michael E Sigman

(1000-5 P) **Automated Searching of an Ignitable Liquids Library of Summed Ion Spectra by Target Factor Analysis** KELLY MCHUGH, University of Central Florida, Michael E Sigman, Mary R Williams

(1000-6 P) **A 6-Month Study of the Characteristic Human Scent VOCs Present in Various Biological Specimens** MAIKO KUSANO, Florida International University, Kenneth G Furton

(1000-7 P) **Near Real-time Analysis of Airborne Trace Level Toxic Chemicals Using Thermal Desorption Pre-concentration, Time of Flight Mass Spectrometry and Novel Data Analysis Software** NICK BUKOWSKI, ALMSCO International, Gerhard Horner, Gareth M Roberts

(1000-8 P) **Global Mass Spectrometry Fingerprinting for a Rapid and Efficient Fraud Detection THIERRY ZESIGER, SmartNose, Rene Trost, Lindsey H Pyron**

(1000-9 P) **Drug Quantification: Simultaneous Analysis of Gamma-Hydroxybutyric Acid (GHB) and Gamma-Butyrolactone (GBL) in Urine by SIDMS Using Nano-ESI-TOFMS** JOSHUA Z SEITHER, Duquesne University, Timothy Fahrenholz, Howard M Kingston

(1000-10 P) **High-throughput Detection of Improvised Explosive Devices (IEDs) by Walkthrough Portal with Wire Linear Ion-trap** HISASHI NAGANO, Hitachi, Ltd., Masuyuki Sugiyama, Yuichiro Hashimoto, Hideki Hasegawa, Yasutaka Suzuki, Minoru Sakairi, Yasuaki Takada

(1000-11 P) **The Evaluation of Volatile Organic Compounds from Novel Biological Specimens by Non-Destructive Analytical Techniques for Use in Forensic Identifications** JESSICA SARA WIRKS, Florida International University, Kenneth G Furton

POSTER SESSION Session 1010

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Near Infrared Analysis

Monday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(1010-1 P) **Heterogeneous Chemical Distribution of Skin Layers and Its Impact on Noninvasive Glucose Measurements with Combination Near Infrared Spectroscopy** NATALIA ALEXEEVA, University of Iowa, Mark A Arnold

(1010-2 P) **Estimation of Optical Characteristics of Wood by Time-of-flight Near Infrared Spectroscopy** YOHEI KURATA, Nagoya University, Takaaki Fujimoto, Satoru Tsuchikawa

(1010-3 P) **Near-Infrared (NIR) Determination of Uniformity for a Drug Product Powder for Oral Suspension (POS) in Amber Glass Bottles** MATT SANTANGELO, Pfizer, Ken Norris, Brent Maranzano

(1010-4 P) **Characterization of Silicon Solar Cells Using NIR Spectroscopy** MIKIO SUGIOKA, Shimadzu Corporation

(1010-5 P) **Rapid Micro-sampling by ATR/FT-IR** JENNI L BRIGGS, PIKE Technologies, Kenneth D Kempfert

(1010-6 P) **Best Practices for Implementation of Handheld NIR for Rapid Material Analysis** DAN KLEVISHA, Polychromix, Nazarov Igor

POSTER SESSION Session 1020

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Separation Science

Monday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(1020-1 P) **Separation of Isomers of Chlorophenols and Aminophenols Using Molecular Imprinting Polymers** SUNG HYO CHOUGH, Chonnam National University, Gwang H Park, Hyun S Choi, Ju H Yeo

(1020-2 P) **Real Time In-silico Simulation of Retention under Multi-step Gradient Elution Conditions in Ion Chromatography** BOON K NG, University of Tasmania, Greg William Dicinoski, Robert A Shellie, Paul Raymond Haddad

(1020-3 P) **Chiral Separation of Beta-blockers Using Monolithic Column in Nonaqueous Media** CONGYING GU, Georgia State University, Shahab A Shamsi

(1020-4 P) **Investigation of 4-Aminophenol Stability on Strong Cation Exchange HPLC Methods** MIKE PEOPLES, Wyeth Consumer Healthcare, Ashleigh Feely, David Giamalva, Todd Koch

(1020-5 P) **Evaluating Commonly-used Size-exclusion Chromatography Approaches to Determining Molar Mass Averages and Distribution of Asphaltene** SHEN DONG, Florida State University, Andre M Striegel

(1020-6 P) **Uncertainty in Molecular Weight Data Generated with GPC Coupled to Light Scattering Detection due to Uncontrolled Injector Performance** JOHN A MCCONVILLE, Brookhaven Instruments Corporation, Jeffery Bodycomb, John Inderdohnen, Bruce Weiner

(1020-7 P) **Arsenic(III) and Arsenic(V) Extraction Using a Sol-gel Material Doped with Cyanex 301** DIANA YAZMIN PARDO-GAYTAN, UNAM, Eduardo Rodriguez de San Miguel, Luz E Vera-Avila, Flora E Mercader-Trejo, Josefina de Gyves

(1020-8 P) **Recovery of Pesticide Analytes Using EPA 608 Methods: Automated SPE Method Development Using SPE Modules** TOM K DOBBS, J2Scientific

(1020-9 P) **Modification of Copper Wires with Diazonium Ion Chemistry for Use as Solid Phase Microextraction Fibers** KRISTIN K CLINE, Wittenberg University, Neil Anderson, Christa Snyder

(1020-10 P) **Polyacrylamide Gel Electrophoresis of Trace Metal Ions Bounded to Proteins in Gel Fraction Using Novel Fluorescent Probes: Fluorescent Detection of Trace Fe(III) in Transferrin** SHINGO SAITO, Saitama University, Hiroki Oshima, Takahiro Nomura, Keitaro Yoshimoto, Makoto Sato, Mizuo Maeda, Masami Shibukawa

(1020-11 P) **Complexity in the Surfactant Medicated Extraction of Nanoparticles** YOSHITAKA TAKAGAI, Wake Forest University and Fukushima University, Willie L Hinze

(1020-12 P) **Synthesis and Evaluation of Novel Polymeric Chiral Stationary Phases Based on (1R, 2R)-(+)-1,2-diphenylethylene Diamine Derivatives for HPLC** THARANGA PAYAGALA, University of Texas at Arlington, Eranda Wanigasekara, Daniel Armstrong

(1020-13 P) **Synthetic Receptor for a Fluorosurfactant PFOA Obtained by Molecular Imprinting** JUN MATSUI, Konan University, Megumi Takayose

POSTER SESSION Session 1030

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Vibrational Spectroscopy

Monday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(1030-1 P) **Terahertz Spectroscopy of Amino Acids** DAVID C HUFNAGLE, Miami University, Ohio, Alex Baron, Anita R Taulbee-Combs, Gilbert E Pacey

(1030-2 P) **Observation of Nonmagnetic Induced Resonance Raman Optical Activity with a New Raman Spectrometer** HONGGANG LI, BioTools, Inc., Rina K Dukor, Nafie A Laurence

(1030-3 P) **Analysis of Adipose Derived Adult Stem Cell Differentiation with Surface Enhanced Raman Spectroscopy** BENJAMIN P MOODY, North Carolina State University

(1030-4 P) **Pleochroic Dielectric Materials for Narrow Band Optical Filters** RAJESH MORAMPUDI, Cleveland State University, John F Turner

(1030-5 P) **Rapid Authentication of Larch Fiber Dietary Supplement Ingredient by FT-IR Using Diamond Single Bounce uATR Sampling Device** PATRICK COURTNEY, PerkinElmer,

James Neal-Kababick, Jerry Sellors, Dean Brown

(1030-6 P) **Real Time Detection of Amino Acid Crystallization by Second Harmonic Generation** VICTORIA HALL, Purdue University, Garth Simpson

(1030-7 P) **Scattering of Magnetically Capped Silver Nanoparticles** JOHN C HECKEL, Clemson University, George Chumanov

(1030-8 P) **Mixed Monolayers on Gold Nanoparticle Labels for Multiplexed Surface-Enhanced Raman Scattering-Based Immunoassay** ROBERT J LIPERT, Iowa State University, Gufeng Wang, Hye-Young Park, Marc Porter

(1030-9 P) **A Renewable SERS Substrate Prepared by Cyclic Electroplating and Stripping of Silver Shells** YITAO LONG, East China University of Science and Technology, Dawei Li, Yang Li, Dan Li

(1030-10 P) **Diffuse Reflectance as a Sample Interface for Hand Held FTIR Spectrometers: Advantages and Use in a Variety of Field Applications** JOHN SEELENBINDER, A2 Technologies, Steven M Donahue, Frank Higgins

CONFEREE NETWORKING

Monday, March 1, 2010

1:00 - 3:00 PM

Application of Chemometrics Facilitated by: Santhosh Challa, Louisiana State University, >Room 312C
Electrochemistry and Microfluidics Facilitated by: Svetlana Mitrovski, Eastern Illinois University, Room 312B
In vivo Imaging Techniques Facilitated by: Heather Clark, Charles Stark Draper Laboratory, Room 311E
National Environmental Accreditation Facilitated by: Lara Autry, US EPA, Room 311G
The Analytical Dilemma: What Then Shall We Teach? Curriculum Facilitated by: Michael Samide and Olujide Akinbo, Butler University, Room 311H
UPLC and Micro LC Facilitated by: Mary Ellen McNally, E.I. DuPont de Nemours, Room 311F
Monday, March 1, 20105:00 - 7:00 PMAlternative Forms of Employment for the Scientific Professional Facilitated by: Robert Stevenson, ISC, Room 311E
Health and Safety in the Laboratory Facilitated by: James Kaufman, Laboratory Safety Institute, Room 311F
High-throughput Purification in Pharmaceutical Industry Facilitated by: Yuting Huang, Cubist Pharma, Room 311G
How Can Instrument Vendors Report Raw Data in a Uniform Open Non-proprietary Standard Format (XML)? Facilitated by: Anand Mudambi, US EPA, Room 311H

TUESDAY, MARCH 2, 2010
MORNING

AWARD Session 1040

Bomem-Michelson Award- arranged by Richard A Crocombe, Thermo Fisher Scientific

Tuesday Morning, Room 206A

Richard A Crocombe, Thermo Fisher Scientific, Presiding

8:00 **Introductory Remarks - Richard A Crocombe**

8:05 **Presentation of the 2010 Bomem-Michelson Award to Richard P Van Duyne, Northwestern University, by Henry Buijs, ABB**

8:10 (1040-1) **Single Molecule Surface-Enhanced Raman Spectroscopy** RICHARD P VAN DUYNE, Northwestern University

8:45 (1040-2) **Understanding Adsorption and Reactivity at Oil-Water Interfaces** GERI RICHMOND, University of Oregon

9:20 (1040-3) **Surface-Enhanced Raman Sensing of Pollutants** CHRISTY L HAYNES, University of Minnesota, Kyle C Bantz

9:55 **Recess**

10:10 (1040-4) **Chemistry at the Mesoscale: Adsorption/Desorption and Ultraslow Electrochemistry at Atom-Scale Junctions** PAUL W BOHN, University of Notre Dame, Ping Shi, Hsin-Yu Lin

10:45 (1040-5) **New Developments in the Theory of SERS** GEORGE C SCHATZ, Northwestern University

AWARD Session 1050

Pittsburgh Analytical Chemistry Award - arranged by Stephen G Weber, University of Pittsburgh

Tuesday Morning, Room 205A

Stephen G Weber, University of Pittsburgh, Presiding

8:00 **Introductory Remarks - Stephen G Weber**

8:05 **Presentation of the 2010 Pittsburgh Analytical Chemistry Award to Lloyd Smith, University of Wisconsin-Madison, by Gregg Gould, Chairman, Society for Analytical Chemists of Pittsburgh**

8:10 (1050-1) **Biological Mass Spectrometry: Challenges and Opportunities** LLOYD M SMITH, University of Wisconsin

8:45 (1050-2) **Enhanced Biosensing with Plasmons, Nanowires and Diffraction Gratings** ROBERT M CORN, University of California, Irvine, Naoya Nishi, Aaron Halpern, Yulin Chen, Luliana Sendroiu

9:20 (1050-3) **Single Cell Analysis Using Femtoliter Arrays** DAVID R WALT, Tufts University, Aaron F Phillips, Zhaohui Li, Christopher LaFratta, Dimitra Toumpanaki

9:55 **Recess**

10:10 (1050-4) **Semiconductor Sequencing - Leveraging a Trillion Dollars of Technology**

Development JONATHAN ROTHBERG, Ion Torrent Systems

10:45 (1050-5) **On The Rise of Machines that Transform Our Understanding of Model Organisms in Biology** NEIL L KELLEHER, University of Illinois, Ji Eun Lee, Paul M Thomas, Adaikkalam Vellaichamy, John C Tran, Adam C Catherman, Jack F Kellie, Dorothy Ahlf, Steve Sweet

SYMPOSIUM Session 1060

ACS Division of Analytical Chemistry Pushing the Envelope in Capillary Gas Chromatography - arranged by Matthew Klee, Agilent Technologies, Inc.

Tuesday Morning, Room 207C

Matthew Klee, Agilent Technologies, Inc., Presiding

8:00 **Introductory Remarks - Matthew Klee**

8:05 (1060-1) **Characterization of Ionic Liquids for Chemical Analysis** DANIEL ARMSTRONG, University of Texas

8:40 (1060-2) **Rational Stationary Phase Selection for Effective GC x GC Group-Type Separations** JOHN VINCENT SEELEY, Oakland University, Carly T Bates, Stacy K Seeley

9:15 (1060-3) **Pushing the Performance Envelope of Gas Chromatography -From Sample Collection to Data Analysis** AVIV AMIRAV, Tel Aviv University

9:50 (1060-4) **Gas Chromatographic Sampling Technologies for Speed and Portability** MILTON L LEE, Brigham Young University, Jesse A Contreras, Jacolin A Murray, H Dennis Tolley

10:25 (1060-5) **Two Dimensional Gas Chromatography and Capillary Flow Technology - Practical Industrial Applications** JIM LUONG, The Dow Chemical Company, Ronda Gras

SYMPOSIUM Session 1070

Analytical Challenges and Emerging Diagnostic Technologies for Resource-Limited Countries - arranged by Richard A Durst, Cornell University

Tuesday Morning, Room 308C

Richard A Durst, Cornell University, Presiding

8:00 **Introductory Remarks - Richard A Durst**

8:05 (1070-1) **Advances in Global Health Diagnostics** DEBORAH CAROL BURGESS, Bill & Melinda Gates Foundation

8:40 (1070-2) **Microfluidic and Nanofiber Approaches for Diagnostics in Resource-limited Settings** ANTJE J BAEUMNER, Cornell University

9:15 (1070-3) **Developing Novel Technologies for Low Income Settings** MARK DANIEL PERKINS, FIND

9:50 (1070-4) **Point-of-Care Diagnostics for Global Health** PAUL YAGER, University of Washington, Patrick S Stayton, Walt Mahoney, Domingo Gonzalo, Fredrick Battrell

10:25 (1070-5) **Simple Solutions** GEORGE M WHITESIDES, Harvard University

SYMPOSIUM Session 1080

Best Practice of Stability-Indicating HPLC Method Development - arranged by Michael W Dong, Genentech

Tuesday Morning, Room 207B

Michael W Dong, Genentech, Presiding

8:00 **Introductory Remarks - Michael W Dong**

8:05 (1080-1) **Strategies for Developing Robust HPLC Methods** JOHN W DOLAN, LC Resources

8:40 (1080-2) **A Roadmap and Some New Tools for Rapid HPLC Method Development** MICHAEL W DONG, Genentech, Derrick Yazzie, Nikhil Desai

9:15 (1080-3) **A Quality-by-Design Approach to Rapid LC Method Development** RICHARD VERSEPUT, S-Matrix, Graham Shelver

9:50 (1080-4) **Forced Degradation Studies Supporting Method Development: Best Practice and Limitations** PATRICK JANSEN, Eli Lilly and Company, Steven Baertschi

10:25 (1080-5) **Use of Ultra-high Pressure LC for Expediting Method Development and Difficult Separations** NAIJUN WU, Merck & Co, Inc., Zhong Li, Robert Pascoe, Guangyu Ma, Monica Yang, Pamela Rizos

SYMPOSIUM Session 1090

Beyond the Appearance of Artworks: The Analytical Chemist View - arranged by Christian A Amatore, CNRS and Michel Menu, Ministry of Culture

Tuesday Morning, Room 206B

Christian A Amatore, CNRS, Presiding

8:00 **Introductory Remarks - Christian A Amatore**

8:05 (1090-1) **Towards a Close Collaboration Between Analytical Chemistry, Conservation Science and Art** CHRISTIAN A AMATORE, ENS & CNRS

8:40 (1090-2) **Applications of a Noninvasive Portable XRD/XRF Instrument to Artworks** GIACOMO CHIARI, Getty Conservation Institute

9:15 (1090-3) **Chemistry and Art: Recent Developments for the Study and Conservation of Paintings** BRUNO BRUNETTI, University of Perugia

9:50 (1090-4) **Van Gogh : Imaging of Paintings and Palette** KOEN HENRI JANSSENS, University of

Antwerp, Michel Menu

10:25 (1090-5) **Under the Smile of Mona Lisa** PHILIPPE WALTER, CNRS, Laurence De Viguerie

SYMPOSIUM Session 1100

Bioanalytical in Brazil- arranged by Alexandre Brown, NurnbergMesse Brazil

Tuesday Morning, Room 300

Alexandre Brown, NurnbergMesse Brazil, Presiding

8:00 **Introductory Remarks - Alexandre Brown**

8:05 (1100-1) **Trends in Sample Preparation Using Combustion Techniques for Trace Analysis** ERICO MARLON DE MORAES FLORES, Universidade Federal de Santa Maria

8:40 (1100-2) **Instrumentation and Applications of Capillary Electrophoresis and Microdevices for Chemical Separations** CLAUDIMIR L DO LAGO, University of Sao Paulo

9:15 (1100-3) **Multidisciplinary Approaches Focusing on Comparative "Omics" of Bipolar Disorder and Genetic Modifications** MARCO AURÉLIO ZEZZI ARRUDA, University of Campinas

9:50 (1100-4) **Bioelectroanalysis in Brazil** ORLANDO FATIBELLO-FILHO, S. Carlos Federal University

10:25 (1100-5) **Overview on the Specification and Analytical Methods for Quality Control of Ethanol as an Alternative Biomaterial for the Petrochemical Industry** MARCIO DAS VIRGENS REBOUCAS, Braskem

SYMPOSIUM Session 1110

Microfluidics: Recent Progress Towards the Total Analysis System, Part I "WEBCAST" - arranged by Dana Spence, Michigan State University and R Scott Martin, Saint Louis University

Tuesday Morning, Room 205C

Dana Spence, Michigan State University, Presiding

8:00 **Introductory Remarks - Dana Spence**

8:05 (1110-1) **Integrating Microchip-based Valves and Electrochemical Detection with Electrophoretic Separations for Monitoring Cellular Release** R SCOTT MARTIN, Saint Louis University

8:40 (1110-2) **Integrated Cell Separations and Analysis in Microfluidic Devices** DIMITRI PAPPAS, Texas Tech University, Randall D Reif, Michelle M Martinez

9:15 (1110-3) **Microfluidic Approach for On-line Perchlorate Monitoring** CHARLES S HENRY, Colorado State University, Jana Gertsch, Jonathon Vickers, Philippe Dekleva, Dale Willard, Donald M Cropek

9:50 (1110-4) **Integration of Magnetic, Fluidic and Optical Elements for Microchip-based**

Diagnostics Tool JÖRG P KUTTER, Technical University of Denmark

10:25 (1110-5) **Approaches for Simple, Cost-effective Generation of Microdfluidic Devices for Ultrafast Forensic and Clinical Diagnostic Genotyping** JAMES P LANDERS, University of Virginia

SYMPOSIUM Session 1120

Nanotechnology and Bioanalysis in China - arranged by Weihong Tan, University of Florida and Xiaohong Fang, Chinese Academy of Sciences Analytical Chemistry Division at Chinese Chemical Society

Tuesday Morning, Room 310A

Xiaohong Fang, Chinese Academy of Sciences Analytical Chemistry Division at Chinese Chemical Society, Presiding

8:00 **Introductory Remarks - Weihong Tan**

8:05 (1120-1) **The Extended Applications of Some Classical Rare Earth Phosphors** CHUNHUA YAN, Peking University

8:40 (1120-2) **New Developments in Biosensing and Related Areas Based on Nanomaterials and Biocompatible Polymers** SHOUZHUO YAO, Hunan University

9:15 (1120-3) **Quantum Dot-based Nanobioprobes for Biomedical Uses** DAI-WEN PANG, Wuhan University

9:50 (1120-4) **Study of Ligand-Receptor Binding by Atomic Force Microscopy** XIAOHONG FANG, Chinese Academy of Sciences

10:25 (1120-5) **Molecular Engineering of 2D Surface Pattern and 3D Nanocrystal for Bioanalysis** LI-JUN WAN, Institute of Chemistry, CAS

WORKSHOP Session 1130

Standard Reference Materials (SRMs) for Biofuel, Environmental, Nutritional, and Dietary Supplement Analysis- arranged by Stephen A Wise, National Institute of Standards and Technology

Tuesday Morning, Room 308A

Stephen A Wise, National Institute of Standards and Technology, Presiding

8:00 **Introductory Remarks - Stephen A Wise**

8:05 (1130-1) **National Institute of Standards and Technology, SRMs for Analysis of Foods and Dietary Supplements** CATHERINE A RIMMER, NIST

8:40 (1130-2) **Development of a Standard Reference Material for Metabolomics Measurements** KAREN W PHINNEY, NIST, Nathan G Dodder, Daniel W Bearden, Stephen E Long, Lane C Sander, Michele Miller Schantz, Katherine E Sharpless, Stephen E Stein, Gregory C Turk, Stephen A Wise

9:15 (1130-3) **Characterization of Two Biodiesel SRMs: SRM 2772 B100 Biodiesel (Soy-based) and SRM 2773 B100 Biodiesel (Animal-based)** MICHELE MILLER SCHANTZ, NIST

9:50 **Recess**

10:05 (1130-4) **Fossil Fuel SRMs to Support the Transportation and Electric Utility Sectors** STEPHEN E LONG, NIST

10:40 (1130-5) **Standard Reference Materials for Quality Assurance in Environmental Regulatory Compliance** ELIZABETH A MACKEY, NIST, Stephen E Long, Gregory C Turk, Michael R Winchester, Rolf Zeisler

11:15 **Discussion/Wrap Up**

ORGANIZED CONTRIBUTED SESSION Session 1140

ACS Division of Analytical Chemistry New Investigators in Analytical Chemistry I - arranged by

Michael G Roper, Florida State University

Tuesday Morning, Room 311A

Michael G Roper, Florida State University, Presiding

8:00 (1140-1) **Hydrodynamic Flows in Microcolumn Electrophoresis: Flexible Separations and Tunable Sensitivities** JONATHAN G SHACKMAN, Temple University

8:20 (1140-2) **Development of Multiplexed Activity-Based Protein Profiling** AARON WRIGHT, Pacific Northwest National Laboratory

8:40 (1140-3) **Molecular-scale Nanochannels for Sensing and Transport** BO ZHANG, University of Washington, Marissa Wood

9:00 (1140-4) **A Microchip Electrophoresis Device for the Separation and Detection of Peroxynitrite from Macrophage Cells** MATTHEW K HULVEY, University of Kansas, Susan M Lunte

9:20 **Recess**

9:35 (1140-5) **Capillary LC-MS Based Metabolomic Investigations in Diabetic Complications** JAMES L EDWARDS, University of Maryland Biotech Institute

9:55 (1140-6) **Developing Task-Specific Microextraction Methodologies Using Functionalized Ionic Liquids** JARED L ANDERSON, The University of Toledo, Cong Yao, Yunjing Meng, Qichao Zhao

10:15 (1140-7) **Integrating Proteomics and Metabolomics to Map Bacterial Encystment** ERIN E CARLSON, Indiana University, Kuang He

10:35 (1140-8) **Cooperative Methods for Aptamer Selection and Protein Detection** CHRISTOPHER J EASLEY, Auburn University, Joonyul Kim, Jiaming Hu

ORGANIZED CONTRIBUTED SESSION Session 1150

Current Status and Trends of Impurity/Degradant Analysis in Pharmaceuticals: Recent Advances and Applications - arranged by Arindam Roy, Consultant, Chromatography and Mass Spectrometry and Mike S Lee, Milestone Development Services

Tuesday Morning, Room 311D

Arindam Roy, Consultant, Chromatography and Mass Spectrometry, Presiding

8:00 (1150-1) **Hardware and Software Tools to Improve Trace Level Impurity Identification** JEFFREY ROSS GILBERT, Dow AgroSciences, Jeffrie Godbey

8:20 (1150-2) **Rapid Thermal Profiling by Direct Analysis in Real Time Mass Spectrometry for Automated Detection of Ingredients, Degradation Products and Other Trace Contaminants in Pharmaceutical Tablets** BRIAN D MUSSELMAN, IonSense, Inc., Elizabeth Crawford, Joseph Tice, Jordan Krechmer, Peter Leopold

8:40 (1150-3) **Analysis of Impurities and Degradants in Pharmaceuticals by High Resolution Tandem Mass Spectrometry and On-line H/D Exchange LC/MS** GUODONG CHEN, Bristol-Myers Squibb Company, Bethanne M Warrack, Angela K Goodenough, David B Wang-Iverson, Adrienne A Tymiak

9:00 (1150-4) **Application of Very-high Pressure LC For Developing Fast or More Efficient Separations within Pharmaceutical Development** BRENT L KLEINTOP, Bristol-Myers Squibb, Qinggang Wang

9:20 **Recess**

9:35 (1150-5) **Analysis of Genotoxic Impurities (GTIs): Changing Our Early Development Strategy** TODD A GILLESPIE, Eli Lilly and Company, Lars Magnusson , Joseph Mick, Paul Dodson, David Robbins

9:55 (1150-6) **Is Faster Always Better: Coupling UHPLC Chromatography with Multistage-Mass Spectrometry for Impurity Profiling Applications** DAVID A WEIL, Agilent Technologies, Michael Woodman

10:15 (1150-7) **Meeting Analytical Challenges in API Process Development** YONG CHEN, Abbott Laboratories, Greg M Brill, Shuhong Zhang

10:35 (1150-8) **Analysis of Aptamers and Related Impurities** HELEN CRAVER, Covidien

ORGANIZED CONTRIBUTED SESSION Session 1160

Forensic Analysis: From the Lab to the Crime Scene - arranged by Igor K Lednev, University at Albany, SUNY

Tuesday Morning, Room 311B

Igor K Lednev, University at Albany, SUNY, Presiding

8:00 (1160-1) **The Perfect Storm -- DOD, NAS, & Forensic Science Research** MICHAEL JEFFREY SALYARDS, US Army Criminal Investigations Laboratory

8:20 (1160-2) **The Need for Development of Crime Scene Methods with the Potential to Decrease Turn-Around Times and Analytical Backlogs in Forensic DNA Laboratories** BARRY W DUCEMAN, New York State Police

8:40 (1160-3) **Novel Forensic Applications of Laser Induced Breakdown Spectroscopy** JOSE ALMIRALL, Florida International University

9:00 (1160-4) **Advances in Bringing the LIBS Technology into the Field** ANDRZEJ MIZIOLEK, US Army Research Laboratory

9:20 **Recess**

9:35 (1160-5) **Improved Crime Scene Detection of Drugs, Explosives and Human Scent with Biological and Electronic Detectors** KENNETH G FURTON, Florida International University

9:55 (1160-6) **Forensic Provenancing by Elemental and Isotope Ratio MS** JURIAN HOOGEWERFF, University of East Anglia

10:15 (1160-7) **Handheld NIR Spectroscopy: Enabling On-Site Detection of Narcotics and Other Controlled Substances in Law Enforcement** DAN KLEVISHA, Polychromix, Frederick G Haibach

10:35 (1160-8) **NIR Raman Spectroscopy Offers Great Potential for the Nondestructive Confirmatory Identification of Body Fluids on a Crime Scene** KELLY VIRKLER, University at Albany, SUNY, Igor K Lednev

ORGANIZED CONTRIBUTED SESSION Session 1170

LC-MS/MS in Clinical Pharmacology - arranged by Q Alan Xu, University of Texas MD Anderson Cancer Center

Tuesday Morning, Room 205B

Q Alan Xu, University of Texas MD Anderson Cancer Center, Presiding

8:00 (1170-1) **Proteome-Express System Based on Liquid Chromatography Ion Mobility Time-of-Flight Mass Spectrometry** MIKHAIL BELOV, Pacific Northwest National Laboratory, Yehia Ibrahim, Erin Baker, David Prior, William Danielson, Ruwan Kurulugama, Richard D Smith

8:20 (1170-2) **Proteomics and Glycomics Approaches to Elucidate Biomarkers for the Early Detection of Ovarian Cancer** DAVID C MUDDIMAN, North Carolina State University, Adam M Hawkridge

8:40 (1170-3) **Old and New Uses of LC-MS in Anticancer Drug Development** JAN HENDRIK BEUMER, UPCI

9:00 (1170-4) **Limitations of Quantitative LC-MS/MS in Clinical Pharmacology: The Macrolide Immunosuppressant Drugs Case Study** FABIO GAROFOLO, Algorithme Pharma Inc., Marie-Pierre Taillon, Jean-Nicholas Mess, Milton Furtado

9:20 **Recess**

9:35 (1170-5) **Large-scale Label-free Profiling of the Proteomes of Colon Cancer Patients** JUN QU, SUNY - Buffalo

9:55 (1170-6) **Impact of Drug Metabolites in Bioanalysis - Cautionary Tales** BARBARA DUNCAN, Pfizer Inc.

10:15 (1170-7) **Application of Hydrophilic Interaction Liquid Chromatography Mass Spectrometry to Support Drug Metabolism Studies** REGINALD F FRYE, University of Florida

10:35 (1170-8) **Effects of PEG-400 on Discovery Bioanalysis** MIN SHUAN CHANG, Biogen Idec, Reginald Angeles, Lian Chen, Samina Khan, Julia Kaplan, Liyu Yang

ORGANIZED CONTRIBUTED SESSION Session 1180

SEAC Organized Session - Bioanalytical Applications of Electrochemistry I - arranged by Jon Kirchhoff, University of Toledo

Tuesday Morning, Room 311C

Jon Kirchhoff, University of Toledo, Presiding

8:00 (1180-1) **Simultaneous Detection of Histamine and pH to Understand the Role of Gastrin in Acid Secretion** BHAVIK A PATEL, University of Brighton, Eleni Bitziou, Danny O'Hare

8:20 (1180-2) **Fast Electrochemical Method Using a Nanostructured Carbon Fiber Sensor for the Determinations of a Stress Marker 2,8-Dihydroxyadenine (2,8-DHA) at Endothelial Cells Exposed to Hypoxia and Hyperoxia** ANNA BRAJTER-TOTH, University of Florida, Kholoud M Abou El-Nour, Rachel Cohen-Shohet, Mehjabin Kathiwala

8:40 (1180-3) **Inkjet Printed Gold Nanoparticle Arrays for the Detection of Cancer Biomarkers** GARY C JENSEN, University of Connecticut, James F Rusling

9:00 (1180-4) **In vivo Iontophoresis and Its Application to Monitoring Dopamine and Norepinephrine in Anesthetized Rats** NATALIE R HERR, University of North Carolina, Chapel Hill, Jinwoo Park, Anna Belle, Regina M Carelli, Mark Wightman

9:20 **Recess**

9:35 (1180-5) **Electroanalytical Methods to Understand Spatial Variations in the Neurotransmission Mechanism from Gastrointestinal Tissue** BHAVIK A PATEL, University of Brighton

9:55 (1180-6) **Improving the Performance of Fast-scan Cyclic Voltammetric Detection of Catecholamines** RICHARD B KEITHLEY, The University of North Carolina, Jinwoo Park, Catarina Owesson-White, Mark Wightman

10:15 (1180-7) **Development of a Microfluidic-Based Screening Device for Methylarginines in Infant Plasma** THOMAS LINZ, University of Kansas, Susan M Lunte

10:35 (1180-8) **Voltammetric Approach to Examination of Influence of Drugs on dsDNA Predenaturation Activity** ZBIGNIEW STOJEK, University of Warsaw, Anna M Nowicka, Mikolaj Donten, Ewelina Zabost

ORAL SESSION Session 1190

Advances in Fuels and Petrochemicals Analysis

Tuesday Morning, Room 307B

J David Hwang, Chevron, Presiding

8:00 (1190-1) **Rethinking Process GC** JOHN A CRANDALL, Falcon Analytical, Carl Rechsteiner, Brian G Rohrback

8:20 (1190-2) **Hydrocarbon Gas Analysis Using a Tunable Filter Infrared Spectrometer** VIDI SAPTARI, Precisive LLC

8:40 (1190-3) **Application of Comprehensive Two-dimensional Gas Chromatography to the Detection and Speciation of Volatile Organic Phosphorus Compounds in Petroleum Samples** ALEISHA D ROSSE, University of Alberta, James J Harynuk

9:00 (1190-4) **The Benefits of High Efficiency Microflow Nebulization in the Trace Metal Analysis of Highly Volatile Organic Solvents by Optical Emission Plasma Spectroscopy** DANIEL HOWARD JONES, PerkinElmer Environmental Health, Paul Krampitz, Nathan J Saetveit

9:20 **Recess**

9:35 (1190-5) **A Portable Fuel Analyzer** STUART FARQUHARSON, Real-Time Analyzers, Carl Brouillette, Frank E Inscore, Michael Donahue, Chetan S Shende, Atanu Sengupta, Hermes Huang, Wayne Smith

9:55 (1190-6) **Improvements on Diesel Characterization by an Elemental Analyzer and Automatic Liquid Injection** LILIANA KROTZ, Thermo Fisher Scientific, Guido Giazzi

10:15 (1190-7) **New Generation of Bonded PLOT Columns: Stabilization of Particle Layers Results in Higher Capacity and Reproducible Flow Behavior for Challenging PLOT Columns** JAAP DE ZEEUW, Restek Corporation, Rick Morehead, Bill Bromps, Tom Vezza, Jan Pijpelink, Gary Stidsen

10:35 (1190-8) **New Capillary PLOT Column for the ppb Level Detection of Sulfur Compounds Based on a Super Permeable and Porous Stationary Phase** JOHAN KUIPERS, Varian B.V., Max B Erwine, Janice Perez, Helena Jacobse

ORAL SESSION Session 1200

Agriculture

Tuesday Morning, Room 310B

Matthew P Nelson, ChemImage Corporation, Presiding

8:00 (1200-1) **IR Microspectroscopic in situ Imaging Discriminates Isogenic Waxy Wheat Lipid Profiles Supported with Tandem MS** LAUREN R BREWER, Kansas State University, David L Wetzel

8:20 (1200-2) **Field Portable Determination of Arsenic in Soils** JAMES K KEARNS, University of Massachusetts

8:40 (1200-3) **Determination of Selenium Distribution in Wheat Tissues** MANUEL VALIENTE, Universitat Autonoma de Barcelona, Beatriz Guerrero, Merce Llugany, Oscar Palacios

9:00 (1200-4) **Multi-Functional Biofertilizer Preparation with Thermo-Tolerant Phosphate-Solubilizing Microbes** SHANG-SHYNG YANG, National Taiwan University, Cheng-Hsiung Chang, I-Chun Chen

9:20 **Recess**

9:35 (1200-5) **Seasonal Variations of the Volatile Chemicals Detected by SPME in a Honey Bee Hive** NORMAN E SCHMIDT, Georgia Southern University, Koomi A Orr, Michael D Bergeron, Jason A Edmondson, Leigh T Sundem, Michael B Bowers

9:55 (1200-6) **Detecting Species Specific Algal Responses to a Nutrient and Herbicide Mixture in Natural Biofilms with Synchrotron Infrared Microspectroscopy** JUSTIN MURDOCK, USDA-Agricultural Research Service, David L Wetzel

ORAL SESSION Session 1210

Fluorescence/Luminescence for Materials Identification

Tuesday Morning, Room 307D

A Peter Snyder, U.S. Army ECBC, Presiding

8:00 (1210-1) **Simultaneous Sizing and Concentration Measurements of Both Fluorescing and/or Scattering Nanoparticles in Suspension** DUNCAN GRIFFITHS, NanoSight Ltd, Patrick Hole, Bob Carr, Jonathan Smith, Agnieszka Brzana, Andrew Malloy

8:20 (1210-2) **A Triage Approach to Suspicious BWA Powder Using Orthogonal Field Portable Technologies** KENNETH JOHN KLEIN, Smiths Detection, Mark L Norman, John Link, Anneli Gerrard

8:40 (1210-3) **Kinetic Studies of the Reaction Between Nicotinamide and Both Haloacetic Acids and Trihalomethanes** JILL P WILLIAMSON, University of Memphis, Paul S Simone, Gary L Emmert

9:00 (1210-4) **Semiconductor Nanocrystals as Novel Antennae for Luminescent Lanthanide Cations** ADRIENNE M YINGLING, Columbia College, Stephane Petoud, Demetra A Czegan, Chad M Shade

9:20 **Recess**

9:35 (1210-5) **Creation of Reproducible and Stable Silicon Quantum Dots** HEATHER L CLARK, University at Buffalo, SUNY, Frank V Bright

9:55 (1210-6) **Plasmonic Fluorescence Enhancement of Poly(3-hexylthiophene) for Organic Solar Cell Applications** DAVID D EVANOFF, Western Carolina University, Jacklyn C Bush

10:15 (1210-7) **Multivariate Fluorescence Correlation Spectroscopy: Experimental Realization** CAROL A ROACH, University of Delaware, Sharon L Neal

10:35 (1210-8) **µ-XRF** MICHAEL HASCHKE, Bruker AXS MA GmbH, Ulrich Waldschläger, Uwe Rossek, Wieland Scholz

ORAL SESSION Session 1220

Food Science - Sensory and Component Analyses

Tuesday Morning, Room 309AB

Timothy Strein, Bucknell University, Presiding

8:00 (1220-1) **Determination of Catechins in Green Tea Dietary Supplement Standard Reference Materials Using LC-UV and LC-MS** MARY BEDNER, NIST, Lane C Sander, Katherine E Sharpless

8:20 (1220-2) **Analysis of Phenolic Compounds in Plant Foods and Beverages by n-line Derivatization HPLC+HRGC-MS Multidimensional System** JOSEP M GIBERT, KONIK-Tech S.A., Nieves Sarrión, José A Muñoz, Ariadna Galve, Ileana García

8:40 (1220-3) **New GC Columns for the Separation of US EPA and EU EFSA Polycyclic Aromatic Hydrocarbons Including Chrysene and Triphenylene** JOHAN KUIPERS, Varian B.V., John Oostdijk, Max B Erwine, Janice Perez

9:00 (1220-4) **Thermal Induced Isomerization of Trilinolein and Trilinoelaidin at 250°C: Analysis of Products by Gas Chromatography and Infrared Spectrometry** ALFRED ANTONY CHRISTY, University of Agder

9:20 **Recess**

9:35 (1220-5) **Simultaneous Determination of Water- and Fat-Soluble Vitamins in Functional Beverages by HPLC with UV-PDA Detection** DEANNA C HURUM, Dionex Corporation, Brian M De Borba, Jeffrey S Rohrer

9:55 (1220-6) **Amino Acid Analysis of Spinach and Apple by UHPLC** JOHN W HENDERSON JR, Agilent Technologies, Joan M Stevens, Maureen Joseph

10:15 (1220-7) **Volatile and Semivolatile Compound Screening of Foodstuff Aromas Using Headspace SPME-GC-TMS** CHRISTOPHER R BOWERBANK, Torion Technologies Inc., Tiffany C Wirth, Edgar D Lee, Douglas W Later, Andrew McShea, Tai VanTruong, Milton L Lee

10:35 (1220-8) **Trans-Fat Quantitative Analysis: Lower the Detection Limit While Maintaining Linearity with FTIR** FRANK S WESTON, Varian, Inc., Ellen V Miseo

ORAL SESSION Session 1230

Liquid Chromatography - Method Development I

Tuesday Morning, Room 307A

Elizabeth A Harris, Mannkind Corporation, Presiding

8:00 (1230-1) **Synthesis and Characterization of 1.7 µm and 1.2 m and 1.2 µm Superficially Porous Particles Packed in Capillary Columns for Liquid Chromatography** LAURA E BLUE, University of North Carolina, Chapel Hill, James W Jorgenson

8:20 (1230-2) **UPLC for Method Development and Routine Analysis** DANIEL ROOT, Waters Corporation, Tanya Jenkins, Jeannine Jordan, Patricia McConville

8:40 (1230-3) **Between Column Derivatization for HPLC and LC-MS Analysis** HAIBIN WAN, PromoChrom Technologies Ltd., Yinhan Gong

9:00 (1230-4) **A Critical Performance Comparison of Column Options Using Poppe and Kinetic Plots** JASON LINK, Agilent Technologies, William E Barber, Xiaoli Wang, William Long

9:20 **Recess**

9:35 (1230-5) **An Automated Approach to Liquid Chromatographic Method Development Using Column Switching and Orthogonal Stationary Phase Selectivity** RICK LAKE, Restek Corporation, Ty Kahler, Rebecca E Wittrig, Frank L Dorman

9:55 (1230-6) **Advantages and Limitations of UHPLC Columns at Pressures of 500-1200 Bar** JOHN W HENDERSON JR, Agilent Technologies, Judy Berry, William Long, Maureen Joseph

10:15 (1230-7) **Studies of the Stress Degradation of Chromatographic Columns at Ultrahigh Pressures** ROGER K GILPIN, Wright State University, Wanlong Zhou

10:35 (1230-8) **Novel, Modular Open Tubular, High Performance Liquid Chromatography (OT HPLC) System Offers Predictable Scale Up From Micrograms to Tons per Annum for Almost Any Class of Compound** LESLIE BROWN, AECS-QuikPrep Ltd, Trinh Luu, Gregory K Webster, Lorraine Henriques

ORAL SESSION Session 1240

Pharmaceutical Separations I

Tuesday Morning, Room 206C

Ralph Riggin, Riggin Consulting Group, Presiding

8:00 (1240-1) **New Column Technology that Closes the Performance Gap Between HPLC and UHPLC Instrumentation** JASON ANSPACH, Phenomenex, Gareth Friedlander, Lawrence Y Loo, Carl Sanchez, Tivadar Farkas

8:20 (1240-2) **Computer-based Simulation and Optimization of Ion Chromatographic Separations of Pharmaceutically Related Compounds** GREG WILLIAM DICINOSKI, University of Tasmania, Philip J Zakaria, Paul Raymond Haddad, Boon K Ng, Robert A Shellie, Melissa Hanna-Brown, Roman Szucs

8:40 (1240-3) **Simultaneous Determination of Pharmaceutical Peptides and Acetate Counter-Ions by HPLC Using a Mixed-Mode Weak Anion Exchange Column** DEANNA C HURUM,

Dionex Corporation, Brian M De Borba, Jeffrey S Rohrer

9:00 (1240-4) **Study of Interaction between Croscarmellose and Amine Containing Active Pharmaceutical Ingredient by HPLC** CLAES MELANDER, H Lundbeck A/S, Jesper Larsen

9:20 **Recess**

9:35 (1240-5) **High-Throughput Lipophilicity Measurement of a Library of Novel Drug-like Compounds** DUJUAN LU, University of Pittsburgh, Stephen G Weber, Danielle Englert, Peter Chambers, Peter Wipf

9:55 (1240-6) **Orthogonal Approach to Impurity Profiling of Generic and Brand Name Pharmaceuticals** VLAD ORLOVSKY, SIELC Technologies, Yury Zelechonok, Tatiana Zgibnev

10:15 (1240-7) **Effect of Stationary Phase Bonding Chemistry on the Separation of Basic Drugs** QIYU ZHU, Florida State University, Catherine A Rimmer, John G Dorsey

10:35 (1240-8) **Small Particles, Large Scale: An Efficient Platform for Open-Access Fast LC on a Global Scale** JAMES M ROBERTS, GlaxoSmithKline, Steve R Cole, Helen Weston, Bill Young, Jay Spadie

ORAL SESSION Session 1250

Sampling & Sample Preparation - SPME

Tuesday Morning, Room 308B

Lara P Autry, U.S. Environmental Protection Agency, Presiding

8:00 (1250-1) **Withdrawn**

8:20 (1250-2) **Rapid Screening for MTBE and BTEX in Petroleum Contaminated Ground Waters by Optimized Solid Phase Microextraction and Portable GC-TMS** NATHAN L PORTER, Torion Technologies Inc., Christopher R Bowerbank, Ann M Hoffman, Tiffany C Wirth, Joseph L Oliphant, Edgar D Lee, Douglas W Later

8:40 (1250-3) **Blended Polymeric Ionic Liquids as Selective Sorbent Coatings for Solid-Phase Microextraction** CHRISTA M GRAHAM, The University of Toledo, Tien Ho, Jared L Anderson

9:00 (1250-4) **Optimization of Fiber Temperatures in Cold Fiber SPME** EDUARDO CARASEK, Federal University of Santa Catarina, Edmar Martendal, Janusz Pawliszyn

9:20 **Recess**

9:35 (1250-5) **Novel Solid Phase Microextraction Based Air Sampling Device for Field Analysis by GC-TMS** DOUGLAS W LATER, Torion Technologies Inc., Tiffany C Wirth, Anthony D Rands, Joseph L Oliphant, Edgar D Lee

9:55 (1250-6) **Evaluation and Comparison of C18-derivatized Silica Glass and C18-polyacrylonitrile Coatings on Automated 96 Blade Solid Phase Microextraction**

System FATEMEH S MIRNAGHI, University of Waterloo, Janusz Pawliszyn, Maria R Monton, Yong Chen, Leonard Sidisky

10:15 (1250-7) **Designing Sorbent Coatings Based on Polymeric Ionic Liquids for Direct Immersion Studies Using Solid-Phase Microextraction Coupled to Gas Chromatography** YUNJING MENG, The University of Toledo, Katie Brandt, Jared L Anderson

10:35 (1250-8) **Task-Specific Ionic Liquids as Novel Sorbent Coatings in Solid-Phase Microextraction for the Capture and Determination of Carbon Dioxide** QICHAO ZHAO, The University of Toledo, Jonathan C Wajert, Jared L Anderson

ORAL SESSION Session 1260

Sensors Based on Molecular Interactions

Tuesday Morning, Room 307C

Dutt Vinjamoori, Martek Biosciences, Presiding

8:00 (1260-1) **Liposomes for Fluorescence Detection in a Sandwich Aptamer Assay and Assessment of the Underlying Binding Events Using Label-free Measurements** KATIE A EDWARDS, Cornell University, Yang Wang, Antje J Baeumner

8:20 (1260-2) **Exploring Protein-Protein/peptide Interactions Using DsRed-Monomer Fusions** ANN GOULDING, Indiana University Purdue University Indianapolis, Suresh Shrestha, Sapna Deo

8:40 (1260-3) **A Simple Method of Creating a Nanopore-terminated Probe for Single-molecule Enantiomer Discrimination** LI-QUN GU, University of Missouri, Changlu Gao, Shu Ding

9:00 (1260-4) **Ultra-Sensitive Detection of Protein Toxins by Surface Plasmon Resonance with Inline ATRP Amplification** YING LIU, University of California, Riverside, Matthew Linman

9:20 **Recess**

9:35 (1260-5) **Rapid Determination of Enantiomeric Ratio Using Fluorescent DNA and RNA Aptamers** ERIC L NULL, University of Illinois, Urbana-Champaign, Yi Lu

9:55 (1260-6) **Supramolecular Species as Fluoride Selective Ionophores in Potentiometric Polymer Membrane-based ion Selective Electrodes** JEREMY T MITCHELL-KOCH, Emporia State University

10:15 (1260-7) **Selective Separation of Pyridines Using Perfluorinated Carboxylic Acids as Receptor in Fluorous Supported Liquid Membranes (FSLMs) Based on Flow Cell Setup** YANHONG YANG, University of Pittsburgh, Stephen G Weber

POSTER SESSION Session 1270

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Association for Laboratory Automation (ALA) Poster Session

Tuesday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(1270-1 P) **Screening for High Risks Among Plasma Lipids** GERARD G DUMANCAS, Oklahoma State University, Mary Muriuki, Neil Purdie, Lisa Reilly

(1270-2 P) **High Axial Resolution Auto-Calibration Scanning-Angle Total Internal Reflection Florescence Microscopy** WEI SUN, Iowa State University, Ning Fang, Gufeng Wang

(1270-3 P) **Automated Scanning Probe Lithography with *n*-Alkanethiol Self Assembled Monolayers on Au(111)** TREVA BROWN, Louisiana State University, Zorabel LeJeune, Kai Liu, Jie-Ren Li, Jayne C Garno

POSTER SESSION Session 1280

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

CE and CEC: Coatings, Packings, and Buffers

Tuesday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(1280-1 P) **Anti-protein Adsorption Supported Lipid Bilayer in Dual Polarization Interferometry and Capillary Electrophoresis** TING-YANG KUO, National Tsing Hua University, Ja an Annie Ho

(1280-2 P) **Penicillamine Modified Surfactant Based Polymeric Monolithic Column for Capillary Electrochromatography** WILLIAM A BRAGG, Georgia State University, Shahab A Shamsi

(1280-3 P) **Development of a Fritless Column Utilizing Internal Tapered Inlet and Outlet for Chiral Separations in Capillary Electrochromatography Hyphenated to Electrospray Mass Spectrometry** WILLIAM A BRAGG, Georgia State University, Shahab A Shamsi

(1280-4 P) **Enantioseparation of Binaphthyl Derivatives in Micellar Electrokinetic Chromatography (MEKC) Using the Copolymers of Cyclodextrin and Carbamate Surfactant** JUN HE, Georgia State University, Shahab A Shamsi

(1280-5 P) **Enhancing Capillary Electrophoresis with Phospholipids and Coupling with Electrospray Mass Spectrometry** TED J LANGAN, West Virginia University, Lisa A Holland

(1280-6 P) **Zirconia Nanoparticle Coated Column for the CEC Separation of Iron-binding- and Phosphorylated-proteins** CHUEN-YING LIU, National Taiwan University, Guan-Ren Wang, Bao-Yu Huang

(1280-7 P) **ß -Cyclodextrin Modified Monodisperse Gold Nanoparticles for Chiral Separations in Capillary Electrophoresis** KRISTI MOCK, The University of Toledo, Terry P Bigioni, Santosh Kumar, Jon R Kirchhoff, LMV Tillekeratne, Shontell F Wright

(1280-8 P) **Modification of Non-aqueous Electroosmotic Flow Using Capillary Coatings** JOHN T WILLIAMS, Waynesburg University, Timothy VanRiper

(1280-9 P) **Carboxyl Semitelechelic Poly(N-isopropylacrylamide) Assisted Micellar Eelecrokinetic Chromatography for Corticosteroid Separation** LI-CHEN WU, National Chi Nan University, Ching-Yuan Hu, An-Ting Lee

POSTER SESSION Session 1290

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

CE: Bioanalytical Separations

Tuesday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(1290-1 P) **Capillary Electrophoresis of Parent Polycyclic Aromatic Hydrocarbons and their Mono-hydroxy Metabolites** GASTON KNOBEL, University of Central Florida, Andres D Campiglia

(1290-2 P) **Sample-Stacking in Capillary Electrophoresis for the Determination of Steroids** STEPHANIE A ARCHER-HARTMANN, West Virginia University, Emily E Patterson, Jana Woofter, Lisa A Holland

(1290-3 P) **Carbohydrates Analysis with Capillary Electrophoresis** RUIJUAN LUO, West Virginia University, Lisa A Holland

(1290-4 P) **Rapid No Net Flux Microdialysis for Gradually Changing *in vivo* Systems** MAURA L PERRY, University of Michigan, Robert T Kennedy

(1290-5 P) **Analysis of Folic Acid Using Capillary Electrophoresis with UV-absorbance and Laser-induced Fluorescence Detection** SURESH C REGMI, Louisiana State University, S Douglass Gilman

(1290-6 P) **Investigations of Guansosine Gels for Separations of Protein Mixtures** KATHERINE M SOUTHARD, Rensselaer Polytechnic Institute, Yingying Dong, Linda B McGown, Sara Sass

(1290-7 P) **Detection of Small Molecules by Monitoring Aptazyme Cleavage Using Capillary Gel Electrophoresis with Laser-induced Fluorescence** JULIE M THOMSON, Kalamazoo College, Eric B Parker, Jennifer R Furchak

(1290-8 P) **Analysis of Superoxide Production in Single Cells** XIN XU, University of Minnesota, Edgar A Arriaga

(1290-9 P) **Capillary Electrophoretic Fingerprinting of Glycosaminoglycans** JOSEPH TIMOTHY KING, Virginia Commonwealth University, Desai R Umesh

POSTER SESSION Session 1300

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Education/Teaching

Tuesday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(1300-1 P) **Fading Phenolphthalein Kinetics Experiment Employing a Miniature VIS-NIR Diode Array Spectrometer** RONALD FIETKAU, Georgia College & State University, Dean M Harper

(1300-2 P) **Synthesis of N2-(Aryl)-N4,N6-bis (6, 7-dichloro-1, 3-benzothiazol-2-yl)-1, 3, 5-triazine-2, 4, 6-triamines and ethyl 4-{[4-(2-isonicotinoylhydrazino)-6-(aryl amino)-1, 3, 5-triazin-2-yl] amino} Benzoates as Anti-cancer Activities** BHANUKUMAR KHUMAJI JAIN, MG Science Institute, Bharat B Baldaniya

(1300-3 P) **A New Instrument to Teach "Green Chemistry" Analytical Techniques in Food Science Using the Example of the Determination of Total Fat in Snack Foods** AL KAZIUNAS, Applied Separations, Kathy Pearl, Rolf Schlake

(1300-4 P) **Service-learning Through Analytical Chemistry** MICHAEL J SAMIDE, Butler University, Olujide T Akinbo, Jody Britten

(1300-5 P) **Preliminary Studies of Interactions of Iron(II)/Iron(III) Chelators with Iron Nails in Aqueous Media: Potential Lecture or Laboratory Demonstrations for Undergraduate Chemistry Curricula?** MARK T STAUFFER, University of Pittsburgh at Greensburg

(1300-6 P) **Formative Assessment in the Analytical Chemistry Classroom** GRACE ZOOROB, Vanderbilt University

(1300-7 P) **Interdisciplinary Team-approach in the Analysis of Foods: An Improved Educational Experience for Analytical Chemistry Students and Non-science Majors** WILLIAM R LAMMELA, Nazareth College, Sheila Brady-Root

(1300-8 P) **An Analytical Chemistry Course Based on Meteorite Analysis** MICHAEL EPSTEIN, Mount St. Mary's University, Regina Potter, Thaddeus Mostowtt, Ashleigh Cook

POSTER SESSION Session 1310

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Electrochemistry

Tuesday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(1310-1 P) **Voltammetry of 4-Biphenylol and N-bromosuccinimide-Modified Carbon Paste** WAJIHA AKRAM, University of Engineering and Technology, Inam-ul Haque

(1310-2 P) **Integration of a Sensor System into Microfluidic Chips** SALZITSA ANASTASOVA, Dublin City University, Aleksandar Radu, Fernando Benito-Lopez, Ulriika Mattinen, Johan Bobacka, Andrzej Lewenstam, Dermot Diamond

(1310-3 P) **Determination of Nitro-Containing Explosive Degradation Products by Photo-**

Assisted Electrochemical Detection Following HPLC-UV JENNIFER FEDOROWSKI, University of Maryland, Baltimore County, William R LaCourse, Michelle M Lorah

(1310-4 P) **Metal Artifact Preservation Using the Subcritical Water Extraction Technique** AL KAZIUNAS, Applied Separations, Rolf Schlake, Kathy Pearl

(1310-5 P) **Continuous Amperometric Measurement of Catecholamine Release from Adrean Chromaffin Cells Isolated from Normotensive and Hypertensive Rats** MATTHEW J FHANER, Michigan State University, Greg Swain, James J Galligan

(1310-6 P) **Label-free Electrochemical Aptamer Immunosensors: Feasibility of Using Ferrocene-modified Silica Nanoparticles as an Electrochemical Probe** JI YEON LEE, Kwangwoon University, Sung A Hong, Junhee Han, Jihoon Lee, Youngjea Kang, Moon Hee Choi, Kyujeong Song, In Seok Jeong, Geun Sig Cha, Hakhyun Nam, Jae Ho Shin

(1310-7 P) **Site-Oriented Antibody Immobilization on Nanogold-fabricated Screen Printed Electrode Using Thiophene-3-Boronic Acid (T3BA)** WEI-CHING LIAO, National Tsing Hua University, Ja an Annie Ho

(1310-8 P) **Development and Applications of a Hybrid SICM Probe** CELESTE ANN MORRIS, Indiana University, Chiao-Chen Chen, Lane Baker

(1310-9 P) **Detection of Chromium Using Single-walled Carbon Nanotubes/Bismuth Film Composite Electrode** RUIZHUO OUYANG, University of Tennessee, Royce N Dansby-Sparks, James Q Chambers, Zi-ling Xue

(1310-10 P) **Simultaneous Electrochemical Detection of Nitric Oxide and Oxygen in Rat Brain Using a Dual Microsensor and an Array-Type Microsensor** SARAH S PARK, Ewha Womans University, Youngmi Lee, Minyoung Hong, Minah Suh

(1310-11 P) **Detection of Catecholamines with Increased Sensitivity and Selectivity Using Single Wall Carbon Nanotubes-Overoxidized Polypyrrole Modified Carbon Fiber Microelectrodes** M JENNIFER PEAIRS, University of Virginia, B Jill Venton

(1310-12 P) **Automated Thin-Layer Flow Analytical System for the Detection of Creatine Kinase (CK-MB)** FELYNNCIA R RAINEY, University of Memphis, Fernando Garay, Erno Lindner

(1310-13 P) **New Electron Transfer Mediators for Redox Enzymes** ARUNAS RAMANAVICIUS, Vilnius University, Oztekin Yasemin, Vida Krikstolaityte, Jaroslav Voronovic, Almira Ramanaviciene

(1310-14 P) **Enhanced Roughness of Macroporous Gold Electrodes Through the Incorporation of Gold Nanoparticles** AMY E RUE, Virginia Commonwealth University, Maryanne M Collinson

(1310-15 P) **Electrochemistry and Spectroelectrochemistry of Iron Porphyrins in Ionic Liquids** MICHAEL RYAN, Marquette University, Soo Hoo Yong

(1310-16 P) **An Investigation of Environmental Influences on the Redox Properties of Cytochrome *c* Adsorbed to Self-Assembled Monolayers** ROSE A CLARK, Saint Francis University, Colin J Trout, Caitlin A Basile

(1310-17 P) **Development and Biological Applications of an Electrochemical Gas Microsensor**

Based on a Micropore Working Electrode HYUNKYUNG DO, Ewha Womans University, Youngmi Lee, Minyoung Hong, Minah Suh

(1310-18 P) **Electrochemical Approach for Fabricating Devices for Sensing or Molecular Electronics Applications** RADHIKA DASARI, University of Louisville, Francis P Zamborini

(1310-19 P) **A Comparison of Spontaneous Grafting to Electrografting of Aryl Groups on Glassy Carbon Electrodes** KRISTIN K CLINE, Wittenberg University, Rachel Saylor, Christa Snyder

(1310-20 P) **Optically Transparent Thin Layer Electrochemical Cell Using A Purified Metallic Multiwalled Carbon Nanotube** ROBERT L KEESEY, Eastern Connecticut State University, Kari A Hernandez, Abraham J Keesey

(1310-21 P) **Vapor Phase Polymerization of Polyaniline into Spiropyran Photoresponsive poly(N-isopropylacrylamide) Hydrogels** SILVIA SCARMAGNANI, Dublin City University, Emer Lahiff, Robert Byrne, Lynn Dennany, Shannon Little, Gordon Wallace, Dermot Diamond

(1310-22 P) **Bromide Modified Au(111) as a Platform for in situ Growth of Self-Assembled Monolayers** SCOTT N THORGAARD, University of Minnesota, Philippe Buhlmann

(1310-23 P) **Anodic Voltammetry of a Diol on Polyaniline-nickel Oxide Composite Film** AAKIFA RAZA, University of Engineering and Technology, Inam-ul Haque, Shamaila Ssdaf

(1310-24 P) **Properties of Bismuth Electrodes and Their Impact on Electrochemical Chromium Detection** CLARISSA E TATUM, University of Tennessee, Kristie C Armstrong, James Q Chambers, Zi-ling Xue

(1310-25 P) **Characterization of the Activity of a Variety of Porous Metallic Electrocatalysts for Oxygen Reduction Reaction Using Scanning Electrochemical Microscopy** JIHYE YANG, Ewha Womans University, Chongmok Lee, Youngmi Lee

(1310-26 P) **Diamonds are also the Analytical Chemist's Best Friends! Part 2 Diamonds Micro Electrodes Array Application to the Electrochemical Detection for HPLC** FRANCOIS DARDOIZE, UPMC, Eric Mahe, David Khamis

(1310-27 P) **Preparation and Characterization of Microfluidic Electrochemical Biosensors** CARLOS GONZALEZ, US Army Corps of Engineers CERL, Donald M Cropek, Charles S Henry

(1310-28 P) **Analytical Methods for Understanding Relationships Between Neurochemical Signaling and Behavior** MICHAEL A JOHNSON, University of Kansas, Gregory Osterhaus, Andrea N Ortiz, Kelli A Lauderdale, Stephen C Fowler

(1310-29 P) **Comparison of Glassy Carbon and Boron Doped Diamond Electrodes: Resistance to Biofouling** RAPHAEL TROUILLON, Imperial College London, Danny O'Hare

(1310-30 P) **Ionic Liquid Reference Electrode with Three-Dimensionally Ordered Macroporous Carbon as the Solid Contact for Long-Term Stability** TIANTIAN ZHANG, University of Minnesota, Chunze Lai, Melissa A Fierke, Andreas Stein, Philippe Buhlmann

(1310-31 P) **Boron-doped Polycrystalline Diamond Electrode Material for Electrochemical**

Applications MICHAEL F BECKER, Fraunhofer USA - CCL, Thomas Schuelke

(1310-32 P) **Electrodeposited Ultrathin Membranes on Structurally Different Nanostructured Carbon Fiber Microdisks** ANNA BRAJTER-TOTH, University of Florida, Abrham Boateng, Rachel Cohen-Shohet

(1310-33 P) **Investigating V_2O_5 as a Potential Catalyst for an H_2S Amperometric Biosensor** JASON A BENNETT, Penn State Erie, The Behrend College, James E Pander

(1310-34 P) **Voltammetric Determination of Iodide in Brine Used in Chlor-alkali Electrolysis** MICHAEL KUBICSKO, Metrohm USA, Sandro Haug, Adela Bordeanu

(1310-35 P) **Effects of Local D2 Receptor Drug Delivery on the Kinetics of Striatal Evoked Dopamine Release** KEITH F MOQUIN, University of Pittsburgh, Adrian C Michael

(1310-36 P) **The Implementation of Carbon Fiber Microelectrode Amperometry for Single Cell Analysis of Mouse Skin Mast Cells to Understand Their Role in Atopic Dermatitis** BENJAMIN M MANNING, University of Minnesota

POSTER SESSION Session 1320

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Enzyme Characterization

Tuesday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(1320-1 P) **Quantitative Determination of Proteolytic Activity with Cyclic Voltammetry on Gelatin Coated Electrodes** DENIZ BAS, Hacettepe University, Ismail H Boyaci

(1320-2 P) **Optically Gated Vacancy Capillary Electrophoresis Applied to Study Enzymatic Reactions** SHERRISSE KELLY, Louisiana State University, S Douglass Gilman

(1320-3 P) **Equilibrium Electron and Proton Transfer Properties of Cytochrome b_5/Cytochrome b_5 Reductase** EUGENE THOMAS SMITH, Florida Atlantic University, Michael Barber

(1320-4 P) **Determination of Sphingosine Kinase 2 Activity by Capillary Electrophoresis** PHILIP M YANGYUORU, Kent State University, Anthony C Otieno, Simon M Mwongela

(1320-5 P) **Investigation of the Effects of Buffering and Mixing Conditions for the In-line Jaffe Reaction with Capillary Electrophoresis** SARAH SCHUBERT, Bucknell University

POSTER SESSION Session 1330

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Fuels, Energy & Petrochemical

Tuesday Morning, Gray Area - Hall B4, Aisles 3400-3900

(1330-1 P) **Analysis of Oil Additives Using Inductively Coupled Plasma Optical Emission Spectrometry** MANNY CHARLES ALMEIDA, Teledyne Leeman Labs, Maura Mahar, Bruce MacAllister, John Condon

(1330-2 P) **Direct Mercury Analysis of Flue Gases by EPA Method 30B and Appendix K** JASON P GRAY, Nippon Instruments North America, Alvin Chua, Koji Tanida

(1330-3 P) **Reconciling Differences in Coal and Coke Volatile Matter Yields Determined by Two ASTM Methods** MASON MARSH, LECO, John T Riley, Dennis Lawrenz, Liliane Eichenbaum

(1330-4 P) **Electrochemical Detector for Use in a Smart Nozzle for Monitoring Fuel Additives in Resistive Media** ZECHARIAH D SANDLIN, Miami University, Ohio, William H Steinecker, James A Cox, Gilbert E Pacey

(1330-5 P) **Improved Hydrocarbons Analysis with the Supersonic GC-MS** ALEXANDER GORDIN, Tel Aviv University, Marina Poliak, Alexander B Fialkov, Aviv Amirav

(1330-6 P) **Super Thick Film GC Columns for Gas Analysis and Valve Switching Systems** JOHAN KUIPERS, Varian B.V.

(1330-7 P) **Comparison of ASTM D 3612 Method C to a New Improved Method C System** MARK TAYLOR, Shimadzu Scientific Instruments, Martin Smith, Richard R Whitney, Ronald D Snelling, Zhuangzhi "Max" Wang

(1330-8 P) **Traces Determination of COS in Propylene Using Inert Flow-path Gas-chromatograph and Pulsed Flame Photometric Detector** GIANLUCA STANI, SRA Instruments SpA, Nicola Fracasso, Paolo Pannocchia, Stefano Vecchiato, Pierluigi Crocetta

(1330-9 P) **Near-infrared Spectroscopic Prediction of Chemical Composition in a Series of Petrochemical Process Streams for Aromatic Production** MARCIO DAS VIRGENS REBOUCAS, Braskem, Jamile B Santos, Ana Rosa C Massa, Daniela Domingos

(1330-10 P) **Today's Options for Column Choice and Column Design in GC-Process Type Applications** JAAP DE ZEEUW, Restek Corporation, Rick Morehead, Bill Bromps, Tom Vezza, Jan Pijpelink, Gary Stidsen

(1330-11 P) **Quantification of Propionic Acid in a Biogas Fermenter Using a GC Combined with a Gas Sensor Array (Electronic Nose)** ANDREAS WALTE, Airsense Analytics, Wolf Muenchmeyer, Bert Ungethuem, Bernd Linke, Ingo Baumstark, Roland Becker, Andreas Buchholz

(1330-12 P) **New System for Combustion Engine Development: In-Cylinder-Measurement of Particle Size Deviation** SVEN KRAUSE, Kassel University , Andreas Behn, Gerhard Matz, Martin Lenz, Wolfgang Thiemann, Eike Wolgast

(1330-13 P) **Studies of the Interactions of Trace Pollutants in Fuel Gas with Metal Surfaces** JOHN P BALTRUS, U.S. Department of Energy/NETL, Evan J Granite, Dennis C Stanko, Henry W Pennline

(1330-14 P) **The Automated Catalyst Synthesis** ZINSSER WERNER, Zinsser Analytic, Clifford Olson

(1330-15 P) **Chemical Process Route Selection for Conceptual Process Design by the ELECTRE Method** ENRIQUE M ARCE, ESIQIE

(1330-16 P) **Investigation of High-temperature Solution-cast Nafion Membrane by Transmission Infrared Spectroscopy** CHANG KYU BYUN, Texas Tech University, Carol Korzeniewski

(1330-17 P) **Simple and Innovative Methodology for Determination of Glycerol in Biodiesel and Biodiesel Blends (B2-B100) by Ion Chromatography** JAY GANDHI, Metrohm USA, Will Donaldson, Roxanne Engel

POSTER SESSION Session 1340

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Ionophore-based Chemical Sensors

Tuesday Morning, Gray Area - Hall B4, Aisles 3400-3900

(1340-1 P) **Surface Area Effects on the Response Mechanism of Ion Optodes** VALERIYA BYCHKOVA, Oregon State University, Alexey Shvarev

(1340-2 P) **FTIR-ATR Spectroscopy: A Tool for Studying the Water Uptake of Solid-Contact Ion-Selective Electrode Structures** FREDRIK SUNDFORS, Abo Akademi University, Tom Lindfors, Lajos Hofler, Robert E Gyurcsanyi

(1340-3 P) **Potentiometric Oxygen Sensors Based on an Electrochemically Etched Cobalt Nanopore Electrode** HAKHYUN NAM, Kwangwoon University, Baekhyun Cho, Seung Ki Kim, Youngjea Kang, Jae Ho Shin, Geun Sig Cha

(1340-4 P) **Ag+-Selective Electrodes with Perfluorinated Matrixes of High Selectivity** CHUNZE LAI, University of Minnesota, John A Gladysz, Philippe Buhlmann

(1340-5 P) **Understanding the Performance of Three-Dimensionally Ordered Macroporous (3DOM) Carbon-Contacted Ion-Selective Electrodes** CHUNZE LAI, University of Minnesota, Melissa A Fierke, Andreas Stein, Philippe Buhlmann

(1340-6 P) **A Fast Response Li^+ Optode Based on an Organic Functionalized Mesoporous Silica Thin Film** YUKI HIRUTA, Keio University, Yosuke Ando, Daniel Citterio, Koji Suzuki

(1340-7 P) **Fluorophilic Cationic Sites for Anion Sensing in Ion-Selective Electrodes** LI CHEN, University of Minnesota, John A Gladysz, Philippe Buhlmann

(1340-8 P) **Receptor-Based Detection of 2,4-Dinitrotoluene** ERIC J OLSON, University of Minnesota, Andreas Stein, Philippe Buhlmann

(1340-9 P) **Preparation of all Solid-state Potentiometric Ion Sensors with Ion Liquid-polymer Composites** JINGWEI ZHU, Nanjing University, Yu Qin

(1340-10 P) **Improved Selectivity and Sensitivity of Covalently Attached Ionophore-based Solid-contact Anion Sensors** MOHAMMAD NOOREDEEN ABBAS, National Research Centre

POSTER SESSION Session 1350

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LC and LC/MS for Bioanalysis

Tuesday Morning, Gray Area - Hall B4, Aisles 3400-3900

(1350-1 P) **Developing Application Software Using Applied Biosystem Mass Spectrometer and Shimadzu HPLC to Achieve Multiplexing and Direct Instrument Control in Bioanalysis** LEIMIN FAN, Abbott Labs, Huaiqin Wu, Tawakol El-Shourbagy

(1350-2 P) **Investigation of an Effective Strategy for LC-MS/MS Electrospray Ionization (ESI) Source Stabilization to Increase Sample Throughput for Macrolide Compounds in Bioanalysis** FABIO GAROFOLO, Algorithme Pharma Inc., Marie-Pierre Taillon, Jean-Nicholas Mess, Milton Furtado

(1350-3 P) **Selecting the Right HPLC for a Mass Spectrometer Using the Linear Compensatory Model as an Evaluation Technique** FABIO GAROFOLO, Algorithme Pharma Inc., Simon Robert, Valérie Vincent, Milton Furtado

(1350-4 P) **High pH Mobile Phase Sensitivity Gain in Positive Electrospray Ionization Mode (ESI+) LC-MS/MS: Choice of Modifiers to Improve Signal Intensity and Applications in Bioanalysis** FABIO GAROFOLO, Algorithme Pharma Inc., Jean-Nicholas Mess, Mathieu Lahaie, Milton Furtado

(1350-5 P) **LC-MS Determination of GABA Concentration in the Hemolymph of *Cancer Borealis*: Characterizing a Possible Hormonal Role for GABA** CHRISTOPHER M ROSE, Santa Clara University, Alexandra M Lewis, Christelle Sabatier, John T Birmingham, Suljak Steven

(1350-6 P) **Characterization of Fatty Acid Conjugates of Brevetoxins in Clam by LC-MS** YUESONG WANG, U.S. Food and Drug Administration, Ann Abraham, Edward L Jester, Kathleen R El Said, Jennifer Hooe-Rollman, Steven M Plakas

(1350-7 P) **Capillary Electrophoresis Using Modified Polymeric Capillaries** THOMAS N LOEGEL, Miami University, Ohio, Neil D Danielson, Richard T Taylor

(1350-8 P) **Modifications to DIABLA Hardware for the Isolation of Target Proteins** HANNA E SHAY, Southern Illinois University Carbondale, Matthew McCarroll, Luke Tolley

(1350-9 P) **Capillary Electrophoresis-electrospray Ionization Mass Spectrometry for Brain Metabolomics** ANN M KNOLHOFF, University of Illinois, Urbana-Champaign, Stanislav S Rubakhin, Jonathan V Sweedler

POSTER SESSION Session 1360

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Magnetic Resonance Applications

Tuesday Morning, Gray Area - Hall B4, Aisles 3400-3900

(1360-1 P) **Nuclear Magnetic Resonance Studies of Hydroxytibolones Isolated from Microbial Transformation of Tibolone and SAR Studies of Their Active Metabolites** SYED ADNAN ALI SHAH, University Technology Mara, Iqbal M Choudhary

(1360-2 P) **Separation and Identification of 15N isotope- labeled Metabolites Present in Human Urine by HPLC and NMR Techniques** EMMANUEL APPIAH-AMPONSAH, Purdue University, Kwadwo Owusu-Sarfo, Tao Ye, Nagana Gowda, Daniel Raftery

POSTER SESSION Session 1370

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Mercury Analysis

Tuesday Morning, Gray Area - Hall B4, Aisles 3400-3900

(1370-1 P) **The Determination on Mercury in Ambient Waters: Streamlining Method 1631 for Improved Productivity** DAVID PFEIL, Teledyne Leeman Labs, Bruce MacAllister

(1370-2 P) **Mercury Analysis by EPA Method 1631E: It Doesn't Have to be Complicated** JASON P GRAY, Nippon Instruments North America, Alvin Chua, Koji Tanida

(1370-3 P) **Mercury Concentration of Fish Oil Supplements by Cold Vapor Atomic Fluorescence Spectroscopy (CVAFS)** DAVID CLARKE, Cetac Technologies, Jeff Forsberg, Jennifer Barry

(1370-4 P) **The Origins of the 'Dumarey Equation' Describing the Saturated Mass Concentration of Mercury Vapour in Air** WARREN THOMAS CORNS, P S Analytical, Peter Bernard Stockwell, Ronny Dumarey, Richard J Brown, Andrew S Brown

(1370-5 P) **Determination of Mercury Ion Using Oligonucleotide–Gold Nanoparticle Conjugates Coupled with ET-AAS Detection** TUN-CHIEH HSU, Biomedical Engineering and Environmental Sciences, I-Hsiang Hsu, Yuh-Chang Sun

POSTER SESSION Session 1380

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Microbial Analysis

Tuesday Morning, Gray Area - Hall B4, Aisles 3400-3900

(1380-1 P) **Microfluidic Culture Device Coupled with MALDI MS Analysis for Identification of Bacteria** JEONGHOON LEE, Louisiana State University, Steven A Soper, Kermit K Murray

(1380-2 P) **Atomic Force Microscopy Study of Living Baker's Yeast Cells** ARUNAS RAMANAVICIUS, Vilnius University, Arturas Suchodolskis, Stirke Arunas, Asta Makareviciute, Almira Ramanaviciene

(1380-3 P) **CE-LIF Analysis of Intact Marine Microbes Along with Their Constituent Proteins and Pigments** BENJAMIN A VAUGHAN, Wake Forest University, Christa L Colyer

(1380-4 P) **Antibacterial Activity of Some Herbal Spieces with Combination of Different Antibiotics** MEDHA PRAJAPATI, Sheth M. N. Science College, J Piyush

POSTER SESSION Session 1390

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Sampling & Sample Preparation - LPE & SPE

Tuesday Morning, Gray Area - Hall B4, Aisles 3400-3900

(1390-1 P) **Comparison of Liquid-liquid Extraction (LLE) and Supported Liquid Extraction (SLE):- Equivalent Limits of Quantitation with Smaller Sample Volumes** LEE D WILLIAMS, Biotage GB Ltd, Rhys Jones, Helen Lodder, Steve Jordan, Richard Calverley, Claire Desbrow, Gary Dowthwaite, Joanna Caulfield

(1390-2 P) **PrepLinc Automated SPE Isolation and Quantitation of Phthalates in Drinking Water** TOM K DOBBS, J2Scientific

(1390-3 P) **Multi-residue Method for the Analysis of Organochlorine, Organophosphorous and N-methylcarbamate Pesticides in Foods of Animal Origin** TOM K DOBBS, J2Scientific

(1390-4 P) **Application of Multi-Impurity Adsorption SPE(MAS) with LC-MS for Determination of Melamine and Cyanuric Acid in Food** JUNXIONG FENG, Agela Technologies

(1390-5 P) **New Developments in Automation of the Extraction of Drugs from Biological Fluids** LYNN JORDAN, Caliper Life Sciences, Lee D Williams, Richard Calverley, Helen Lodder, Rhys Jones, Susan Wasley

(1390-6 P) **High Throughput Workflow for Midazolam and 1-Hydroxy-midazolam Analysis in Human Plasma** LYNN JORDAN, Caliper Life Sciences, Michael J Coyer, Patrice Tremblay, Pierre Picard

(1390-7 P) **Solid Phase Extraction (SPE) Cartridges for Low-Level GC and LC Analyses** CHARLES LEVESQUE, SiliCycle, Inc., Lynda Tremblay, Olivier Marion, François Béland

(1390-8 P) **Application of Multi-Impurity Adsorption SPE MAS for the Determination of Drugs in Serum** JIANWANG LI, Agela Technologies, Qihui Ni

(1390-9 P) **The Application of Mix-phase Technology in SPE Method Optimization** SHUOLEI WANG, Chinese Academy of Agricultural Science, Qun J Wang

(1390-10 P) **A Study of Several Polymer SPE Material's Performance on Acid, Neutral and Basic Compounds at Different pH** WAN WANG, Agela

(1390-11 P) **Extraction of Cocaine and Metabolites Using Resin-based Mixed-mode Cation Exchange SPE with LC-MS/MS Analysis** LEE D WILLIAMS, Biotage GB Ltd, Rhys Jones, Steve Jordan, Steve Plant, Richard Calverley, Claire Desbrow, Dowthwaite Gary

(1390-12 P) **Automating Sample Preparation for Semi-Volatile Organic Compounds (EPA METHOD 8270D) in Water Utilizing a Solid Phase Extraction Disk and Carbon Cartridge** MICHAEL EBITSON, Horizon Technology, Inc., Greg Jeter

(1390-13 P) **Extraction of Dioxins in Deionized Water and Particulate Laden River Water Using Automated SPE and SPE Disks** BRETT HOLMES, Horizon Technology, Inc., Robert Johnson, Michael Ebitson

POSTER SESSION Session 1400

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Sampling & Sample Preparation - LPME & SPME

Tuesday Morning, Gray Area - Hall B4, Aisles 3400-3900

(1400-1 P) **Development of Automated Liquid Phase Microextraction-Gas Chromatography/Mass Spectrometry** CYNTHIA MELANIE LAHEY, Shimadzu (Asia Pacific) Pte Ltd, Chanbasha Basheer, Lai Chin Hui-Loo, Novalina Lingga, Hian Kee Lee

(1400-2 P) **Liquid-liquid Microextraction for Water-soluble Organic Compounds in Water Using Fluorinated Alcohols as Extractant Solvent** TATSURO NAKAGAMA, Nihon University, Isao Ooka, Masahiro Otsuki, Hiroaki Minamisawa, Kazunori Saito

(1400-3 P) **Determination of Volatile Components in Dairy Products: A Comparison Between Dynamic Headspace and SPME Extraction Techniques** MANUELA BERGNA, Dani Instruments S.p.A., Ilaria Ferrante, Giovanna Contarini, Milena Povolo

(1400-4 P) **High Throughput In vivo SPME Fiber Desorption Device on a 96-multiwell Plate Format** ERASMUS CUDJOE, University of Waterloo, Janusz Pawliszyn

(1400-5 P) **Evaluating the Morphological Changes and Selectivity of Task-Specific Absorbent Coatings Based on Polymeric Ionic Liquids for the Capture of Carbon Dioxide Using Solid-Phase Microextraction** JONATHAN C WAJERT, The University of Toledo, Qichao Zhao, Jared L Anderson

(1400-6 P) **Time-Resolved Solid-Phase Microextraction (TR-SPME) and Its Application for Highly Dynamic System** XU ZHANG, University of Waterloo, Ken Oakes, Janusz Pawliszyn, Mark Servos

(1400-7 P) **Development of a System to Enable the Use of Water as Extractant of Analytes from Complex Samples by Cold Fiber Solid-phase Microextraction (CF-SPME)** EDUARDO CARASEK, Federal University of Santa Catarina, Edmar Martendal, Janusz Pawliszyn

CONFEREE NETWORKING

Tuesday, March 2, 2010

9:00 - 11:00 AM

Biofuel Analysis Facilitated by: Ricardo Gonzalez , Virent Energy Systems, Inc. and Robert Ellis, AB/Sciex, Room 312B
Emission/Absorption Spectroscopy for Analysis of Metals in Pharmaceutical Products Facilitated by: Theodore Duello, Tennessee State University, Room 311E
Forensics Facilitated by: David Rahni, Pace University/New York Medical College, Room 311F
PAT: What Are Unmet Needs? Facilitated by: Jim Rydzak, GlaxoSmithKline, Room 311G
PCB Guidance Development Facilitated by: Wayne Whipple, US EPA Region 5, Chicago Regional Laboratory, Room 312A
The Data Management Landscape of the Future Facilitated by: David Hurt, LabVantage, Room 312C

TUESDAY, MARCH 2, 2010
AFTERNOON

AWARD Session 1410

Pittsburgh Spectroscopy Award - Frontiers of Vibrational Spectroscopy of Biosystems and Energy Conversion- arranged by Sanford A Asher, University of Pittsburgh

Tuesday Afternoon, Room 300

Sanford A Asher, University of Pittsburgh, Presiding

2:00 **Introductory Remarks - Sanford A Asher**

2:05 **Presentation of the 2010 Pittsburgh Spectroscopy Award to Robin M Hochstrasser, University of Pennsylvania, by Hubert C MacDonald, Chairman, The Pittsburgh Spectroscopy Society**

2:10 (1410-1) **Two Dimensional Infrared Spectroscopy as an Analytic and Structural Tool in Biology** ROBIN M HOCHSTRASSER, University of Pennsylvania

2:45 (1410-2) **Accessing Distances Exceeding 11 A Using Relaxation-assisted Multidimensional Infrared Spectroscopy** IGOR V RUBTSOV, Tulane University

3:20 **Recess**

3:35 (1410-3) **Probing Ultrafast Dynamics in Photovoltaic and Photocatalytic Nanomaterials by Time-resolved IR Spectroscopy** TIANQUAN LIAN, Emory University

4:10 (1410-4) **Probing Structures and Kinetics with a Computer Programmable 2D IR Spectrometer** MARTIN ZANNI, University of Wisconsin-Madison

SYMPOSIUM Session 1420

Chemical Imaging Technology: Advancing to Routine Analytical Use - arranged by Rohit Bhargava, University of Illinois at Urbana-Champaign

Tuesday Afternoon, Room 311B

Rohit Bhargava, University of Illinois at Urbana-Champaign, Presiding

2:00 **Introductory Remarks - Rohit Bhargava**

2:05 (1420-1) **Spectroscopy and Imaging in Medicine: Moving Benchtop Optical Technologies to the Bedside** BRUCE J TROMBERG, University of California, Irvine

2:40 (1420-2) **Mid-infrared Spectroscopic Imaging for Cancer Pathology: Progress Towards Clinical Translation** ROHIT BHARGAVA, University of Illinois, Urbana-Champaign

3:15 (1420-3) **MALDI Imaging Mass Spectrometry: Assessing Chemical Dynamics in Biological Systems** RICHARD CAPRIOLI, Vanderbilt University

SYMPOSIUM Session 1430

From Non-SELEX Development to Modern Bioanalytical Applications of Aptamers - arranged by Radislav Potyrailo, GE Global Research and Eric Holwitt, Air Force Research Laboratory

Tuesday Afternoon, Room 206B

Radislav Potyrailo, GE Global Research, Presiding

2:00 **Introductory Remarks - Radislav Potyrailo**

2:05 (1430-1) **Aptamer Selection Express: A Rapid Single-Step Selection of Double-stranded DNA Capture Elements** JOHNATHAN LLOYD KIEL, Air Force Research Lab, Fan Maomian, Eric Holwitt, Veronica Sorola

2:40 (1430-2) **High Throughput Screens for Aptamer Discovery and Characterization** PHILIP N BORER, Syracuse University, Gillian V Kupakuwana, Lei Chen, James E Crill, Mark P McPike

3:15 (1430-3) **Molecular Targeting of Tumor Cells Using Aptamer-conjugated Nanomaterials** WEIHONG TAN, University of Florida

3:50 (1430-4) **Non-SELEX Selection of Aptamers: The Advantages vs. Challenges** SERGEY N KRYLOV, York University

4:25 (1430-5) **Aptamers as Bio-receptors in Passive Radio-frequency Identification (RFID) Biosensors** RADISLAV POTYRAILO, GE Global Research

SYMPOSIUM Session 1440

From the Benchtop to the Bedside: Novel Techniques that will Change Healthcare in the 21st Century "WEBCAST" - arranged by John Francis Rabolt, University of Delaware and Ira W Levin, National Institutes of Health

Tuesday Afternoon, Room 311C

John Francis Rabolt, University of Delaware, Presiding

2:00 **Introductory Remarks - John Francis Rabolt**

2:05 (1440-1) **Modification of Gold Nanoparticle Constructs as Labels in Immunodiagnostics** MARC PORTER, Nano Institute of Utah

2:40 (1440-2) **Multifunctional Nanoscale Drug Delivery Agents** CHRISTY L HAYNES, University of Minnesota, Yu-Shen Lin

3:15 (1440-3) **Novel Nanorod Array Substrates as a Platform for SERS-Based Biosensing of Infectious Disease** RICHARD A DLUHY, University of Georgia, J D Driskell, Y-P Zhao, R A Tripp

3:50 (1440-4) **The Bridge from Bench to Bedside: Selected Applications from a National Institutes of Health Perspective** IRA W LEVIN, National Institutes of Health

4:25 (1440-5) **Analyzing Saliva and Tears as a Diagnostic for Disease Using an Ultrafast Planar Array Infrared (PA-IR) Spectrograph** JOHN FRANCIS RABOLT, University of Delaware

SYMPOSIUM Session 1450

Ion Mobility MS for Polymer Analysis "WEBCAST" - arranged by Charles L Wilkins, University of Arkansas

Tuesday Afternoon, Room 307D

Charles L Wilkins, University of Arkansas, Presiding

2:00 **Introductory Remarks - Charles L Wilkins**

2:05 (1450-1) **Composition, Structure, and Architecture Distributions of Synthetic Polymers by Ion Mobility Mass Spectrometry** CHRYS WESDEMIOTIS, The University of Akron

2:40 (1450-2) **Ion Mobility Spectrometry-Mass Spectrometry for Star-branched poly(Ethylene Glycols)** SARAH TRIMPIN, Wayne State University, Barbara S Larsen, Ellen Inutan

3:15 (1450-3) **Travelling Wave Ion Mobility Studies of Polymer Microstructure** JAMES HOWARD SCRIVENS, University of Warwick

3:50 (1450-4) **IMS/MS with Direct Ambient Ionization Methods for Polymer and Polymer Additives Analysis** CHARLES N MCEWEN, University of the Sciences in Philadelphia, Hilary Major, Sarah Trimpin

4:25 (1450-5) **Ion Mobility-MS of Polymers Validated with Fourier Transform MS** CHARLES L

WILKINS, University of Arkansas

SYMPOSIUM Session 1460

Microfluidics: Recent Progress Towards the Total Analysis System, Part II "WEBCAST" - arranged by Dana Spence, Michigan State University and R Scott Martin, Saint Louis University

Tuesday Afternoon, Room 205C

R Scott Martin, Saint Louis University, Presiding

2:00 **Introductory Remarks - R Scott Martin**

2:05 (1460-1) **Integrated Microfluidic Flow Cytometry Devices for Direct Analysis of Blood** J MICHAEL RAMSEY, University of North Carolina, Joshua K Herr, Soren Johnson, Jean Pierre Alarie, Norman Sharpless

2:40 (1460-2) **Separation Based Sensors Incorporating Microdialysis Coupled to Microchip Electrophoresis** SUSAN M LUNTE, University of Kansas, Pradyot Nandi, Dhara Desai, Anne Regel, Ryan Grigsby

3:15 (1460-3) **Multiplexed Biomolecular Detection in Microfluidic Volumes Using Silicon Photonic Micro Ring Resonator Arrays** RYAN C BAILEY, University of Illinois, Urbana-Champaign

3:50 (1460-4) **Hybrid Microfluidics for Integrated Sample Processing and Separations** AARON WHEELER, University of Toronto

4:25 (1460-5) **Progress in Using Microfluidic Technologies as a Bridge Between In vitro and In vivo Measurements** DANA SPENCE, Michigan State University

SYMPOSIUM Session 1470

New Approaches to Analytical Mass Spectrometry - arranged by Gary Martin Hieftje, Indiana University

Tuesday Afternoon, Room 206A

Gary Martin Hieftje, Indiana University, Presiding

2:00 **Introductory Remarks - Gary Martin Hieftje**

2:05 (1470-1) **Handheld Mass Spectrometers** R GRAHAM COOKS, Purdue University, Zheng Ouyang, Fatkhulla K Tadjimukhamedov

2:40 (1470-2) **Distance-of-Flight Mass Spectrometry: A Proof-of-Concept Instrument** CHRISTIE GEORGE ENKE, University of New Mexico, Steven J Ray, Alexander W Graham, Gary Martin Hieftje, David W Koppenaal, Charles J Barinaga

3:15 (1470-3) **New Time-of-Flight Mass Cytometer For Detection of Cancer Stem Cells and Their Progenitors** SCOTT TANNER, University of Toronto, Olga Ornatsky, Vladimir Baranov, Dmitry Bandura, Mark van Delft, John Dick

3:50 (1470-4) **Recent Advances in Fourier Transform Ion Cyclotron Resonance Mass Spectrometry** ALAN G MARSHALL, Florida State University, Greg T Blakney, Mark R Emmett, Christopher L Hendrickson, Ryan P Rodgers

4:25 (1470-5) **Array Detectors for Simultaneous Mass Analysis** GARY MARTIN HIEFTJE, Indiana University, Gregory D Schilling, Jeremy Felton, Steven J Ray, Jacob T Shelley, M Bonner Denton, Roger P Sperline, David W Koppenaal, Charles J Barinaga

SYMPOSIUM Session 1480

Quantitative NMR for Pharmaceutical Analysis - arranged by

Lin Wang, Eli Lilly and Company

Tuesday Afternoon, Room 307B

Lin Wang, Eli Lilly and Company, Presiding

2:00 **Introductory Remarks - Lin Wang**

2:05 (1480-1) **Quantitative NMR: If It Can Be Observed, Then It Can Be Quantified** HUAPING MO, Purdue University

2:40 (1480-2) **Quantitative NMR: From Monitoring Reactions with Flow NMR to Determining Relative UV Response Factors** ANDREAS KAERNER, Eli Lilly and Company, Scott Bradley, Jonas Buser

3:15 (1480-3) **Practical Quantitative Solid-State NMR Spectroscopy** PATRICK A TISHMACK, SSCI, A Division of Aptuit

3:50 (1480-4) **An Alternative Approach to Alkoxide Quantitation Using NMR** CHERYL ANN BYE, Eli Lilly and Company, Lisa M Zollars, Ricardo Cantu

4:25 (1480-5) **Quantitative Proton NMR (qHNMR) in Natural Products Research** DAVID C LANKIN, University of Illinois

SYMPOSIUM Session 1490

Understanding the Neurochemistry of the Brain, Drop by Drop - arranged by Martyn G Boutelle, Imperial College London

Tuesday Afternoon, Room 308C

Martyn G Boutelle, Imperial College London, Presiding

2:00 **Introductory Remarks - Martyn G Boutelle**

2:05 (1490-1) **Microfluidics for 3D Cellular and Tissue Biology** SAMUEL SIA, Columbia University

2:40 (1490-2) **Single Droplets, Optical Vortexes and Cellular Surgery** DANIEL T CHIU, University of Washington

3:15 (1490-3) **Microfluidic Control of the Intracellular Environment of a Single Cell** OWE ORWAR,

Chalmers University of Technology, Jessica Olofsson, Shijun Xu, Stephen G Weber

3:50 (1490-4) **Improved In vivo Neurochemical Sampling and Analysis Using Droplets** ROBERT T KENNEDY, University of Michigan

4:25 (1490-5) **Segmented Flow of Clinical Microdialysis Streams - A Key Technology for Monitoring Human Brain Injury** MARTYN G BOUTELLE, Imperial College London, Michelle L Rogers, Xize Niu, Andrew de Mello, Agnes Leong

WORKSHOP Session 1500

Reference Materials for Global Environmental Concerns (CRMMA) - arranged by Susan Meronek, AccuStandard, Inc./CRMMA

Tuesday Afternoon, Room 308A

Susan Meronek, AccuStandard, Inc./CRMMA, Presiding

2:00 **Introductory Remarks - Susan Meronek**

2:05 (1500-1) **The Analysis of Pet Food for Inorganic and Organic Contaminants** PATRICIA ATKINS, SPEX CertiPrep, Vanaja Sivakumar, Thomas Mancuso

2:30 (1500-2) **Formulation and Verification of BFR Standards used in Ultra-Trace Analysis by Isotope Dilution Mass Spectrometry (IDMS)** WILLIAM M GRIM, Cambridge Isotope Laboratories, Timothy J Eckersley, Joel C Bradley, David R Craig

2:55 (1500-3) **Analytical Challenges for Determining Product Compliance with CPSIA Legislation** TIMOTHY JOSEPH ALAVOSUS, VHG Labs, Inc.

3:25 **Recess**

3:40 (1500-4) **Solution Standards for Use in Environmental Analysis of Trace Pharmaceuticals** UMA SREENIVASAN, Cerilliant Corporation, Isil Dilek, Mitzi Rettinger, Sherri Pogue

4:05 (1500-5) **Enhancement of Quality Through the Utilization of Daily Microbiological QC Materials** CHRISTOPHER RUCINSKI, RTC

4:30 (1500-6) **Lead in Toy Paint** ARTHUR ROSS, SCP Science

4:55 **Discussion/Wrap Up**

ORGANIZED CONTRIBUTED SESSION Session 1510

ACS Division of Analytical Chemistry New Investigators in Analytical Chemistry II - arranged by

Michael G Roper, Florida State University

Tuesday Afternoon, Room 311A

Michael G Roper, Florida State University, Presiding

2:00 (1510-1) **3D Maps of SERS Responses for Solution-Phase Nanoparticles** AMANDA J HAES,

University of Iowa

2:20 (1510-2) **Rotating Disk Microfluidic Platforms Prepared by Three-Dimensional Printing** R DANIEL JOHNSON, Murray State University, Jessica L Moore, Austin McCuiston, Rudy Ottway

2:40 (1510-3) **Spray Desorption Collection** ANDRE R VENTER, Western Michigan University

3:00 (1510-4) **Engineering Self Reporting Aptamers for Use in Electrochemical Aptamer-Based Sensors** RYAN J WHITE, University of California, Kevin Plaxco

3:20 **Recess**

3:35 (1510-5) **Optimization of a Second Fractionation Step of Humic Substances as the Groundwork for Permitting Large-scale MSn Characterization** ALEXANDRA CLAUDIA STENSON, University of South Alabama

3:55 (1510-6) **Development of an Undergraduate Laboratory Experiment in Microfluidics** ERIN GROSS, Creighton University

4:15 (1510-7) **Development of a Conductive Polymer Electrode to Incorporate Specific Heavy Metals** SUZANNE K LUNSFORD, Wright State University

4:35 (1510-8) **Online Learning Modules: Utilizing a Tool Box and Problem Based Learning Approach to Teach Analytical Science** HEATHER A BULLEN, Northern Kentucky University, Richard S Kelly

ORGANIZED CONTRIBUTED SESSION Session 1520

SEAC Organized Session - Bioanalytical Applications of Electrochemistry II - arranged by Jon Kirchhoff, University of Toledo

Tuesday Afternoon, Room 311D

Jon Kirchhoff, University of Toledo, Presiding

2:00 (1520-1) **Adaptation of a Platinum Screen-printed Electrode for the Real-time Monitoring of Cellular Metabolism in a Microfluidic Environment** JENNIFER R MCKENZIE, Vanderbilt University, David E Cliffel, John P Wikswo

2:20 (1520-2) **A Superoxide Dismutase Coated Electrode for the Study of Macrophage Oxidative Burst** LESLIE A HIATT, Vanderbilt University, David E Cliffel

2:40 (1520-3) **Enhanced Sacrificial-SECM Imaging of Hydroxyl Radical** MIGELHEWA N KAUMAL, Mississippi State University, David O Wipf

3:00 (1520-4) **In vivo, Fast Scan Cyclic Voltammetry of Endogenous Brain 5-HT** PARASTOO HASHEMI, University of North Carolina, Chapel Hill, Elyse Dankoski, Richard B Keithley, Mark Wightman, Jelena Petrovic

3:20 **Recess**

3:35 (1520-5) **Miniaturized Analytical System for Electrochemical Detection of Nitrite in Biological Matrices** ANNE REGEL, University of Kansas, Susan M Lunte, Pradyot Nandi

3:55 (1520-6) **Electrochemical Probing of Complex Formation Between Cytochrome P450s and Reductase in Layer-by-Layer Films** SADAGOPAN KRISHNAN, University of Connecticut, Amila Abeykoon, John B Schenkman, James F Rusling

4:15 (1520-7) **Picoliter Separations of Biogenic Amines from Nanoliter Fruit Fly Brains** E CARINA BERGLUND, University of Gothenburg, Nicholas J Kuklinski, Andrew G Ewing

4:35 (1520-8) **The Voltammetric Determination of Quercetin and Vitamin C Contents in Some Anti-cancer Plants** WESLEY O OKIEI, University of Lagos, Modupe Ogunlesi, Dominic A Esan, Olaseun Mesele, Adebola Oyefusi

ORGANIZED CONTRIBUTED SESSION Session 1530

X-ray Fluorescence, An Old Method with New Capabilities - arranged by George J Havrilla, Los Alamos National Laboratory

Tuesday Afternoon, Room 205B

George J Havrilla, Los Alamos National Laboratory, Presiding

2:00 (1530-1) **X-ray Fluorescence Micro- and Nano-Analysis Using Synchrotron Radiation** LASZLO VINCZE, Ghent University

2:20 (1530-2) **Total Reflection X-ray Fluorescence Analysis of Trace Phosphorus Contamination in an R&D Semiconductor Manufacturing Line** CHRIS SPARKS, SVTC Technologies, George J Havrilla, Ursula E Fittschen

2:40 (1530-3) **Accurate Interpretation of XRF Spectra Using First-principles Modeling** WT ELAM, University of Washington

3:00 (1530-4) **Applications of X-Ray Fluorescence to Thin-film Photovoltaic Development and Production** JIM BOGERT, Solar Metrology

3:20 **Recess**

3:35 (1530-5) **Development of Reference Materials Containing Lead in Paint** JOHN L MOLLOY, NIST, John R Sieber

3:55 (1530-6) **Fusion of 3D X-ray Images** BRIAN M PATTERSON, Los Alamos National Laboratory, George J Havrilla, Kimberly Obrey, John Campbell

4:15 (1530-7) **Advanced X-ray Optics and Its Applications to Enhance X-ray Fluorescence Analysis** NING GAO, X-Ray Optical Systems, Inc., Matthew Cusack, David Gibson

4:35 (1530-8) **Picoliter Deposition Technology for XRF Calibration and Trace Analysis** URSULA E FITTSCHEN, Los Alamos National Laboratory, George J Havrilla

ORAL SESSION

Advances in Sample Preparation and Automation for Atomic Spectroscopy (Half Session)

Tuesday Afternoon, Room 207B

Sky Countryman, Phenomenex, Presiding

2:00 (1540-1) **Enhanced Productivity ICP (EP-ICP) for Tribology Applications** JERRY DULUDE, Glass Expansion, Scott Bridger, Vesna Dolic

2:20 (1540-2) **Choice of Sample Preparation Vessel for Quantitation of Trace Multi Elements in Complex Sample Matrix by Inductively Coupled Plasma Mass Spectrometry** TOWHID HASAN, Dow Chemical Company

2:40 (1540-3) **A Universal Method for ICP-MS Environmental Analysis** PAUL KRAMPITZ, PerkinElmer, Cynthia Bosnak, Ewa Pruszkowski, Randy Hergenreder

3:00 (1540-4) **A Test Method for Soil Contamination with Cd and Pb Consisting of Selective Extraction with Thiacalixarene And Detection by Using Atomic Absorption Spectrometry** NOBUHIKO IKI, Tohoku University, Keita Kano, Hitoshi Hoshino

ORAL SESSION Session 1550

Analytical Challenges in Biofuel Analysis

Tuesday Afternoon, Room 207C

John P Baltrus, U.S. Department of Energy - NETL, Presiding

2:00 (1550-1) **Quantification of Toxicants and Anti-nutritional Compounds in Oil and Meal from Raw and Treated Jatropha Curcas** RACHA SEEMAMAHANOP, University of Missouri, Balaji Viswanathan, Shubhen Kapila, Virgil Flanigan, Kyle Anderson, Steve Lorbert

2:20 (1550-2) **Application of Hydrophilic Interaction Liquid Chromatography to the Analysis of Biomass-Derived Carbohydrates** RYAN W WILKINSON, Virent Energy Systems, Ricardo Gonzalez, Ming Qiao

2:40 (1550-3) **Meeting the Challenges of Biofuels Blend Measurements** SANDRA RINTOUL, Wilks Enterprise, Inc., Dylan Wilks

3:00 (1550-4) **Evaluation During Tankage of the Stability of a Diesel-like Fuel Obtained by the Pyrolysis of Soybean Oil** JOEL C RUBIM, University of Brasilia, Cynara K Barreto, Cristiano C Oliveira, Gabriela G Souza, Paulo A Suarez

3:20 **Recess**

3:35 (1550-5) **Biodiesel Reactors: Raw Material Analysis, Process Control, and Product Quality** STUART FARQUHARSON, Real-Time Analyzers, Michael Donahue

3:55 (1550-6) **Transesterification in Supercritical Methanol for Biodiesel Production and Analysis** PAUL K NAM, Missouri University of Science & Technology, Dhaval Modi

4:15 (1550-7) **Synthetic Jet Fuel Blend Analysis Using Mid-Infrared Spectroscopy** SANDRA

RINTOUL, Wilks Enterprise, Inc., Dylan Wilks

4:35 (1550-8) **Next Generation Low Bleed Metal 100% PDMS Columns for High Temperature Simulated Distillation** GARY STIDSEN, Restek Corporation, Barry Burger, Don Rhodes, Jan Pijpelink, Jaap de Zeeuw

ORAL SESSION Session 1560

Atomic Spectroscopy of Biological and Pharmaceutical Samples

Tuesday Afternoon, Room 307C

Joseph Wreen, Fripp Environmental Network, Presiding

2:00 (1560-1) **Trace Metal Contamination in Fish and Sea Foods with Flame and Graphite Furnace Atomic Absorption Spectrophotometer** PRAVEEN SAROJAM, PerkinElmer Analytical Sciences, Zoe Grosser, Anil Nimkar

2:20 (1560-2) **An Assessment of Human Exposure to Toxic Substances Through Potato Chip Consumption and a Correlation Between Levels of Select Trace Metals and Inorganic Anions** OLUJIDE T AKINBO, Butler University, Joseph T Gesell, Allen Chacha

2:40 (1560-3) **Determination of Bismuth in Slurried Hair Samples by Hydride Generation Atomic Absorption Spectrometry** JERZY MIERZWA, University of Central Florida

3:00 (1560-4) **Speciation of Mercury in Hair Using GC-AFS and HPLC-UV-CV-AFS** WARREN THOMAS CORNS, P S Analytical, Peter Bernard Stockwell, Bin Chen, Jasmina Allen, Pritam Kundoo

3:20 **Recess**

3:35 (1560-5) **QC Advances in the Pharma ICP Laboratory** JERRY DULUDE, Glass Expansion, Vesna Dolic

3:55 (1560-6) **Using ICP-OES to Meet the Requirements of Heavy Metal Analysis in Pharmaceutical Products** MARTIN J NASH, Thermo Fisher Scientific, Matthew Cassap

4:15 (1560-7) **The Determination of Low Level Magnesium Stearate Levels on Tablets Using ICP-OES and ICP-MS** PHILIP RIBY, Liverpool John Moores University, Dipankar Dey, Giulio Colnaghi

ORAL SESSION Session 1570

Environmental: Sensors

Tuesday Afternoon, Room 310A

Denise C Wilkins, Bechtel Bettis, Inc., Presiding

2:00 (1570-1) **Urban Air Quality: The Merging of Emerging Technologies** JOHN R SAFFELL, Alphasense Ltd., Rod Jones

2:20 (1570-2) **Miniaturized Multi-Analyte Sensor Array for the Automated Monitoring of Major Atmospheric Constituents** UMA SAMPATHKUMARAN, InnoSense LLC, Thomas Owen, Kisholoy Goswami, Tania Betancourt, Kathy Nguyen, Mohammad Mushfiq, Corey Selman, Raymond Winter, Apinya Zinn

2:40 (1570-3) **Polypyrrole Functionalized Single Walled Carbon Nanotubes Gas Sensor** JAMES KAKOULLIS, University of California, Riverside, Nosang V Myung, Ashok Mulchandani

3:00 (1570-4) **New Control and Analysis Potentials with Mobile Devices** HENDRIK FISCHER, Hamburg University of Technology, Joern Frank, Gerhard Matz

3:20 **Recess**

3:35 (1570-5) **Towards a Smart Sensing Platform for Water Quality Determination** SUSAN CARROLL, University of Louisville, Thomas J Roussel, Robert S Keynton, Richard P Baldwin

3:55 (1570-6) **An Optical Sensor Based on an Intrinsically Fluorescent Ionic Liquid** KA YI YUNG, SUNY at Buffalo, Abby J Schadock-Hewitt, Neil P Hunter, Gary Baker, Frank V Bright

4:15 (1570-7) **Sensors as Tools for Quantitation and Cytotoxicity Studies of Engineered Nanomaterials** OMOWUNMI A SADIK, SUNY-Binghamton, Samuel N Kikandi, Qiong Wang, Ailing Zhou, Katrina E Varner

ORAL SESSION Session 1580

Fluorescence/Luminescence in Bioanalytical Applications

Tuesday Afternoon, Room 310B

X Nancy Xu , Old Dominion University, Presiding

2:00 (1580-1) **Luminescence-based Detection of Emerging Disease Biomarkers, Small Non-coding RNAs** SAPNA DEO, Indiana University Purdue University Indianapolis, Kyle A Cissell, Manoj Kumar

2:20 (1580-2) **Revisiting Quantitative Measurements of Glucose Uptake by Red Blood Cells and Its Role in Cystic Fibrosis** KARI ANDERSON, Michigan State University, Dana Spence

2:40 (1580-3) **Development of a Multiplexed Molecular Beacon Assay for the Detection of Breast Cancer Metastasis** ERIK GUETSCHOW, Kalamazoo College, Will Black, Carolyn M Walsh, Jennifer R Furchak

3:00 (1580-4) **Early Detection of Apoptosis in Living Cells by Fluorescence Correlation Spectroscopy** MICHELLE M MARTINEZ, Texas Tech University, Randall D Reif, Dimitri Pappas

3:20 **Recess**

3:35 (1580-5) **Identification and Quantitation of Bacillus Globigii Using Capillary Biosensor** SAMUEL KALLAVI MWILU, SUNY-Binghamton, Seth Miller, Omowunmi A Sadik

3:55 (1580-6) **Multi-functional Optical Nanoparticle Sensors for Simultaneous Quantitative**

Calcium and Magnesium Ion Imaging Inside Live Cells DI SI, University of Michigan, Tamir Epstein, Emily Nelson, Yong-Eun Koo, Raoul Kopelman

4:15 (1580-7) **Identifying Cytoplasmic Proteins that Affect Cell Membrane Organization Using Fluorescence Resonance Energy Transfer and RNA Interference** EMILY A SMITH, Iowa State University, Suzanne Sander, Neha Arora, Deepak Dibya

4:35 (1580-8) **Sensitive Detection of C-Reactive Protein Using Quantum-Dot Labeling and Immunoaffinity Separation** XIAOSHAN ZHU, University of Nevada Reno, Dayue Duan

ORAL SESSION Session 1590

Food Science - Components and New Tools

Tuesday Afternoon, Room 309AB

Kelly Akers, ProSpect Scientific Inc., Presiding

2:00 (1590-1) **Procyanidin Fingerprints in Food and Dietary Supplement Standard Reference Materials** CATHERINE A RIMMER, NIST, Kevin D Krueger, Lane C Sander, Katherine E Sharpless, Stephen A Wise, Mark S Lowenthal

2:20 (1590-2) **Flavor Profiles of Aromatic and non-Aromatic Rice Varieties** STEVEN W LLOYD, USDA-ARS-SRRC, Casey C Grimm

2:40 (1590-3) **Determination of Vitamins in NIST Food Matrix SRMs** MELISSA M PHILLIPS, NIST, Catherine A Rimmer, Lane C Sander, Katherine E Sharpless, Stephen A Wise

3:00 (1590-4) **Evaluation of Isoflavone Composition in Dietary Supplements via Liquid Chromatography-Particle Beam/Mass Spectrometry (LC-PB/MS)** CAROLYN E QUARLES, Clemson University, R Kenneth Marcus, Castro Joaudimir

3:20 **Recess**

3:35 (1590-5) **Determination of Melamine Contamination in Dietary Supplements (Nutraceuticals) by HPLC/MS/MS** JAMES NEAL-KABABICK, Flora Research Laboratories, David Lytle, Ed George, Tiffany Payne

3:55 (1590-6) **Modal Calorimetry in Food Science: A Complimentary Approach to DSC, TG, and STA** PETER J RALBOVSKY, Netzsch Instruments

4:15 (1590-7) **Pesticide Residue Monitoring: A Comprehensive Approach Using LC-MS/MS and GC/MS** REBECCA E WITTRIG, Restek Corporation, Andre Schreiber, Jack Cochran

4:35 (1590-8) **Mobile Spectroscopic Systems Based on Scanning Grating Technology - Food Analysis as an Example** HEINRICH GRUEGER, Fraunhofer IPMS, Michael Scholles, Harald Schenk, Karl Speer, Clemens Bier

ORAL SESSION Session 1600

LC-MS Pharmaceutical

Tuesday Afternoon, Room 205A

Eduard Rogatsky, Albert Einstein College of Medicine, Presiding

2:00 (1600-1) **Breaking Fundamental Speed Limits – LC/MS at Warp 9** ROBERT CLASSON, Shimadzu Scientific Instruments, William Hedgepeth, Masatoshi Takahashi

2:20 (1600-2) **Reversed-phase Chiral Method Development with Tris(chloromethylphenylcarbamate) of Cellulose and Amylose as Stationary Phases** TIVADAR FARKAS, Phenomenex, Liming Peng, Swapna Jayapalan, Bezhan Chankvetadze

2:40 (1600-3) **Using LC/MS Hostile Additives in LC/MS Methods – The Taming of the Brew** ROBERT CLASSON, Shimadzu Scientific Instruments, William Hedgepeth, Satoshi Yamaki

3:00 (1600-4) **Identification of Impurities in Pharmaceutical Products by LC/MS with MS Incompatible LC Conditions** TAO JIANG, Covidien, David Berberich, Eric Wise

3:20 **Recess**

3:35 (1600-5) **Synthesis and Analysis of Compounds Similar to Diapocynin** ROBERT E SMITH, FDA, Gregg Oakes, Kristy Richards, Rensheng Luo, Michael Abraham, Aaron Boorem

3:55 (1600-6) **Combining High Mass Accuracy of FT ICR MS and High Spectral Accuracy of Lower Resolution MS for Unique Formula Identification** ZHONGLI ZHONG, Pfizer, Yongdong Wang, Ming Gu

4:15 (1600-7) **Determination of Zoledronic Acid in Urine and Blood Samples of Rats Using Liquid Chromatography/Electrospray Mass Spectrometry** KATRIN VELDBOER, University of Muenster, Torsten Vielhaber, Uwe Karst, Helmut Ahrens, Jendrik Hardes, Arne Streitbuerger

4:35 (1600-8) **Analysis of Glucosinolates in Vegetables by HILIC-ESI-MS** WENDY CORY, College of Charleston

ORAL SESSION Session 1610

Liquid Chromatography - Method Development II

Tuesday Afternoon, Room 307A

William Long, Agilent Technologies, Presiding

2:00 (1610-1) **New Monolithic Anion Exchange Columns for Fast Separation of Inorganic and Organic Anions in Variety of Sample Matrixes** CHARANJIT SAINI, Dionex Corporation, Yury Agroskin, Chris Pohl

2:20 (1610-2) **Practical Analysis with Superficially Porous HPLC Columns** WILLIAM LONG, Agilent Technologies, Jason Link, Anne Mack

2:40 (1610-3) **High Efficiency HPLC Using sub 2-µm Columns at Elevated Temperature** HEBA SHAABAN, Waterloo University, Tadeusz Gorecki

3:00 (1610-4) **Enhanced Fluidity Liquid- Hydrophilic Interaction Chromatography** JAMES TREADWAY, Ohio State University, Susan V Olesik

3:20 **Recess**

3:35 (1610-5) **Subcritical Water as a Chromatographic Mobile Phase** STEVEN D ALLMON, Florida State University, John G Dorsey

3:55 (1610-6) **Improvements in Instrumentation for High Temperature Size Exclusion Chromatography (HT-SEC) to Enhance Precision and Reduce Manpower** JUAN SANCHO-TELLO, Polymer Char, Benjamin Monrabal, Pilar Del Hierro, Alberto Ortín, Raquel Úbeda

4:15 (1610-7) **High-Throughput Ion Analysis Using Newly Developed All-in-one Ion Chromatography** SHINJI SATO, Tosoh Corporation, Hiroto Kubota, Kazunari Fukugawa, Tetsuro Ikegaki, Yoshimitsu Tada, Hiroyuki Moriyama

4:35 (1610-8) **Utilizing Extended Linear Velocity to Maximize Peak Capacity in Ultra-High Power Chromatography** DAWN M STICKLE, Agilent Technologies, Bob Giuffre, Ray Lombardi, Dat Phan

ORAL SESSION Session 1620

Pharmaceutical Separations II

Tuesday Afternoon, Room 206C

Jason Anspach, Phenomenex, Presiding

2:00 (1620-1) **Development and Validation of a RP-HPLC Method for the Determination of Gentamicin Sulfate and Its Related Substances in a Pharmaceutical Cream Using a Short Pentafluorophenyl Column and a Charged Aerosol Detector** JOSEPH ARUL, Schering-Plough, Abu M Rustum

2:20 (1620-2) **Measuring Protein Interaction as a Function of the Ionic Strength of the Solvent** JEAN-LUC BROUSSEAU, Malvern Instruments

2:40 (1620-3) **Challenges in the Analytical Method Development for a Steroid Active Pharmaceutical Ingredient** JING YANG, Schering-Plough, Wei X Huang, Zhenhua D Zhou, Robert J Markovich, Abu M Rustum

3:00 (1620-4) **High Throughput Chiral Separations by Supercritical Fluid Chromatography** JODY CLARK, Selerity Technologies, Pat J Sandra, Melissa Dunkle, Pereira Alberto, Frank David, Vanhoenacker Gerd

3:20 **Recess**

3:35 (1620-5) **High Spectral Accuracy Compound Confirmation and Identification Through Open Access Single Quadrupole LC/MS** MING GU, Cerno Bioscience, Yongdong Wang

3:55 (1620-6) **Study of Drug-Protein Binding Using Automated Solid Phase Microextraction in 96-well Plate Format** FATEMEH S MIRNAGHI, University of Waterloo, Janusz Pawliszyn, Dajana Vockovic, Barbara Bojko

4:15 (1620-7) **Recovery of Pharmaceutical Drugs From Small Volume Biological Sample** MICHAEL YE, Supleco/Sigma-Aldrich, Craig R Aurand, Xiaoning Lu, Matilal Sarker

4:35 (1620-8) **Mass Loss Investigation in Development of a Basic Drug Formulation** QIN JI, Novartis Pharmaceutical Corporation

ORAL SESSION Session 1630

Sampling & Sample Preparation - ASE & Other Techniques (Half Session)

Tuesday Afternoon, Room 308B

David Benanou, Veolia, Presiding

2:00 (1630-1) **Using Accelerated Solvent Extraction to Aid in the Characterization of Natural Products** BRUCE RICHTER, Dionex, SLCTC, David E Knowles, Jennifer Peterson, Brian C Dorich, Brett J Murphy, Richard E Carlson, Eric S Francis

2:20 (1630-2) **Improved Productivity Using Automated Sample Preparation** BRUCE RICHTER, Dionex, SLCTC, David E Knowles, Eric S Francis, Richard E Carlson, Brett J Murphy, Brian C Dorich, Jennifer Peterson

2:40 (1630-3) **Advances in Lipid Extraction from Food Samples Using Accelerated Solvent Extraction** SM RAHMAT ULLAH, Dionex Corporation, Kannan Srinivasan, Chris Pohl, Brian C Dorich, Brett J Murphy, Bruce Richter, Eric S Francis, David E Knowles

ORAL SESSION Session 1640

Sensor Applications of Nanoscience

Tuesday Afternoon, Room 308D

Leslie Sombers, North Carolina State University, Presiding

2:00 (1640-1) **Carbon Nanotubes Decorated with Dendrimer-Lanthanide Complexes with Unique Room Temperature Oxygen Sensitivity** CHAD M SHADE, University of Pittsburgh, Alexander Star, Stephane Petoud, Douglas R Kauffman, Hyounsoo Uh

2:20 (1640-2) **Determination of Drug-Molecular Receptor Interaction with Labeled Gold Nanoparticle by a Competitive SPR Assay** SANDY SHUO ZHAO, Universite de Montreal, Joelle Pelletier, Jean-Francois Masson

2:40 (1640-3) **Nanosensor Based Chemically Functionalized Nanopipettes** NIYA SA, Indiana University, Yaqin Fu, Lane Baker

3:00 (1640-4) **Optimization of the Hole Size on the Plasmonic Properties of Ag and Au Nanohole Arrays** JEAN-FRANCOIS MASSON, Universite de Montreal, Marie-Pier Murray-Methot, Mathieu Ratel

3:20 **Recess**

3:35 (1640-5) **Development of Hybrid Nanostructures Based Capacitive Sensors** JAE-HONG LIM, University of California, Riverside, Mulchandani Ashok, Myung V Nosang

3:55 (1640-6) **Electrochemical Biodetection Using Nanoparticles** MERKOCI ARBEN, Catalan Institute of Nanotechnology

4:15 (1640-7) **Single Conducting Polymer Nanoribbon Based Plant Pathogen Nanosensor** NICHA CHARTUPRAYOON, University of California, Riverside, Youngwoo Rheem, Ashok Mulchandani, Nosang V Myung

4:35 (1640-8) **Reversibly Gating a Membrane Using a Microelectromagnet** JOSEPH BASORE, Indiana University, Nickolay V Lavrik, Rashid Zakeri, Lane Baker

POSTER SESSION Session 1650

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Advances in UV-Vis Spectroscopy

Tuesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(1650-1 P) **Antioxidant Screening of Averrhoa bilimbi (Kamias), Cananga odorata (Ylang-Ylang), and Plumiera Alba (Calachuchi) Using 1,1-diphenyl 1,2-picrylhydrazyl (DPPH) ASSAY)** RUTH TOLENTINO LIBAG, Angeles University Foundation, Jacquilyn F Ancheta, Maribel V Tolentino, Gail P Igaya

(1650-2 P) **Prototype Reference Materials for UV/Visible/NIR Spectrophotometry** MELODY V SMITH, NIST, John C Travis, Steven Joseph Choquette

(1650-3 P) **Spectroscopic Investigation of Heparin:Drug Binding** APRYLL STALCUP, University of Cincinnati, Andrew M Warner, Floyd Stanley

(1650-4 P) **Further Studies of Biological Lysing of Animal Blood for Determination of Iron by Ferene S/Visible Spectrophotometry: Accuracy and Precision Assessments, and Long-Term Stability of Iron(II)-Ferene S Calibration Curves** MARK T STAUFFER, University of Pittsburgh at Greensburg, Kimberly D Roman, William E Weller

(1650-5 P) **Metrological Considerations for Recertification of Spectrophotometer Standard Filters** AARON R DICKSON, Stranaska Scientific LLC, Stephanie S Guthrie, Jerry D Messman

(1650-6 P) **Qualification of a Reference Spectrophotometer for Absorbance Microplate Certification** STEPHANIE S GUTHRIE, Stranaska Scientific LLC, Aaron R Dickson, Jerry D Messman

(1650-7 P) **Ultra-micro Multi-cell Device with Serial Dilution System for Spectrometer** KYUNG-WON RO, SCINCO, Jung-Ho Kwon, Teng Wei, In-Sung Kang, Yong-Ho Lee, Jong-Hoon Hahn

(1650-8 P) **A Preliminary Study of Selenium Levels in Different Types of Rice by UV-Visible Spectrophotometry and 'J' Acid/1-Butanol Extraction** MARK T STAUFFER, University

of Pittsburgh at Greensburg, Yi Liu

(1650-9 P) **Pyrene Assisted Photolysis of Disulfide Bridge in Molecular Engineering** MINGXU YOU, University of Florida, Haipeng Liu, Zhi Zhu, Weihong Tan

(1650-10 P) **Measuring the Optical Properties of Patterned and Light-scattering Glass** RICHARD SPRAGG, PerkinElmer, Rupert Aries, Ivo Stemmler, Peter van Nijnatten, Dean Brown

(1650-11 P) **Selective Edge Attachment of Antibodies on Au Nanoplates for Enhanced Localized Surface Plasmon Resonance (LSPR) Biosensing** SRINIVAS REDDY BEERAM, University of Louisville, Francis P Zamborini

POSTER SESSION Session 1660

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Agriculture

Tuesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(1660-1 P) **Effect of Heat-Pretreatment on Isolation of Hydrogen Producing Functional Consortium from Forest Soil** SHANG-SHYNG YANG, National Taiwan University, Anita Ravindran

(1660-2 P) **Using Three-D Imaging Technique to Probe Structural-Chemical Characteristics of Cereal Grains (Feed-Type vs. Food Type): A Use of Synchrotron-Powered FTIR Microspectroscopy** PEIQIANG YU, University of Saskatchewan

(1660-3 P) **The Effect of Soil Fertilization with Sodium Selenate on the Selenium Content in Vegetables** ALŽBETA HEGEDŰSOVÁ, Constantine the Philosopher University of Nitra, Ondrej Hegedűs

(1660-4 P) **Induced Phytoextraction of Lead from Contaminated Soil** ALŽBETA HEGEDŰSOVÁ, Constantine the Philosopher University of Nitra, Ondrej Hegedűs , Silvia Jakabová, Andrea Vargová

(1660-5 P) **Direct Identification of Chlorophyl Catabolites in Senescent Plant Tissues by Desorption Electrospray Ionization Mass Spectrometry (DESI-MS)** SHERAN A ORADU, Purdue University, Thomas Mueller, Celien Bland, Bernhard Kraeutler, R Graham Cooks

(1660-6 P) **Ultra Fast Liquid Chromatography with Ultra Fast MRM Detection to Quantify and Identify Pesticides in Complex Food and Environmental Samples** ANDRE SCHREIBER, Applied Biosystems, Doina Caraiman, Charles J Baker

(1660-7 P) **A New Sorbent For the Efficient Removal of Chlorophyll in QuEChERS Applications** DON SHELLY, UCT, LLC, Craig A Perman, Michael Telepchak

POSTER SESSION Session 1670

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Atomic Spectroscopy/Elemental Analysis

Tuesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(1670-1 P) **Determination of Arsenic in Waters by Sensing Surface Chemical Reactions: ASV, CSV and QCM** CHENGBEI LI, University of Massachusetts, Amherst, Julian Tyson

(1670-2 P) **Trace Elemental Determination of Human Breast Milk and Milk Powder by Microwave-assisted Digestion ICP-MS** MONIQUE E JOHNSON, University of Massachusetts, Julian Tyson, Kathleen F Arcaro

(1670-3 P) **Analysis of Soils in and Around an Early American Farm Site for Metals Related to Past Human Activity, Part 2: Focus on Copper, Lead, and Other Metals Not Common to Western Pennsylvania Soils** MARK T STAUFFER, University of Pittsburgh at Greensburg, Samuel J Tokich, Anthony T Boldurian, Bill Caughie

(1670-4 P) **Determination of Arsenic Species in Rice Using Microwave-assisted Extraction Followed by Ion Pair Chromatography Hyphenated to Inductively Coupled Plasma Mass Spectrometry Analysis** ZHONGWEN WANG, Food Research Division, Health Canada, Don Forsyth

(1670-5 P) **Increased Laboratory Productivity for ICP-OES Applied to U.S. EPA Method 200.7 and Method 6010C** PAUL KRAMPITZ, PerkinElmer, Laura Thompson, Zoe Grosser, Stan Smith

(1670-6 P) **Developing International Standards for Sub ppb Determination of the Hydride Forming Elements in Water Samples Using AAS and AFS** PETER BERNARD STOCKWELL, P S Analytical, Warren Thomas Corns, Jasmina Allen

(1670-7 P) **Development of a Spiral Flow ICP Torch and an On-line Automated Standard Addition System (ASAS) for ICP-OES and ICP-MS** MASAKI OHATA, NMIJ, Riro Kobayashi, Yoko Kishi, Satoru Kurosawa, Akiharu Hioki, Koichi Chiba

(1670-8 P) **Evaluation of Iron Bioavailability in Presence of Lignin** ANGERSON NOGUEIRA NASCIMENTO, University of São Paulo, Pedro V Oliveira, Marielle G Souza

(1670-9 P) **Withdrawn**

(1670-10 P) **Withdrawn**

(1670-11 P) **TOC in Water with High Salt Content via UV Persulfate** LINDSEY H PYRON, EST Analytical, Steve Herre

(1670-12 P) **The Determination of Metals in Cosmetics** ZOE GROSSER, PerkinElmer, Lee Davidowski, Laura Thompson, Lindsay Drennan

(1670-13 P) **Femtosecond Laser Ablation Inductively Coupled Plasma Mass Spectrometry: The Ultrafast Road to Routine Solid Samples Chemical Analysis** JHANIS J GONZALEZ, Lawrence Berkeley National Laboratory, Dayana D Oropeza, Jong Yoo, Richard E Russo

(1670-14 P) **Withdrawn**

(1670-15 P) **Screening Residual Catalyst Metals in CNT Structures and Their Bioavailability *in vitro* by Using ICP-MS** JULIA KUHLMANN, University of Cincinnati, Kroening K Karolin, Necati Kaval, Chaminda Jayasinghe, Tracy Hopkins, Sarah Pixley, Vesselin Shanov, Joseph A Caruso, William R Heineman

(1670-16 P) **Certifying Lead Content in Child-Accessible Products, Meeting the Next Generation Calibration Material and Certified Reference Material Challenge** JOHN SARDISCO, Analytical Services, Inc., John S Crnko, Keith Perrin

(1670-17 P) **Digestion of Organic Samples by Microwave-induced Combustion for Subsequent Determination of Metals and Non-metals by IC, ICP OES and ICP-MS** JULIANO SMANIOTO BARIN, Universidade Federal de Santa Maria, Edson Irineu Muller, Erico Marlon De Moraes Flores

POSTER SESSION Session 1680

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Chemical Methods

Tuesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(1680-1 P) **Synthesis, Characterization and Antibacterial, Anticancer Activities of Pyrimidine Derivatives** DINESHKUMAR B BALDANIYA, MG Science Institute, Mayuriben D Baldaniya

(1680-2 P) **A Novel Colorimetric Method for Measuring D-Galactose in Plasma and Glycoconjugates** MENASHI A COHENFORD, Marshall University, Muhammad A Chaudhry, Rachel P Blake, Emily Beckelhimer, Mehran V Khatib

(1680-3 P) **Automated Detection of Ammonia and TKN in Copper Sulfate Digests** COLIN R EVETT, OI Analytical, William Lipps, Gary Engelhart

(1680-4 P) **Enhancements to Chemical Agent and Toxic Industrial Chemical Resistance Assessment Methodology of Individual Protective Equipment at Dugway Proving Ground of the United States Department of the Army** WAYNE H LEE, US Army, David E Rose, George Law, John D Tobler, Andrew F Neafsey, Steven L Brimhall, Brent C Baxter

(1680-5 P) **Use of a Discrete Analyzer in Research and Development Studies on Bioethanol Production Processes** WILLIAM LIPPS, OI Analytical, Gary Engelhart

(1680-6 P) **Colorimetric Analysis of Total Nitrogen in Marine and Estuarine Water Using Segmented Flow Technology with UV/Persulfate Digestion and Cadmium Reduction** NICOLAI MILLER, Astoria-Pacific, Inc., Jason Reynolds

(1680-7 P) **Synthesis, Characterization and Antibacterial, Anticancer Activities of s-triazine Derivatives** DIPAKKUMAR N SOLANKI, National College, Ajaykumar S Bunga

(1680-8 P) **Synthesis, Characterization and Mesomorphic Properties of New Liquid Crystalline**

Compounds Involving Azomethine Central Linkages and Pyrazolone Moieties BHARATKUMAR TRIKAMLAL THAKER, Veer Narmad South Gujarat University

(1680-9 P) **Analysis of the Gutzeit Reaction for the Determination of Arsenic in Water** JULIAN TYSON, University of Massachusetts, Amherst, Andrew Smith, James K Kearns

(1680-10 P) **A Novel Viscosity Sensor Based on Piezoelectric Membrane** XU LU, Xi'an Jiaotong University, Zhuo Xu, Zhongyang Cheng

(1680-11 P) **The Determination of Mercury in Cosmetics: A Comparison of Chemical and Thermal Decomposition Techniques** DAVID PFEIL, Teledyne Leeman Labs, Bruce MacAllister

(1680-12 P) **Cost Effective ICP Analysis and Reporting Across a Range of Applications** MARTIN J NASH, Thermo Fisher Scientific, Andrew Clavering

(1680-13 P) **Simultaneous Fluorometric Analysis of Ammonia and Nitrate + Nitrite in Estuarine Waters Using Segmented Flow Analysis** JASON REYNOLDS, Astoria-Pacific, Inc., Jacob Scott

POSTER SESSION Session 1690

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Food Science - Components and Contaminants I

Tuesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(1690-1 P) **Capillary Gas Chromatographic Method for the Determination of Adulteration in Rice Bran Oil with Palm Oil, Peanut Oil with Soybean Oil and Sunflower Oil with Palm Oil** VIVEK R DHOLE, Thermo Fisher Scientific, Sitharaman Balasubramanian, Inderjit Kaur

(1690-2 P) **Rapid Determination of Malachite Green by Surface-enhanced Raman Spectroscopy** MINGQIANG ZOU, Chinese Academy of Inspection and Quarantine, Xiaohua Qi, Xiaofang Zhang, Yanzhang Chen, Xiaodong Li, Feng Liu, Yanfei Wang

(1690-3 P) **Application of a Handheld Portable Infrared Sensor for Monitoring Oil Quality** MEGHAN ALLENDORF, The Ohio State University, Luis Rodriguez-Saona, David Min

(1690-4 P) **IC-MS/MS Determination of Ultra Trace Level Perchlorate in Infant Formula and Milk Products** LEO (JINYUAN) WANG, Dionex Corporation, Stacy M Henday, Charles T Yang, William C Schnute

(1690-5 P) **Application of a Portable Handheld Infrared/Raman Spectrometer for Quantitation of *Trans Fat*** EMILY A BIRKEL, Ohio State University, Luis Rodriguez-Saona

(1690-6 P) **Detection of Molds on Grain Using a Gas Sensor Array (Electronic Nose)** ANDREAS WALTE, Airsense Analytics, Bert Ungethuem, Wolf Muenchmeyer, Christine Idler, Michaela Ditz

(1690-7 P) **Determination of β-Agonists in Pork Using Solid-Phase Extraction Cartridges and Liquid Chromatography-Tandem Mass Spectrometry** CHEN-HAO ZHAI, Agilent Technologies, Jianzhong Li, Yue Song

(1690-8 P) **A New Technology for Rapid Detection and Identification of Bacteria and Yeasts by rRNA Sandwich Hybridization** SHYAM VERMA, Supleco/Sigma-Aldrich, Don Hobbs, Jennifer Claus

(1690-9 P) **Comparison of Starter Cultures in Rye Sourdough Using SPME-GC/MS-TOF** KRISTEL KASELEHT, Competence Center of Food and Fermentation Tech., Anna Mihhalevski, Toomas Paalme, Inga Sarand

(1690-10 P) **Simultaneous Analysis of 14 Mycotoxins, and 163 Pesticides in Crude Extracts of Grains by LC/MS/MS** ANDRE SCHREIBER, Applied Biosystems, Angela Voller, Juergen Kunze, Kristin von Czapiewski, Birgit Schlutt

(1690-11 P) **Quantitation of Acrylamide in Potato Chips by HPLC-MS** SHARANYA REDDY, PerkinElmer, David F Negrotti, Avinash Dalmia, William Goodman

(1690-12 P) **Determination of Fatty Acids in Beer by a Novel Dynamic Headspace Sampler Coupled to GC-MS** NOBUO OCHIAI, GERSTEL KK, Kikuo Sasamoto

(1690-13 P) **Using Accelerated Solvent Extraction to Characterize Natural Products** DAVID E KNOWLES, Dionex, Eric S Francis, Richard E Carlson, Brett J Muephy, Brian C Dorich, Jennifer Peterson, Bruce Richter

(1690-14 P) **Development of In-Capillary Assay for Antioxidant Power based on FRAP Method Chemistry** SHELLY MCCORMACK, Bucknell University

(1690-15 P) **Food Authenticity Determination by Total Organic Carbon Isotope Analysis Using a Combined TOC-Cavity Ring-Down Spectrometer (CRDS) Instrument** GARRETT SLATON, OI Analytical, Richard Simon, Jeffrey Lane, Gary Engelhart

POSTER SESSION Session 1700

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Fuels, Energy, Petrochemicals - Biofuels & Fuel Cells

Tuesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(1700-1 P) **Determination of Ca, K, Mg, Na, Sulfate, Phosphate, Formate, Acetate, Propionate and Glycerol in Biodiesel by Capillary Electrophoresis with Capacitively Coupled Contactless Conductivity Detection** THIAGO NOGUEIRA, University of Sao Paulo, Claudimir L do Lago

(1700-2 P) **A Flow-based Procedure for Determination of Ester in Biodiesel** WANESSA R MELCHERT, University of São Paulo, Fábio RP Rocha

(1700-3 P) **Determination of Total Glycerin in Biodiesel For a Reversed Phase HPLC Method**

and Evaporative Light Scattering Detection (ELSD) ALEJANDRA RAMIREZ, Instituto Mexicano del Petroleo, Carlos B Neri, Hector Del Rio

(1700-4 P) **Sample Introduction Techniques for Trace Element Analysis of Biodiesel by Inductively Coupled Plasma Atomic Emission Spectrometry** FRED G SMITH, CETAC Technologies

(1700-5 P) **Application of Near Infrared Spectroscopy on Forest Bioproducts Extractions** CELIA S RAYMOND, University of Maine, Kelsey Wilson, Darrell Donahue, Rory Jara

(1700-6 P) **Efficient Quantitation of Ion and Total Glycerin Impurities in Biodiesel Using HPLC and Charged Aerosol Detection** MARC PLANTE, ESA Biosciences, Inc., Christopher A Crafts, Bruce Bailey, Ian N Acworth, John Waraska, Paul H Gamache

(1700-7 P) **Alternative Energy Studies by Thermal Analysis** ROBERT JOHN PACKER, PerkinElmer, Kevin P Menard, Peng Ye, Justin Lang, Olivier Sevard

(1700-8 P) **Cu-Pd Nanoparticles for Improved Formic Acid Oxidation Catalysts** LIN DAI, Miami University, Ohio, Shouzhong Zou

(1700-9 P) **In-situ Surface-enhanced Raman Spectroscopy Studies of Alkanesulfonate Adsorption on Au Electrodes** JIANBO ZENG, Miami University, Ohio, Shouzhong Zou

(1700-10 P) **Characterization of Lithium Ion Battery Electrolytes with Chromatographic Methods** LYDIA TERBORG, University of Muenster, Sascha Nowak, Claudia Colle, Jens M Deckwart, Hans-Gerhard Bremes, Martin Winter, Uwe Karst

(1700-11 P) **Zirconia and Hafnia Monoliths for Electrokinetic Solvent Pumping** IVONNE MARIE FERRER LASSALA, University at Buffalo, SUNY, Luis A Colon

(1700-12 P) **Effects of Addition Elements in Mn–Mo–X (X = Sn, W, Zn)–O/IrO2–SnO2–Sb2O5/Ti Anodes for Oxygen Evolution in Seawater Electrolysis** JAGADEESH BHATTARAI, Tibhuvan University

(1700-13 P) **A Systematic Approach of Conceptual Design and Process Integration Using a Simulator** ENRIQUE M ARCE, ESIQIE

POSTER SESSION Session 1710

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Homeland Security/Forensics - General Interest

Tuesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(1710-1 P) **Self Organizing WiFi Range Expansion for a Handheld Gas Detector** JOERN FRANK, TUHH, Hendrik Fischer, Tjark Sebastian Stlotze, Gerhard Matz

(1710-2 P) **The Use of Ion Chromatography and Capillary Electrophoresis for Identification of the Chemical Composition of Improvised Explosives** GREG WILLIAM DICINOSKI, University of Tasmania, Paul Raymond Haddad, Emily F Hilder, Michael C Breadmore,

Robert A Shellie, Rosanne Guijt, Joseph Hutchinson, Cameron Johns, Eadaoin Tyrrell

(1710-3 P) **Statistical Analysis of Visible Absorption Spectra and Mass Spectra Obtained from Dyed Acrylic Fibers** KATIE MARGARET WHITE, University of Central Florida, Mary R Williams, Michael E Sigman

(1710-4 P) **Laser-induced Breakdown Spectroscopy of Organic Materials with a Mid-IR Thulium-fiber-laser Nanosecond Pulse at 2 µm** MATTHIEU BAUDELET, University of Central Florida, Lawrence Shah, Martin Richardson

(1710-5 P) **Improvements to Chemical Agent and Toxic Industrial Chemical Resistance Assessment of Protective Masks at Dugway Proving Ground of the United States Department of the Army** DAVID E ROSE, US Army, Andrew F Neafsey, James L Haines, Wayne H Lee

(1710-6 P) **GC–MS and GC-IRD Analysis of Regioisomeric Dimethoxyphenethylamines and Related Compounds** TAMER AWAD, Auburn University, Hadir M Maher, Jack DeRuiter, C Randall Clark

(1710-7 P) **HYGAS: Hyperspectral Remote Sensing System for Detection of Hazardous Gases in the Atmosphere** SAMER SABBAH, TUHH, Roland Harig, Joerg Beecken, Joern Gerhard, Peter Rusch

(1710-8 P) **Raising the Bar on Electron Multiplier Operation at Elevated Pressures** PAULA HOLMES, Photonis, Stephen M Ritzau, William Netolicky

(1710-9 P) **Cyanide Detection by Reverse Flow Injection Analysis** STUART J CHALK, University of North Florida, Jarrod Mousa, Jennifer Rehme

POSTER SESSION Session 1720

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Laboratory Management/Informatics

Tuesday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(1720-1 P) **How to Utilize the Request for Proposal (RFP) Process when Purchasing a Laboratory Information Management System (LIMS)** KIM WATERS, Accelerated Technology Laboratories, Inc.

(1720-2 P) **Electronic Lab Notebooks: The Next Generation** RUDY POTENZONE, Prodiance, Soheil Sadaat

(1720-3 P) **The Future of LIMS** ROBERT JACKSON, CSols, Inc.

(1720-4 P) **Work Smarter, not Harder – Considerations for Purchasing a New LIMS** TIFFAFNY R BOWN, Accelerated Technology Laboratories, Inc., Christine Paszko

(1720-5 P) **Development of an Opensource Research Information Management System Using**

Extensible Markup Language and the Fedora Commons Digital Repository System STUART J CHALK, University of North Florida

(1720-6 P) **The Future of LIMS: Today's LIMS, Tomorrows Laboratory Resource Planning Solution** CHRISTINE PASZKO, Accelerated Technology Laboratories, Inc., Peggy Weber, Donald Kolva

(1720-7 P) **Chemical Inventory Coupled with LIMS for Regulatory Compliance** PEGGY WEBER, Accelerated Technology Laboratories, Inc., Christine Paszko, Tom Klinckman

(1720-8 P) **LIMS as a Business Intelligence Tool for the Manufacturing Industry** KEN OCHI, Accelerated Technology Laboratories, Inc.

(1720-9 P) **Challenge to Supply Reliable Analytical Data System** TOSHINOBU YANAGISAWA, Shimadzu Corporation, Kazuhito Wakabayashi, Ryuji Nishimoto, Shuzo Maruyama, Yoshihiro Hayakawa

(1720-10 P) **Integration of a Laboratory within an Aluminum Smelting Plant** SEBASTIEN DUPUIS, Keops Technologies

POSTER SESSION Session 1730

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Nanotechnology

Tuesday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(1730-1 P) **Emergence of Highly Photocurrent Generators Based on ITO Electrodes Modified with Non-Covalently Assembled System** TAKASHI ARIMURA, AIST Nanotechnology R. I., Youichi Tsuchiya, Toru Hironaka

(1730-2 P) **Glucose Biosensor Based on Graphite Electrodes Modified by Glucose Oxidase and Colloidal Gold Nanoparticles of Different Size** NATALIJA GERMAN, Vilnius University, Jaroslav Voronovic, Almira Ramanaviciene, Arunas Ramanavicius

(1730-3 P) **Multiwalled Carbon Nanotube Film Electrodes in the Voltammetric Analysis of 4-Acetamidophenol** ROBERT L KEESEY, Eastern Connecticut State University, Kari A Hernandez, Abraham J Keesey

(1730-4 P) **Quantification of Captopril in Urine Through Surface-Assisted Laser Desorption/Ionization Mass Spectrometry Using 4-Mercaptobenzoic Acid–Capped Gold Nanoparticles as an Internal Standard** WEN-TSEN CHEN, National Taiwan University, Yang Wei Lin, Huan-Tsung Chang, Cheng-Kang Chiang

(1730-5 P) **In vitro Toxicity Study of Noble Metal Nanoparticles with Varied Size, Geometry and Surface Chemistry** ZHEN LIU, University of Minnesota, Bryce J Marquis, Christy L Haynes

(1730-6 P) **Advances in the Quantitation of Thiolated-poly(ethylene glycol) in Gold Nanoparticle Preparations** JANELLE DAWN NEWMAN, NIST, Mark S Lowenthal, Karen W

Phinney

(1730-7 P) **Nanostructured Materials Characterization by X-Ray Diffraction** IULIANA CERNATESCU, PANalytical, Brian Litteer, Rekhi Sandeep

(1730-8 P) **The Use of ACOS (Automated Continuous Online Sizing) in the Synthesis of a Nanoparticle Based X-Ray/CT Imaging Agent** LILY ZU, Brookhaven Instruments Corporation, Bruce Weiner, John Inderdohnen, John A McConville

(1730-9 P) **Stabilizing Noble Metal Nanoparticles in Extreme Biological Conditions** ANNA ALLYSE VOLKERT, University of Iowa, Amanda J Haes

(1730-10 P) **Size Measurement and Characterization of Nano / Particles and Molecules Using Dynamic Light Scattering** TOCHINO SHIGEMI, Horiba, Ltd., Revillod Guillaume, Umezawa Makono, Yamaguchi Tetsuji

(1730-11 P) **Withdrawn**

(1730-12 P) **Nanoparticle-gated Ion Transport at Nanoporous Membranes** RASHID ZAKERI, Indiana University, Kayla Mathews, Lane Baker

(1730-13 P) **Parallel Patterning Using Nano- and Micro-pores in Glass Chips** CHUANHONG ZHOU, Southern Illinois University, Pradeep Ramiah Rajasekaran, Justin P Wolff, Xuelian Li, Punit Kohli

(1730-14 P) **Covalent Binding of Coomassie Blue in Polyacrylamide Nanoparticles for in vivo Tumor Delineation** MING QIN, University of Michigan, Hoe Jin Hah, Guochao Nie, Shouyan Wang, Yong-Eun Koo, Daniel Orringer, Oren Sagher, Raoul Kopelman

(1730-15 P) **Size Distribution of Nano-particles Produced by Hydro-thermal Synthesis** FRASER MCNEIL-WATSON, Malvern Instruments, Ana Morfesis, Jawwad Darr, Chris Tighe, Robert Gruar

(1730-16 P) **Infrared Absorption of Adsorbates on Copper Nanoparticles Synthesized by Galvanic Displacement** AYUBA FASASI, University of Idaho, Peter R Griffiths

(1730-17 P) **Synthesis of Triangular Silver Core-Void-Silica Shell Nanostructure and Its Application with Surface-enhanced Raman Spectroscopy** JAEYOON KO, Pohang University of Science and Technology, Sehoon Jung, Seung Bin Kim

(1730-18 P) **Lanthanide Based Luminescent Silica Nanoparticles** BORIS MAKHINSON, Armstrong Atlantic State University, Joshua E Smith, Eric J Werner, Ashley R Elam, Alexandra K Duncan

(1730-19 P) **Development of Magnetic SERS Active Nanoparticles** UGUR TAMER, Gazi University, Ismail H Boyaci, Erhan Temur

(1730-20 P) **Multifunctional Nanovectors and Their Application to Tumor Delineation and Photodynamic Therapy** SHOUYAN WANG, University of Michigan, Gwangseong Kim, Nie Guochao, Yong-Eun Koo, Ravindra Pandey, Raoul Kopelman

(1730-21 P) **Fabrication and Performance of a Hybrid Carbon Nanotube-CdSe Quantum Dot Nanocomposite Photovoltaic Device** JOE WEAVER, Southern Illinois University, Punit

Kohli

(1730-22 P) **Injection Pump and Ultra Sonic Chemistry Integrated Strategy for Nanotechnology** KYUSIK YUN, Kyungwon University, Murugan Veerapandian, Chang-hyun Jang

(1730-23 P) **Spray Desorption Collection (SDC) – A Novel Sampling Technique Coupled with UV Absorbance Spectrometer for Nano Particle Analysis** SHASHANK JAIN, Western Michigan University

(1730-24 P) **Contact Angles of Faceted Drops on Microengineered, Chemically Patterned Surfaces** SIMON TYLSGAARD LARSEN, Technical University of Denmark, Rafael Taboryski

(1730-25 P) **XPS and FESEM/STEM Surface Characterization of Activated Carbon, Carbon Black, and Carbon Nanotubes** BRIAN R STROHMEIER, RJ Lee Group, Inc., John D Piasecki, Kristin L Bunker, Jacqueline L Sturgeon

(1730-26 P) **Resonance Elastic Light Scattering Assays Based on Selectively-Crosslinked Gold Nanoparticle Network Assembly** MAGDALENA STOBIECKA, State University of New York at Potsdam, Jeffrey Deeb, Maria Hepel

(1730-27 P) **PEDOT :PSS Coated Singlewalled Carbon Nanotube Gas Sensors** FNU SUSHMEE BADHULIKA, University of California, Riverside

(1730-28 P) **Characterization of Nanoparticles Synthesized via Conventional Microwave-assisted vs Simultaneous Heating and Cooling (SiHCo) Methods** NATASHA A KASSIM, Westminster College, Helen M Boylan

(1730-29 P) **The Experimental Study for Reliable Particle Size Measurement Using Dynamic Light Scattering Method** MAKOTO UMEZAWA, Horiba Instruments, Inc., Amy Hou, Satoru Tanaka, Aida Golzar, Julie Chen

POSTER SESSION Session 1740

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Plastics and Polymers

Tuesday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(1740-1 P) **Characterization of bi-, tri-, and Tetramodal Latex Blends Using HDC/MALS/QELS/DRI** AMANDAA K BREWER, Florida State University, Andre M Striegel

(1740-2 P) **Determination of Plasticizer in Various Plastic by Headspace Techniques** ROGER BARDSLEY, Teledyne Tekmar, Anne Jurek, Thomas Hartlein, Stephen Lawson

(1740-3 P) **Nanoparticle Modified Ion Exchange Resin** WOLFGANG U SPENDEL, Miami University, Ohio, Mathew J Bachus, William R Peifer, Terrence G Vargo, Gilbert E Pacey

(1740-4 P) **Using Polymer Based MS Libraries to Characterize an Unknown Polymeric Material: Case Study – What Additives and Polymer(s) are Present in a Child's Toy Duck?** ROBERT FREEMAN, Quantum Analytics, K Matsui, Chuichi Watanabe

(1740-5 P) **Polymer Cones Due to Newtonian Shear Viscosity Gradient and Edge Effect** JUSTIN P WOLFF, Southern Illinois University, Pradeep Ramiah Rajasekaran, Chuanhong Zhou

(1740-6 P) **Analytical Determination of Copper and Tin Ions Released from Synthesized Compounded Natural Rubber Vulcanizates and Their Influence on the Rice-Roat Nematode** FAHIMA M HELALY, National Research Centre, Kareem Awad

(1740-7 P) **Determination of Hydroxyl Number by FIA** LUCIA HERNANDEZ-GARCIADIEGO, Facultad de Quimica Universidad Nacional Autonoma de Mexico, Humberto Gomez-Ruiz

(1740-8 P) **Supercritical Fluid Extraction of Irganox 1076 and Irgafos 168 from Polyethylene** AL KAZIUNAS, Applied Separations, Kathy Pearl

(1740-9 P) **Antioxidant Activity of Natural Extract in Styrene Butadiene Rubber Studied by DSC** YOUNGSOO SON, Kumho Tires, Taekwon Jung, Jaehwan Park, Won-kyo Jung

(1740-10 P) **Characterization of Linear Type GPC/SEC Semi-Microcolumns for Water Soluble Polymer Analysis** SHINJI SATO, Tosoh Corporation, Kuniyuki Tokunaga, Teruhiko Tsuda, Toshinao Iwaeda, Hiroyuki Moriyama

(1740-11 P) **The New Multi-Modal Calorimeter for Chemical Process Safety** PETER J RALBOVSKY, Netzsch Instruments

(1740-12 P) **Water Determination in Various Plastics** GEORGE PORTER, Metrohm USA, Michael Margreth, Christian Haider

(1740-13 P) **Simple Method for Preparation Cylindrical Microdomains in PS-b-P4VP Thin Films Using Solvent Annealing & Its Applications** SUNGNAM KIM, Pohang University of Science and Technology, Seung Bin Kim

(1740-14 P) **Sub-10-minute Characterization of an Ultrahigh Molar Mass Polymer by Multi-detector Hydrodynamic Chromatography** AMANDAA K BREWER, Florida State University, Andre M Striegel

(1740-15 P) **Fabrication of Polymer Nano- and Microparticles Using Solvent Displacement Method and Microfluidics** NATALIIA PYLYPIUK, Oregon State University, Myra Koesdjojo, Yolanda Tennico, Alexey Shvarev

(1740-16 P) **Unsuspected Sources of Error When Using a GPC System Fitted with Multiple, Molecular Weight Sensitive Detectors in an Attempt to Determine Accurate or Absolute Molecular Weight Data** JEFFERY BODYCOMB, Brookhaven Instruments Corporation, Bruce Weiner, John Inderdohnen, John A McConville

(1740-17 P) **Synthesis of End-functionalized Poly(L-lactide) with Amine or Anhydride Moiety for Reactive Compatibilizer** SUNG HUN KIM, Chonnam National University, Eun Ju Park, Taek Hyeon Kim, Moo Sung Lee

(1740-18 P) **DSC-Raman Studies on the Re-crystallization of PE** KEVIN P MENARD, PerkinElmer, Richard Spragg

(1740-19 P) **Withdrawn**

(1740-20 P) **Optical Switching Materials for Space Environments** SALMA RAHMAN, Michigan Molecular Institute, Shamim Mirza, George W Rayfield, Edward W Taylor, Abhijit Sarkar

POSTER SESSION Session 1750

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Process Analytical - Techniques and Chemistry

Tuesday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(1750-1 P) **Implementation of a Unified UPLC Platform for the Analysis of Inprocess Samples across Multiple Process Steps** TANYA JENKINS, Waters Corporation, Sylvain Cormier

(1750-2 P) **Online Reaction Monitoring by IR and Raman Spectroscopy** SHELLY LI, Pfizer Inc.

(1750-3 P) **New Technique for Robust and Reliable High Concentration On-line Total Organic Carbon (TOC) Analysis** THOMAS SZAKAS, GE Analytical Instruments, Caryn Cullen, Steve Austin

(1750-4 P) **Ultra Trace Ion Analysis with Automated Multilevel Calibration** BERNARD G SHELDON, Dionex Corporation

(1750-5 P) **Withdrawn**

(1750-6 P) **Online Process Analysis of Mercury in Petrochemical Streams** WARREN THOMAS CORNS, P S Analytical, Peter Bernard Stockwell, Dave Vickery

(1750-7 P) **Preparative Chromatography the Reverse Autocompression System (RACS) Application to Multi Stationary Phases Columns** FRANCOIS DARDOIZE, UPMC

(1750-8 P) **Comparison Study of A New Family of Normal Phase Stationary Phases** HUQUN LIU, Varian, Inc., Andrew Li, Daniel Tran, David Jones, Linda Lloyd, Nick DeMarco, Yung-Lin Chen

(1750-9 P) **Atline Water Determination in Process Environments** JERRY ROSSMAN, Metrohm USA, Frank Portala, Matthias Burkhard, Alfred Steinbach

(1750-10 P) **Monitoring Nickel Sulfate, Hypophospite and Alkalinity in Electroless Nickel Plating Baths** JERRY ROSSMAN, Metrohm USA, Frank Portala, Gerhard Kirner, Alfred Steinbach

(1750-11 P) **A Single, Automated Technique for Low-ppb Level Metals Determination by ICP-OES in Choralkali Plant Chemicals and Products: Brine, Caustic Soda, and Bleach** NATHAN J SAETVEIT, Elemental Scientific, Patrick Sullivan, Daniel Wiederin

(1750-12 P) **Introduction of a New Compact and Flexible Gas Analyzer Based on Parallel µ-GC Analytical Channels** GIANLUCA STANI, SRA Instruments SpA, Xavier Cardot, Robert Mirabel, Armando Miliazza

(1750-13 P) **Rapid Multi-Parameter Water Analysis on an Automated System** LINDSAY PEDDLE,

ManSci Inc.

(1750-14 P) **Sensitivity and Performance of Drift Correction Methods for Latent Variable Calibration Models** BARRY M WISE, Eigenvector Research, Inc., Paman Gujral, Michael Amrhein, Dominique Bonvin

POSTER SESSION Session 1760

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

X-Ray Technology

Tuesday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(1760-1 P) **Evaluating Powder X-ray Diffraction Structure Solutions by Solid-State NMR Spectroscopy** JACALYN CLAWSON, GlaxoSmithKline, Frederick Vogt, Matthew Johnson

(1760-2 P) **Monochromatic Wavelength Dispersive X-ray Fluorescence Instrument for High Sensitivity and Selectivity Elemental Detection** GEORGE J HAVRILLA, Los Alamos National Laboratory, Michael L Collins, Velma Montoya, Zewu Chen, Fuzhong Wei

(1760-3 P) **Physiochemical Properties and Reactivity of Etched GaP (111)A and (111)B** JHINDAN MUKHERJEE, University of Michigan, Ann Arbor, Stephen Maldonado

(1760-4 P) **In situ X-ray Absorption Spectroscopy of Pt Nanoparticle Electrocatalysts** SUE V MYERS, University of Texas, Michael Weir, Richard M Crooks, Anatoly Frenkel

(1760-5 P) **High-Performance Field Portable XRF for Soil Screening, Assessment & Monitoring** KIMBERLEY RUSSELL, Innov-X Systems

(1760-6 P) **Nanoparticle Size Analysis Using SAXS and XRD Techniques** AYA TAKASE, Rigaku Americas Corporation

(1760-7 P) **Single Crystals of Magnesium Ammonium Phosphate (MAP)** SAMUEL M VALSAMMA, Catholicate College

(1760-8 P) **Handheld XRF-GPS for Real-time Metal Mapping** KIMBERLEY RUSSELL, Innov-X Systems

(1760-9 P) **X-ray and Raman Single Crystal Analysis of f-element Compounds Containing Rare Molecular Anionic Units** SHANE PEPER, Pacific Northwest National Laboratory, Kate Ziegelgruber, Lucas Sweet, Leah Arrigo, Bruce McNamara

CONFEREE NETWORKING

Tuesday, March 2, 2010

1:00 - 3:00 PM

Breath Tests in Medicine Facilitated by: Michael Phillips, Menssana Research, Inc, Room 311H

Correlation Between Sensory Panels and Electronic Nose/Tongue Facilitated by: Jean-Christophe Mifsud, Alpha MOS, Room 311E
Harsh-Environment Mass Spectrometry Facilitated by: Gottfried Kibelka, HEMSS, Room 311G
Outsourcing in the Pharmaceutical Industry Facilitated by: Brian Axe, Eli Lilly & Co., Room 312A
Recent Trends in Thermal Analysis Facilitated by: Charles Earnest, Berry College, Room 312C
Utilization of Newer LC and MS Technologies for Rapid Information Generation in Pharmaceutical Development Facilitated by: Bryan Castle, Eli Lilly and Company, Room 312B
What Prevents You From Buying A LIMS Facilitated by: David Hurt, LabVantage, Room 311F

WEDNESDAY, MARCH 3, 2010
MORNING

AWARD Session 1770

Young Investigator Award from Subdivision on Chromatography and Separation Chemistry of the Analytical Chemistry Division of the ACS - arranged by Brian A Bidlingmeyer, Agilent Technologies, Inc.

Wednesday Morning, Room 300

Brian A Bidlingmeyer, Agilent Technologies, Inc., Presiding

8:00 **Introductory Remarks - Brian A Bidlingmeyer**

8:05 **Presentation of the 2010 Young Investigator Award from Subdivision on Chromatography and Separation Chemistry of the ACS to Craig A Aspinwall, University of Arizona, by Brian A Bidlingmeyer, Agilent Technologies, Inc.**

8:10 (1770-1) **Expanding the Separations Toolbox: Capillary Separations with Enhanced Sensitivity and Selectivity for Interrogating Biomolecular Systems** CRAIG A ASPINWALL, University of Arizona

8:45 (1770-2) **Combined LC-LC-MS for the Separation and Identification of Proteins in Complex Mixtures** JAMES W JORGENSON, University of North Carolina, Brenna E McJury, Jordan Stobaugh, Brian Matthew

9:20 (1770-3) **High Throughput Electrophoresis Using Droplets and Microfluidics** ROBERT T KENNEDY, University of Michigan

9:55 **Recess**

10:10 (1770-4) **Microtechnologies to Analyze Single Cells** NANCY L ALLBRITTON, University of North Carolina, Chapel Hill

10:45 (1770-5) **High-throughput, Ultrasensitive Isoelectric Focusing** NORMAN DOVICHI, University of Washington

SYMPOSIUM Session 1780

Achievements and Challenges in Mass Spectrometry - arranged by Imma Ferrer and Michael Thurman, University of Colorado

Wednesday Morning, Room 206A

Michael Thurman, University of Colorado, Presiding

8:00 **Introductory Remarks - Michael Thurman**

8:05 (1780-1) **Photodissociation for Bioanalytical Mass Spectrometry** JENNIFER S BRODBELT, University of Texas

8:40 (1780-2) **Recent Advances in Hybrid Linear Ion Trap Mass Spectrometry** JIM HAGER, MDS Analytical Technologies

9:15 (1780-3) **Food Additives as Tracers of Wastewater Using Advanced Mass Spectrometry Techniques: The "Low Fat" Diet Impact** IMMA FERRER, CEMS, University of Colorado, Michael Thurman

9:50 (1780-4) **The History and Development of the Triple Quadrupole Mass Spectrometer: State-of-the-Art and Future Developments** PAUL ZAVITSANOS, Agilent Technologies Inc., Bill Russ

10:25 (1780-5) **Discovery of New Analogs of the Marine Biotoxin Azaspiracid in Blue Mussels (Mytilus edulis) by Ultra-performance Liquid Chromatography/tandem Mass Spectrometry** NILS REHMANN, Research and Productivity Council

SYMPOSIUM Session 1790

ACS Division of Analytical Chemistry Electrochemistry and Energy- arranged by Johna Leddy, University of Iowa

Wednesday Morning, Room 311A

Johna Leddy, University of Iowa, Presiding

8:00 **Introductory Remarks - Johna Leddy**

8:05 (1790-1) **Bioelectrocatalysts for Low Temperature Fuel Cells** SHELLEY MINTEER, Saint Louis University

8:40 (1790-2) **Increasing the Durability of Solid Oxide Fuel Cells** VIOLA I BIRSS, University of Calgary

9:15 (1790-3) **Applications of Vibrational Spectroscopy and Least Squares Modeling in the Study of Fuel Cell Membrane Materials** CAROL KORZENIEWSKI, Texas Tech University, Chang Kyu Byun

9:50 (1790-4) **Nanostructured Photoelectrodes for Chemical Fuel Production** STEPHEN MALDONADO, University of Michigan

10:25 (1790-5) **Electrochemical Energy: Magnetic Modification for Enhanced Batteries and Fuel Cells** JOHNA LEDDY, University of Iowa

SYMPOSIUM Session 1800

Green Sciences (PAI-Net/JST) - arranged by Kei Koyama, Japan Science and Technology Agency (JST)

Wednesday Morning, Room 313

Kei Koyama, Japan Science and Technology Agency (JST), Presiding

8:00 **Introductory Remarks - Kei Koyama**

8:05 (1800-1) **Ionic Liquid Salt Bridge – An Innovation Since 1895** TAKASHI KAKIUCHI, Kyoto University

8:40 (1800-2) **Total Reflection X-Ray Fluorescence as an Alternative Tool for ICP** JUN KAWAI, Kyoto University, Shinsuke Kunimura

9:15 (1800-3) **3 Dimensional Real Time Imaging LIDAR (3D-RTIL)** MAKOTO SASAKI, University of Tokyo

SYMPOSIUM Session 1810

New Miniaturized Spectroscopic Techniques for Environmental Analysis (International Association of Environmental Analytical Chemistry) - arranged by Jose AC Broekaert, University of Hamburg and Antje Baeumner, Cornell University

Wednesday Morning, Room 206B

Antje Baeumner, Cornell University, Presiding

8:00 **Introductory Remarks - Jose AC Broekaert**

8:05 (1810-1) **Micro- and Nano-sample Introduction Coupled to Microplasmas for Analysis of Environmental Samples** VASSILI KARANASSIOS, University of Waterloo

8:40 (1810-2) **Diagnostics and Features of the Solution-cathode Glow Discharge (SCGD): An Atmospheric Pressure Glow Discharge for the Direct Analysis of Environmentally Relevant Samples** STEVEN J RAY, Indiana University, Arnon A Rubinshtein, George Chan, Eyal Elish, Gary Martin Hieftje

9:15 (1810-3) **Liquid Chromatography Particle Beam Mass Spectrometry (LC-PB/MS): An Analytical Tool for the Characterization of Botanical Products** R KENNETH MARCUS, Clemson University, Joaudimir Castro, C Derrick Quarles, Carolyn E Quarles

9:50 (1810-4) **Dielectric Barrier Discharge as Ionization Source for Organic Mass Spectrometry** JOACHIM FRANZKE, ISAS

10:25 (1810-5) **Miniaturized Microwave and DC Glow Discharges at Atmospheric Pressure for the Determination of Environmentally Relevant Elements and Species** JOSÉ AC BROEKAERT, University of Hamburg

SYMPOSIUM Session 1820

Photochromic Compounds and Their Analytical Applications - arranged by Francisco M Raymo, University of Miami

Wednesday Morning, Room 205B

Francisco M Raymo, University of Miami, Presiding

8:00 **Introductory Remarks - Francisco M Raymo**

8:05 (1820-1) **Strategies for Nanoscopic Resolution in Far-field Microscopy based in Photochromic Fluorescent Compounds** MARIANO L BOSSI, INQUIMAE & Dto. de Quimica Inorganica

8:40 (1820-2) **Photochromic Conjugated Polymers for Fluorescence Modulation** ELIZABETH HARBRON, College of William and Mary

9:15 (1820-3) **Photoswitchable Probes: Fluorescence Modulation and Super-Resolution Cellular Imaging** ALEX D LI, Washington State University

9:50 (1820-4) **Photoswitchable Luminescent Probes for Fluorescence Nanoscopy** FRANCISCO M RAYMO, University of Miami

10:25 (1820-5) **Understanding and Engineering Molecular Signals with Light** HARALD JANOVJAK, University of California, Berkeley, Ehud Isacoff

SYMPOSIUM Session 1830

Spectroscopy and Spectral Imaging Approaches to Standoff Detection of Chemical, Biological and Explosive (CBE) Threats - arranged by Matthew Paul Nelson, ChemImage Corporation

Wednesday Morning, Room 311B

Matthew Paul Nelson, ChemImage Corporation, Presiding

8:00 **Introductory Remarks - Matthew Paul Nelson**

8:05 (1830-1) **Long Range Standoff Detection of Chemical and Explosive Hazards on Surfaces** WILLIAM F PEARMAN, U.S. Military Academy, Augustus W Fountain

8:40 (1830-2) **Standoff Detection of Explosives Using Raman Spectroscopy: System Design and Performance Characterization with Comparisons to Other Emerging Point-source and Wide-area Coverage Techniques** MIKE ANGEL, University of South Carolina, Chance Carter

9:15 (1830-3) **Advances in Standoff LIBS Systems and Pattern Recognition Algorithms for CBE Detection and Identification** ANDRZEJ MIZIOLEK, US Army Research Laboratory, Frank DeLucia, Jr., Chase Munson, Jennifer Gottfried

9:50 (1830-4) **Molecular Chemical Imaging Detection of CBE Threats at Standoff Distances in Real Time While on the Move** PATRICK J TREADO, ChemImage Corporation, Matthew P Nelson, Robert Schweitzer, Charles Gardner

10:25 (1830-5) **Machine Learning Approaches for Explosives Detection via Hyperspectral Data** PAUL GADER, University of Florida, Alina Zare

SYMPOSIUM Session 1840

State-of-the-Art Incisive Applications of Raman Spectroscopy - arranged by Sanford A Asher and John F Jackovitz, University of Pittsburgh

Wednesday Morning, Room 311C

Sanford A Asher, University of Pittsburgh, Presiding

8:00 **Introductory Remarks - Sanford A Asher**

8:05 (1840-1) **Label-free Biomedical Imaging with High Sensitivity by Stimulated Raman Scattering Microscopy** XIAOLIANG SUNNEY XIE, Harvard University

8:40 (1840-2) **Applications of SERS to Problems in Biomedical Science and Art Conservation** RICHARD P VAN DUYNE, Northwestern University

9:15 (1840-3) **UV Gated Raman for Remote Explosives Detection** MICHAEL GAFT, LDS, Lev Nagli

9:50 (1840-4) **Monitoring Biological Processes in Cells Using Spontaneous Raman Spectroscopy and Multivariate Methods of Image Reconstruction** MAX DIEM, Northeastern University, Tatyana Chernenko, Christian Matthäus, Miloš Miljcović

10:25 (1840-5) **New Directions for Applications of Raman Optical Activity** LAURENCE A NAFIE, Syracuse University

SYMPOSIUM Session 1850

The Application of Innovative Analytical Technologies to Cancer Research - arranged by Mark David Lim, National Cancer Institute, NIH

Wednesday Morning, Room 205C

Mark David Lim, National Cancer Institute, NIH, Presiding

8:00 **Introductory Remarks - Mark David Lim**

8:05 (1850-1) **Microdroplet-Based Enrichment of Cancer Genes for Targeted Resequencing** DARREN R LINK, RainDance Technologies

8:40 (1850-2) **A Generic Microfluidic Platform for Ultrafast Genotyping: Sample-In/Answer-Out Capabilities That Revolutionize Clinical Diagnostic Analysis** JAMES P LANDERS, University of Virginia

9:15 (1850-3) **Rapid Assessment and Impact of Pre-analytical Variability with Spectroscopic Imaging and Statistical Models** ROHIT BHARGAVA, University of Illinois, Urbana-Champaign

9:50 (1850-4) **High Throughput, High Content Multiphoton Tissue Cyotometry** PETER SO,

Massachusetts Institute of Technology

10:25 (1850-5) **Resources at the National Cancer Institute to Support the Development of Your Innovative Cancer Technology** MARK DAVID LIM, National Cancer Institute, NIH

WORKSHOP Session 1860

Coping with the Economic Times of Today (ALMA) - arranged by Dennis FH Swijter, IFF R&D

Wednesday Morning, Room 311D

Dennis FH Swijter, IFF R&D, Presiding

8:00 **Introductory Remarks - Dennis FH Swijter**

8:05 (1860-1) **Marketing The Laboratory: Important Today for Existence Tomorrow** KELLY JOHN MASON, ExxonMobil Research & Engineering

8:40 (1860-2) **Building Partnership with Corporate and Business-Focused Analytical Organizations** PAULA L MCDANIEL, Air Products and Chemicals, Inc., Scott D Hanton, Sherri L Bassner

9:15 (1860-3) **Business Planning and Analytical Services: Understanding Analytical Service in the Corporate Organization** MIKE NEAG, Akzo Nobel

9:50 **Recess**

10:05 (1860-4) **Driving Laboratory Productivity** WAYNE COLLINS, Agilent Technologies

10:40 (1860-5) **Solving the Puzzle of Recruitment & Retention: Challenges Faced by Lab Managers in Today's Hiring Market** MARY SCHWANS, Astrix Technology Group

11:15 **Discussion/Wrap Up**

WORKSHOP Session 1870

Undergraduate Research Experience: A Luxury, A Burden, or A Necessity? - arranged by Michael J Samide and Olujide T Akinbo, Butler University

Wednesday Morning, Room 308A

Michael J Samide, Butler University, Presiding

8:00 **Introductory Remarks - Michael J Samide**

8:05 (1870-1) **Initiating and Sustaining Research at Predominantly Undergraduate Institutions** THOMAS J WENZEL, Bates College

8:40 (1870-2) **Undergraduate Research in Chemistry at Indiana University** DENNIS G PETERS, Indiana University

9:15 (1870-3) **Undergraduate Research – Developing Scientists and Building Mentors** CYNTHIA K

LARIVE, University of California, Riverside

9:50 **Recess**

10:05 (1870-4) **The Undergraduate Research Experience at Howard University** CHARLES HOSTEN, Howard University

10:40 (1870-5) **Integrated Laboratories: Laying the Foundation for Student Research** MARIA J SCHROEDER, US Naval Academy, Debra K Dillner, Robert F Ferrante, Jeffrey P Fitzgerald, William B Heuer

11:15 (1870-6) **Thematic Modular Courses as an Alternative Approach for Implementing Research in an Undergraduate Chemistry Program** OLUJIDE T AKINBO, Butler University, Michael J Samide

11:50 **Discussion/Wrap Up**

ORGANIZED CONTRIBUTED SESSION Session 1880

ACS Division of Analytical Chemistry Bioanalytical Approaches to Study Cellular Communication - arranged by Christopher J Easley, Auburn University

Wednesday Morning, Room 207B

Christopher J Easley, Auburn University, Presiding

8:00 (1880-1) **Quantifying Real-Time Neurotransmitter Changes in the Central Nervous System of *Drosophila Melanogaster* Using Fast-Scan Cyclic Voltammetry** MONIQUE A MAKOS, The Pennsylvania State University, Michael L Heien, Kyung-An Han, Andrew G Ewing

8:20 (1880-2) **Automated Microfluidic Perfusion System for Entrainment of Islets of Langerhans** MICHAEL G ROPER, Florida State University

8:40 (1880-3) **Probing Peptidergic Signaling with a Multi-faceted Mass Spectral Platform** LINGJUN LI, University of Wisconsin, Ruibing Chen, Junhua Wang, Yuzhuo Zhang, Claire Schmerberg, Feng Xiang

9:00 (1880-4) **Development of a Functional Fast Scan Cyclic Voltammetry Assay to Characterize Dopamine D2 or D3 Autoreceptors in the Striatum** TIFFANY A MATHEWS, Wayne State University, Maina Francis

9:20 **Recess**

9:35 (1880-5) **Analytical Chemistry and Sickle Cell Disease: Bioanalytical Elucidation Behind the Mechanism of Action of Hydroxyurea** DANA SPENCE, Michigan State University, Madushi Raththagala, Ajith Karunarathne

9:55 (1880-6) **Detecting Reactive Oxygen Species in Single Cells** EDGAR A ARRIAGA, University of Minnesota, Xin Xu, Rongxiao Sa, Yaohua Wang, Vratislav Kostal

10:15 (1880-7) **Optical Nanosensors for Imaging Sodium Dynamics During Action Potential Propagation** JOHN M DUBACH, Draper Laboratory, Saumya Das, Anthony Rosenzweig,

Heather A Clark

10:35 (1880-8) **Passive Microfluidics for Sampling and Quantitation of Zinc Secretion from Pancreatic Islets with One-second Temporal Resolution** CHRISTOPHER J EASLEY, Auburn University, Jonathan V Rocheleau, Steven Head, David W Piston

ORGANIZED CONTRIBUTED SESSION Session 1890

High Performance LC/MS/MS Bioanalysis: Emerging Technologies and Workflows - arranged by Mike S Lee, Milestone Development Services

Wednesday Morning, Room 207C

Mike S Lee, Milestone Development Services, Presiding

8:00 (1890-1) **Qualitative and Quantitative LCMS Analyses in Drug Discovery: Target Validation, Efficacy and Tox Markers** PETIA SHIPKOVA, Bristol-Myers Squibb, Joelle M Onorato, Robert A Langish, Michael J Flynn, David B Wang-Iverson

8:20 (1890-2) **Improving Quality to Improve Throughput in Quantitative Biomarker Analysis** MARK J HAYWARD, Lundbeck, David P Budac

8:40 (1890-3) **High Performance Sample Preparation for Ultra-Trace Quantitative Analysis** CHUCK WITKOWSKI, Protein Discovery, Inc., Jeremy Norris

9:00 (1890-4) **The Advantages of Dual Source and Laminar Flow Ion Guides in High Throughput and Other LC/MS/MS Applications** DRAGAN VUCKOVIC, Ionics, George Scott, Ellie Majdi, Charles Jolliffe

9:20 **Recess**

9:35 (1890-5) **Isolation of Active Metabolites of Buspirone Using Simulated Moving Bed Chromatography: A "New" Method for Analytical Separations** ASHA ANIL OROSKAR, Orochem Technologies Inc., Jeff Whitney, Ken Ray, Ed Delaney, Anil Oroskar

9:55 (1890-6) **Optimization of ESI at Capillary LC Flow Rates for Efficient Bioanalytical Workflows** GARY A VALASKOVIC, New Objective Inc., Lee Sawdey, Amanda Berg

10:15 (1890-7) **"Digital" Chromatography and Mass Spectrometry Using Droplets** ROBERT T KENNEDY, University of Michigan

10:35 (1890-8) **Complete Solution Using Automated Sample Prep/UHPLC/MS/MS for Quantitative BioAnalysis** KEN LEWIS, OpAns

ORGANIZED CONTRIBUTED SESSION Session 1900

Miniature Spectrometers Come of Age - arranged by Richard A Crocombe, Thermo Fisher Scientific and Mark A Druy, Physical Sciences, Inc.

Wednesday Morning, Room 308C

Richard A Crocombe, Thermo Fisher Scientific, Presiding

8:00 (1900-1) **Handheld FTIR: Old Dog, New Tricks** CHRISTOPHER D BROWN, Ahura Scientific

8:20 (1900-2) **Rapid Prescription Verification System with Raman Spectroscopy and Machine Vision** PRASANT POTULURI, Centice

8:40 (1900-3) **Trace Detection and Characterization of Substances in Vapors and on Surfaces with a Broadly Tunable Quantum Cascade Laser** ERIK R DEUTSCH, Block Engineering, John Coates, Wang Xiaomei, Yueli Chen, Ray Connors

9:00 (1900-4) **Handheld and Portable X-ray Fluorescence: Evolution, Revolution and Disruption** RICHARD A CROCOMBE, Thermo Fisher Scientific

9:20 **Recess**

9:35 (1900-5) **In-situ Isotopic Measurements Using Wavelength Scanned- Cavity Ringdown Spectroscopy** ERIC R CROSSON, Picarro, Inc., Nabil Saad

9:55 (1900-6) **Industrial and Biomedical Applications of Quantum Cascade Lasers and Interband Cascade Lasers** MARK A DRUY, Physical Sciences Inc., Mark G Allen, Joel M Hensley, Krishnan R Parameswaran, David R Scherer

10:15 (1900-7) **Measuring Free Radicals with Micro Electron Spin Resonance** CHRISTOPHER WHITE, Active Spectrum, Inc., James White, Colin Elliott

10:35 (1900-8) **Field Portable X-ray Diffraction** BRADLEY BOYER, Inxitu Inc., Phil Miller

ORAL SESSION Session 1910

Biomolecular Sensors and Sensing

Wednesday Morning, Room 206C

Tao Huang, Old Dominion University, Presiding

8:00 (1910-1) **Ultrasensitive, Quantitative, Multiplexed Detection of MicroRNAs Using Silicon Photonic Microring Resonators** ABRAHAM J QAVI, University of Illinois, Urbana-Champaign, Ryan C Bailey

8:20 (1910-2) **Fluorescence-Based Detection of MicroRNAs Expressed in Pancreatic Cancer** KYLE A CISSELL, Indiana University Purdue University Indianapolis, David Broyles, Sapna Deo

8:40 (1910-3) **Development of Bioprobes Utilizing Carbon Nanotube Based Amplification Schemes** JEROME P FERRANCE, Pettit Applied Technologies

9:00 (1910-4) **A New Platform Technology for Biomolecular Detection and Interaction Study Using Gold Nanoparticle Probes Coupled with Dynamic Light Scattering** QUN HUO, University of Central Florida

9:20 **Recess**

9:35 (1910-5) **Withdrawn**

9:55 (1910-6) **Layered Modification of Solid-State Nanopores for Detecting Protein-Antibody Complexes** APRIL L HOLLAND, University of North Carolina - Chapel Hill, Laurent D Menard, John M Ramsey

10:15 (1910-7) **Optimizing Nitric Oxide Release Outer Coatings for Implantable Glucose/Lactate Sensors** QINYI YAN, University of Michigan, Mark E Meyerhoff

10:35 (1910-8) **Multiplex Detection of Cancer Biomarkers Using Arrays of Optical Microring Resonators** ADAM L WASHBURN, University of Illinois, Matthew S Luchansky, Ryan C Bailey

ORAL SESSION Session 1920

Clinical and Toxicological Analyses

Wednesday Morning, Room 307D

Alice K Chen, The Pittsburgh Conference, Presiding

8:00 (1920-1) **Developing *in vivo* Assays for Probing Biocompatibility of Single Gold Nanoparticles** LAUREN BROWNING, Old Dominion University, Kerry J Lee, Prakash D Nallathamby, Huang Tao, Jill Lowman, X Nancy Xu

8:20 (1920-2) **Rapid Analysis of Drugs in Saliva Using a Disposable Lab-on-a-Chip** FRANK E INSCORE, Real-Time Analyzers, Chetan S Shende, Atanu Sengupta, Stuart Farquharson

8:40 (1920-3) **In vivo Study of Size Dependent Transport and Biocompatibility of Single Silver Nanoparticles in Zebrafish Embryos in Real-time** KERRY J LEE, Old Dominion University, Tanvi Desai, Prakash D Nallathamby, Lauren Browning, X Nancy Xu

9:00 (1920-4) **Evaluation of Very High Resolution Mass Spectrometry for the Determination of Polyether Toxins in Shellfish** KEVIN JOSEPH JAMES, Cork Institute of Technology, Bebhine Carey, Zuzana Škrabáková, John O'Halloran, Frank VanPelt

9:20 **Recess**

9:35 (1920-5) **Analysis of Drug Facilitated Sexual Assault (DFSA) Drugs by Gas Chromatography-Time of Flight Mass Spectrometry (GC-TOFMS)** JOE E BINKLEY, LECO Corporation, Scott Pugh

9:55 (1920-6) **Analysis of a Fatal Aphrodisiac** PADINJAREKUTTU R RAVIKUMAR, NYC DOH & MH, Sara T Beatrice, Michael Heller, Ramon V Rosal, Robert S Hoffman

10:15 (1920-7) **Application of On-line Multidemensional HPLC+HRGC-MS System to Forensic Toxicology** DAVID ALONSO, KONIK-Tech S.A., Nieves Sarrión, Ariadna Galve, José A Muñoz, Roger Gibert, Josep M Gibert

ORAL SESSION Session 1930

Environmental: By-Products of Halogenation of Drinking Water (Half Session)

Wednesday Morning, Room 310A

Kevin Ashley, CDC/NIOSH, Presiding

8:00 (1930-1) **On-line Analysis of Haloacetic Acids in Drinking Water Using Post-Column Reaction Ion Chromatography with Internal Standardization** PATRICIA L RANAIVO, The University of Memphis, Paul S Simone, Gary L Emmert

8:20 (1930-2) **Stir Bar Sorptive Extraction: A Tool to Optimize Chlorination of Drinking Water** PASCAL ROCHE, Veolia, Christophe Tondelier, David Benanou

8:40 (1930-3) **Determination of Perchlorate in Drinking Water by Microchip Capillary Electrophoresis** JANA GERTSCH, Colorado State University, Charles S Henry, Donald M Cropek

9:00 (1930-4) **Measurement of Trihalomethanes in Water Using the Dielectric Barrier Discharge Electron Capture Detector and Headspace Extraction** MATTHEW MONAGLE, AIC Corporation

ORAL SESSION Session 1940

GC-MS Method Development

Wednesday Morning, Room 205A

Ronald D Snelling, Shimadzu Scientific Instruments, Inc., Presiding

8:00 (1940-1) **Expansion of Dynamic Range for Simultaneous Analysis of Amino Acid Using GC/MS** RONALD D SNELLING, Shimadzu Scientific Instruments, Richard R Whitney, Mark Taylor, Shuichi Kawana, Haruhiko Miyagawa

8:20 (1940-2) **Thermal Desorption, Chemical Ionization, and Tandem Mass Spectrometry as a Solution for Monitoring Polymer Contaminants in Beverages and Beverage Packaging** KURT THAXTON, Varian Inc.

8:40 (1940-3) **Differentiation of Bacterial Endospores Using Diverse Biomarker Types Produced by Thermochemolysis Methylation and GC-MS** TAI V TRUONG, Brigham Young University, Milton L Lee, Aaron N Nackos, Dan Li, H Dennis Tolley, Richard A Robinson, John R Williams, Cory W Taylor

9:00 (1940-4) **Development of a Novel Standard Mixture for the Characterization of GCxGC Columns** JOHN DIMANDJA, Spelman College, Scott J Hoy, Amanda N Bryant, Nicholas V Hud

9:20 **Recess**

9:35 (1940-5) **GC and GC-MS Method Selection for Trace Analysis of Potentially Genotoxic Impurities in Active Pharmaceutical Ingredients** FRANK DAVID, Research Institute for Chromatography, Pat J Sandra

9:55 (1940-6) **Solid Phase Microextraction - GC/MS to Investigate the Thermal Degradation of Foamed-Polymer Patterns Used in the Lost Foam Casting Process** PAUL K NAM, Missouri University of Science & Technology, Hongfang Zhao, Najeeb Quadeer, Von

Richards

10:15 (1940-7) **UV/VIS, GCMS and LCMS Analyses of Extracts from Cissus Populnea a Tropical Pro -fertility Plant** ELIZABETH ADEJOKE OSIBOTE, University of Lagos, Modupe Ogunlesi, Omowunmi A Sadik, Wesley O Okiei, Samuel N Kikandi, Ailing Zhou

10:35 (1940-8) **Mass Spectrograph Equipped with a Novel Faraday-cup Array Camera for use in Plasma-Source Mass Spectrometry** JEREMY FELTON, Indiana University, Gregory D Schilling, Steven J Ray, Roger P Sperline, M Bonner Denton, Charles J Barinaga, David W Koppenaal, Gary Martin Hieftje

ORAL SESSION Session 1950

Industrial Hygiene (Half Session)

Wednesday Morning, Room 310A

Kevin Ashley, CDC/NIOSH, Presiding

9:35 (1950-1) **Interlaboratory Evaluation of a Standardized Inductively Coupled Plasma Mass Spectrometry Method for the Determination of Trace Elements in Air Filter Samples** KEVIN ASHLEY, CDC/NIOSH, Michael J Brisson, Alan M Howe

9:55 (1950-2) **The Value Proposition of Managing Your Laboratory's Assets in LIMS** PEGGY WEBER, Accelerated Technology Laboratories, Inc., Christine Paszko

ORAL SESSION Session 1960

Liquid Chromatography - Applications

Wednesday Morning, Room 307B

Terrell Mathews, Phenomenex, Presiding

8:00 (1960-1) **Next Generation Supercritical Fluid Chromatography for Pharmaceutical Analysis** MIRLINDA BIBA, Merck Research Laboratories, Xiaoyi Gong, Zainab Pirzada, Wes Schafer, Sarah R Young, Roy Helmy, Christopher J Welch

8:20 (1960-2) **Two-Dimensional Ion Chromatography for Simultaneous Determination of Carbohydrates and Amino Acids** PETR JANDIK, Dionex Corporation, Jun Cheng

8:40 (1960-3) **Poly[hydroxyethyl acrylate-co-poly(ethylene glycol) diacrylate] Monolithic Capillary Column for Hydrophobic Interaction Chromatography of Proteins** YUANYUAN LI, Brigham Young University, H Dennis Tolley, Milton L Lee

9:00 (1960-4) **Separations of Cocoa Flavanols and Procyanidins by Ultra High Pressure Normal Phase HPLC and Comparison to Conventional HPLC** PHILIP R MACHONIS, Mars Botanical, Matt Jones, Brian Schaneberg, Julia Li, Rebecca J Robbins, Christopher Johnson, Jadwiga Leonczak

9:20 **Recess**

9:35 (1960-5) **Improved Analysis of Sulfur Containing Anions by Suppressed Ion Chromatography** RONG LIN, Dionex Corporation, Sheetal Bhardwaj, Kannan Srinivasan, Chris Pohl

9:55 (1960-6) **Hypercrosslinked Silica Phases for the Separation of Nitrogen Species in Petroleum Using Normal Phase Chromatography** NICOLE E ORO, University of Alberta, Charles A Lucy

10:15 (1960-7) **Derivatization of Primary Fatty Acid Amines with 3-(2-furoyl)-quinoline-2-carbaldehyde for Separation and Fluorescence Detection by HPLC** SEAN C PAWLOWSKI, Duquesne University, Angela M Jovanovic, Tristan L Freeman, Andrew P Davic, Mitchell E Johnson

10:35 (1960-8) **Simultaneous Determination, In vitro Interactions and Complexes Characterization of Cetirizine and NSAIDS** HINA SHAMSHAD, Karachi University, Najma Sultana, M Saeed Arayne

ORAL SESSION Session 1970

Liquid Chromatography - Method Development III

Wednesday Morning, Room 307A

Melissa Wilcox, Grace Division Discovery Sciences, Presiding

8:00 (1970-1) **Multivariate Optimization of HPLC: Experimental Demonstration of Goal Setting, Constraints, Parameter Interactions, and Surprises** THOMAS LEE CHESTER, University of Cincinnati, Apryll Stalcup

8:20 (1970-2) **Detection of Heparin Contaminants Using the United States Pharmacopeia (USP) Heparin Sodium Monograph Chromatographic Methods** TERRI T CHRISTISON, Dionex Corporation, Deanna C Hurum, Brian M De Borba, Jeffrey S Rohrer

8:40 (1970-3) **Analysis of Plant Based Hydrocarbons Without Using Acetonitrile – Getting the Red Out!** ROBERT CLASSON, Shimadzu Scientific Instruments, William Hedgepeth, Yuhui (Kevin) Wang

9:00 (1970-4) **Retention Mechanism of a Dynamically Modified, Cholesterol-coated Alkyl Stationary Phase** JASON W COYM, University of South Alabama, Phillip B Ogden

9:20 **Recess**

9:35 (1970-5) **Modulation of Ion-Exchange Selectivity by the Addition of Organic Modifiers** WAYNE H CRAIG, Florida State University, John G Dorsey

9:55 (1970-6) **Approaches Towards Method Compatibility Between HPLC and UHPLC Systems** MONIKA MARIA DITTMANN, Agilent Technologies GmbH, Peter Stemer

10:15 (1970-7) **Novel Coating Procedures Yield Coated Silica Based Cellulose Carbamate Phase with Unique, Orthogonal Selectivity for Both Non-chiral and Chiral Applications** LESLIE BROWN, MicroSolv Technology Corporation, Raj Rao, Lorraine Henriques, Gregory K Webster

10:35 (1970-8) **Evaluations and Comparisons of Superficially Porous Silica Particle and Sub-2um Silica Particle as Sorbents for High Throughput RP-HPLC Analyses** LAWRENCE Y LOO, Phenomenex, Tivadar Farkas, Mike Chitty, Jason Anspach, Carl Sanchez, Gareth Friedlander, Monika Kansal

ORAL SESSION Session 1980

Monitoring Extracellular Dynamics

Wednesday Morning, Room 310B

Cecil Dybowski, University of Delaware, Presiding

8:00 (1980-1) **A Microfluidic Device for Automation of Free Fatty Acid Derivatization** CINDY T DUONG, Florida State University, Michael G Roper

8:20 (1980-2) **Detection of Adipocyte Secretions in Real-Time Using Continuous Enzyme Assays on a Microfluidic Platform** ANNA M CLARK, University of Michigan, Kyle M Sousa, Ormond A MacDougald, Robert T Kennedy

8:40 (1980-3) **Study of Angiogenin Induced Nitric Oxide Synthesis Pathway Using a Multiple Microelectrode Array** RAPHAEL TROUILLON, Imperial College London, Christine Cheung, Bhavik A Patel, Dong-Ku Kang, Soo-Ik Chang, Danny O'Hare

9:00 (1980-4) **Elucidating Mechanisms of Multiple Sclerosis Etiology Using a Microfluidic Blood Brain Barrier Model** SUZANNE LETOURNEAU, Michigan State University, Dana Spence

9:20 **Recess**

9:35 (1980-5) **Effect of Membrane Cholesterol Concentration on Chromaffin and Mast Cell Exocytotic Release** SECIL KOSEOGLU, University of Minnesota, Shencheng Ge, Christy L Haynes

9:55 (1980-6) **Electrochemical Recording of 5-hydroxytryptamine (5-HT) Release from Enterochromaffin Cells of the Guinea Pig Ileum: A Maturation Study** HONG ZHAO, Michigan State University, Xiaochun Bian, James J Galligan, Greg Swain

10:15 (1980-7) **Simultaneous Monitoring of Insulin and Glucagon Secretion in Real Time on a Microfluidic Chip** DENNIS BENNETT, Florida State University, Michael G Roper

ORAL SESSION Session 1990

Raman/IR Imaging I

Wednesday Morning, Room 307C

Fran Adar, Horiba Jobin Yvon, Inc., Presiding

8:00 (1990-1) **Optimization of Raman Mapping – The Relationship Between the Target Feature Size, the Step Size and the Pixel Size of the Map** FRAN ADAR, HORIBA Jobin Yvon, Eunah Lee, Andrew Whitley

8:20 (1990-2) **Raman Microscopy Study of Protein Solutions During Freezing** JINPING DONG, University of Minnesota, Allison Hubbel, John Bischof, Alptekin Aksan

8:40 (1990-3) **Measuring Heterogeneity in 'Sparse' Samples: A Morphological Targeting Approach Using Raman Spectroscopy for Unambiguous Chemical ID** LINDA H KIDDER, Malvern Instruments, E Neil Lewis, Kenneth Haber, Ian R Lewis, Kevin Davis

9:00 (1990-4) **Increasing Data Collection Speeds for Raman Imaging Applications** RICHARD A LARSEN, Jasco, Inc., John Carriker, Yoshiko Kubo, Ken-ichi Akao, Masaaki Yumoto, Toshiyuki Nagoshi

9:20 **Recess**

9:35 (1990-5) **Raman Imaging of Si-crystallization Induced by Laser Scribing in Amorphous Thin Film of Photovoltaic Module** TOMOYA UCHIYAMA, Nanophoton Corporation, Minoru Kobayashi, Taisuke Ota, Isao Sumita

9:55 (1990-6) **Infrared Environmental Imaging (IRENI): A Unique Tool for High-speed Mid-IR Microspectroscopy** MICHAEL J NASSE, University of Wisconsin-Milwaukee, Ruben Reininger, Sebastian Janowski, Tim Kubala, Eric Mattson, Carol J Hirschmugl

10:15 (1990-7) **FT-IR Microspectroscopic Imaging Reveals Chemical Changes in Human Skin Exposed to UV Radiation** DAVID L WETZEL, Kansas State University, Deon van der Merwe

10:35 (1990-8) **Sub-micron IR spectroscopy** CRAIG PRATER, CTO, Kevin Kjoller, Debra Cook

ORAL SESSION Session 2000

Sampling & Sample Preparation - Pharmaceutical Applications

Wednesday Morning, Room 308B

Douglas W Later, Torion Technologies Inc., Presiding

8:00 (2000-1) **Quality by Design (QbD) for Analytical Methods as an Enabler to the Development of Universal High-Throughput Sample Preparation Methods for Pharmaceutical Dosage Forms** IVELISSE COLON, Pfizer Global R&D, Geoffrey Okelo, Garry Scrivens, Beverly Nickerson

8:20 (2000-2) **Methodology to Measure the Ability of a Surfactant to Solubilize a Model Compound, Application to the Control of Surfactants in Pharmaceutical Dissolution Testing** HENRY ZHAO, Boehringer Ingelheim Pharmaceuticals, Inc., Stephen Cafiero, Kevin C Bynum

8:40 (2000-3) **In vivo Solid-Phase Microextraction for Pharmacokinetics Studies in Mice: Comparison to Manual Terminal and Automated Serial Sampling** DAJANA VUCKOVIC, University of Waterloo, Ines de Lannoy, Brad Gien, Yingbo Yang, Florin Marcel Musteata, Robert E Shirey, Leonard Sidisky, Janusz Pawliszyn

9:00 (2000-4) **Binding Measurements by Solid Phase Microextraction Versus Standard Spectroscopic Techinques** BARBARA BOJKO, University of Waterloo, Dajana Vuckovic, Janusz Pawliszyn

9:20 **Recess**

9:35 (2000-5) **Selecting the Optimized SPE Ionic Polymeric Sorbent for an Extraction Based of Neutral, Basic and Acidic Compounds** JOAN M STEVENS, Agilent Technologies, William Long, Tom Logan

9:55 (2000-6) **Microextraction by Packed Sorbent (MEPS) in Bioanalysis** MOHAMED ABDEL-REHIM, AstraZeneca

10:15 (2000-7) **A Modified QuEChERS Approach to the Isolation and Determination of Drugs in Food Products by LC/MS/MS** JOAN M STEVENS, Agilent Technologies, Tom Logan, Rich Quashne, Ronald E Majors

10:35 (2000-8) **Systematic Approaches to Bioanalytical Method Development for Peptide Therapeutics** ERIN E CHAMBERS, Waters Corporation, Jessalynn P Wheaton, Diane M Diehl

ORAL SESSION Session 2010

Separation Science - Extractions & Others

Wednesday Morning, Room 308D

Joseph W Zewe, Ohio State University, Presiding

8:00 (2010-1) **Additive Effects in the Surfactant Mediated Extraction of Silver Nanoparticles** YOSHITAKA TAKAGAI, Wake Forest University and Fukushima University, Willie L Hinze

8:20 (2010-2) **Electrochemical Solid Phase Nano-extraction and Its Applications in Electroanalytical Chemistry** YONGCHUN ZHU, Shenyang Normal University

8:40 (2010-3) **Quantitative Field Portable Analysis Using Solid Phase Microextraction (SPME) - Principles of Method Development** JOSEPH L OLIPHANT, Torion Technologies Inc., Edgar D Lee, Christopher R Bowerbank, Tiffany C Wirth, Lindsay Nemelka, Douglas W Later

9:00 (2010-4) **Molecularly-Imprinted Electrospun Nanofibrous Coatings to Solid-Phase Microextraction** JOSEPH W ZEWE, Ohio State University, Susan V Olesik

9:20 **Recess**

9:35 (2010-5) **Flow Field Flow Fractionation SELEX** SAMANTHA SCHACHERMEYER, University of California, Riverside

9:55 (2010-6) **Cation Partitioning and Biomimetic Calcite Nanoparticle Formation in Aqueous Two-phase Systems** DAVID N CACACE, The Pennsylvania State University, Christine Keating

10:15 (2010-7) **Development of Emission Spectroscopy Microsystems for Environmental Monitoring** ANTONIO LIBERATORE, Optomem Sensors Inc.

10:35 (2010-8) **New Monodisperse, Ceramic Membranes for sub-20 nm Size-Based Separation** OLEG POLYAKOV, Synkera Technologies, Inc., Dmitri Routkevitch, Brent Lutz

ORAL SESSION Session 2020

Spectroscopy in Homeland Security/Forensics Applications

Wednesday Morning, Room 309AB

Grace Ann Bello, PPG Industries, Inc., Presiding

8:00 (2020-1) **Water Security: Detecting Chemical Agents by SERS** CHETAN S SHENDE, Real-Time Analyzers, Frank E Inscore, Atanu Sengupta, Stuart Farquharson

8:20 (2020-2) **Detection of Traces of Explosives in Fingerprints with Raman Imaging** ASHISH TRIPATHI, US Army, Erik David Emmons, Jason Guicheteau, Steven Christesen, Phillip Wilcox, Darren K Emge, Augustus W Fountain

8:40 (2020-3) **Vibrational Overtone Spectroscopy in the Visible and Near IR Regions Using Cavity Ringdown Laser Absorption Spectroscopy** SCOTT REEVE, Arkansas State University, Chris Lue , William Burns, Michael Sullivan

9:00 (2020-4) **Authentification of Cremation Remains Using Infrared Spectroscopy and Chemometrics** SCOTT W HUFFMAN, Western Carolina University, Jessica Spear

9:20 **Recess**

9:35 (2020-5) **A Novel Application of SERS to Fingermark Analysis and Mapping** ENRIQUE LOZANO DIZ, PerkinElmer, Rosalind Wolstenholme, Dean Brown

9:55 (2020-6) **Enhanced Approaches to the Analysis of FTIR Spectra for Field Applications in Emergency Response and Forensics** DUSTIN LEVY, Smiths Detection, Mark L Norman

10:15 (2020-7) **A Systematic Approach for Characterizing Suspect Counterfeit Pharmaceutical Tablets: Combining Single-Point ATR-FTIR and ATR-FTIR Imaging** ADAM LANZAROTTA, FDA Forensic Chemistry Center, Mark Witkowski, Andre J Sommer

10:35 (2020-8) **Fluorescence from Biological Aerosol Particles Using Mode-locked Laser Pulses: One and Two Photon Excitation** VASANTHI SIVAPRAKASAM, Naval Research Lab, Jozsef Czege, Janet Luo, Marc Currie, Jay D Eversole

POSTER SESSION Session 2030

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Environmental: Analysis of Metals in Various Matrices

Wednesday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(2030-1 P) **WEEE/RoHS Analysis Using Inductively Coupled Plasma Spectrometry with a Solid**

State Detector MANNY CHARLES ALMEIDA, Teledyne Leeman Labs, Maura Mahar, Bruce MacAllister, John Condon

(2030-2 P) **Determination of Hazardous Substances in Electronic Waste** MICHAEL KUBICSKO, Metrohm USA, N Harihara Subramanian, Andrea Wille, Barbara Zumbrägel, Alfred Steinbach

(2030-3 P) **Solid Phase Extraction of Chromium(VI) from Aqueous Solutions by Polyuretan Foam Treated with Hydrochloric Acid** HIROAKI MINAMISAWA, Nihon University, Kento Mizushima, Mmichihiro Asamoto, Mayumo Minamisawa, Kazunori Saitoh, Tatsuro Nakagama

(2030-4 P) **Study of the Impact in Using SC-FAST System in Trace Metal Analysis by ICP-MS** ALAIN TREMBLAY, CEAEQ, Steeve Roberge, Nathalie Dassylva, Gertrude Guay

(2030-5 P) **Automated, Multimode ICPMS Determination of Trace Elements in Undiluted Seawater: Simultaneous Preconcentration and Matrix Removal, Hydride Generation, and Online Dilution** NATHAN J SAETVEIT, Elemental Scientific, Patrick Sullivan, Daniel Wiederin

(2030-6 P) **Heavy Metals as Soil Pollutants and Their Influence on Agricultural Production** VIMAN VASILE, North University of Baia Mare, Dobra Mariana, Viman Luminita, Sivu Catalin, Vatca Gheorghe

(2030-7 P) **The Detection of Pollutant Metals Using Photo-electric Chemical Sensors** BRETT YOUNGINGER, University of North Florida, Angela N Migues, Jarrod Mousa, Jay S Huebner

(2030-8 P) **Antimicrobial Activities of Some Binary and Ternary Transition Metal Complexes** LAXMAN S BHUTADIYA, Science College, Dilip Shrichand Pabreja

POSTER SESSION Session 2040

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Environmental: Electrochemical Techniques

Wednesday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(2040-1 P) **Electrocatalytic Reduction of Hydrogen Peroxide on a Glassy Carbon Electrode Modified with a Ruthenium Oxide Hexacyanoferrate Film** ROSELYN CASTAÑEDA, Universidade de São Paulo, Thiago Paixao, Mauro Bertotti

(2040-2 P) **The Effects of Varying Ionic Strengths of Supporting Electrolytes on a Spectroelectrochemical Sensor** EME E AMBA, University of Cincinnati, Laura K Morris, Sara E Andria, Carl J Seliskar, William R Heineman

(2040-3 P) **Determination of Nitrite in Water Samples by Using an Activated Copper Electrode** JUAN CLAUDIO, Universidade de São Paulo, Thiago Paixao, Mauro Bertotti

(2040-4 P) **Rapid COD Determination as Part of a Multi-Parameter System** LINDSAY PEDDLE, ManSci Inc.

(2040-5 P) **Electrochemical Determination of the Formal Potential of Reactive Iron in Clay Crystal Lattice** ALANAH FITCH, Loyola University Chicago, Anna Weiss

POSTER SESSION Session 2050

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Environmental: Inorganics in Water

Wednesday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(2050-1 P) **Fast Analysis for Ion Chromatography** SHEETAL BHARDWAJ, Dionex Corporation, Kannan Srinivasan, Rong Lin, John Madden, Charanjit Saini, Chris Pohl

(2050-2 P) **Determination of Nitrate/Nitrite by Photo-Induced Reduction in Waters (Fresh, Brackish) and 2 M KCl Soil Extracts by Flow Injection Analysis** SCOTT TUCKER, Hach Company

(2050-3 P) **Development of a New FIA System for Analysis of Trace Component (NO2-/NO3-/NH4+/PO43-) in Environmental Water** HIRO SATO,

(2050-4 P) **Aromatic Nitration in Nitric Acid: Nitronium vs. Nitrosonium Electrophilic Substitution** GRACY ELIAS, Idaho National Laboratory (INL), Bruce J Mincher, Stephen P Mezyk

(2050-5 P) **Production of Various Disinfection Byproducts in Indoor Swimming Pool Waters Treated with Different Disinfection Methods** SEOGWON EOM, Seoul Metroplitan Government Institute Health & Environment, Jin Lee, Kyung-Duk Zoh, Min-Young Kim, Man-ho Lee, Myung-Jin Jun

(2050-6 P) **Trace-level Determination of Perfluorinated Compounds in Water by Suppressed Ion Chromatography with Inline Matrix Elimination** JAY GANDHI, Metrohm USA, N Harihara Subramanian

(2050-7 P) **Rapid Diagnosis of Water Contamination Using SPE-UV and Other Simple Field Measurements** DOMINIQUE VERREY, EHESP-LERES, Estelle Baures, Olivier Thomas

(2050-8 P) **Development of On-line Chip-based Photo-reactor for Coupling HPLC and ICP-MS in the Determination of Inorganic Selenium Species** CHENG-HSING LIN, National Tsing Hua University, Tsung-Ting Shih, Jung-Fu Wu, Yuh-Chang Sun

(2050-9 P) **An Automated Titration System for Determination of Iodine Absorption of Carbon Black** TORE FOSSUM, Mettler Toledo, Inc. , John Griffiths

(2050-10 P) **Enhanced Measurements of Chromophoric Dissolved Organic Matter (CDOM) for Water Quality Analysis Using a New Simultaneous Absorbance and Fluorescence Instrument** ADAM M GILMORE, HORIBA Scientific

POSTER SESSION Session 2060

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Environmental: Method Development and Quality Assurance

Wednesday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(2060-1 P) **Determination of Gas Concentration with Low-resolution FTIR Spectroscopy Using the PNNL Library** JENS EICHMANN, Hamburg University of Technology, Roland Harig

(2060-2 P) **Comparing Methods of Generating Calibration Curves for EPA 8270** REBECCA VEENEMAN, Agilent Technologies, Chinkai Meng, Michael Szelewski

(2060-3 P) **A Cleaner More Sensitive Approach to EPA Method 8260 Using Large Volume Static Headspace and Active SPME** THOMAS XAVIER ROBINSON, Entech Instruments, Inc., Daniel B Cardin, Christopher Casteel

(2060-4 P) **A Simple More Reliable Time Integrated Whole Air Sampling Approach to EPA Method TO15 Using Helium Diffusion Sampling** THOMAS XAVIER ROBINSON, Entech Instruments, Inc., Daniel B Cardin

(2060-5 P) **Compendium Method TO-17 for Analysis of Volatile Organic Compounds (VOCs) in Air: Optimized Instrument Parameters and Method Validation** LAURA CHAMBERS, OI Analytical, Trent Sprenkle, Gary Engelhart

(2060-6 P) **USEPA Method 524.3 for Analysis of Volatile Organic Compounds (VOCs) in Finished Drinking Water: Optimized Instrument Parameters and Method Validation** LAURA CHAMBERS, OI Analytical, Trent Sprenkle, Gary Engelhart

(2060-7 P) **Optimization and Changes in the New 524.3 Draft Method** LINDSEY H PYRON, EST Analytical, Jeff Sheriff, Doug Meece, Jim Monk, Eric Gerkin

(2060-8 P) **Optimization of 1,4-Dioxane Analysis by Purge and Trap – GC/MS** LINDSEY H PYRON, EST Analytical, Jeff Sheriff, Doug Meece, Jim Monk, Regina Herre

(2060-9 P) **Finally, an Automated 1664A Method for Oil and Grease that is EPA Compliant!** JOSEPH STEFKOVICH, Xenosep Technologies, Patricia Vincent

(2060-10 P) **EPA Method 1664A Modifications, Fact Vs Fiction** JOSEPH STEFKOVICH, Xenosep Technologies, Patricia Vincent

(2060-11 P) **Investigation of Nano Stationary Phase Capillary Columns for Analysis of Priority PAH of USEPA Method 610 and EC Protocol by GC** KRISHNAT P NAIKWADI, J & K Scientific Inc., Allen J Britten

(2060-12 P) **Characterization and Evaluation of Various Grades of Analytical Solvents: Part II** SANDRA M LORENZ, Honeywell , Todd Bronson, Neal Fox, Matthew Bosma, Anthony Kemperman

(2060-13 P) **Operators as Sources of Error – Improved Efficiency through Pipette Technique Training** A BJOERN CARLE, ARTEL, Wendy Vaccaro, Keith J Albert, Richard H Curtis,

George W Rodrigues

(2060-14 P) **Development and Validation of a HPLC Method to Determine Tramadol in Multiple Pharmaceutical Dosage Forms** HUMBERTO GOMEZ-RUIZ, Facultad de Química UNAM, Piotr Alvarez

(2060-15 P) **Automating Your Laboratory** PETER MAIER, iCD, Christine Paszko

(2060-16 P) **Correlation Study of COD and TOC for Wastewater Discharge Management** THOMAS SZAKAS, GE Analytical Instruments, Steve Austin, Caryn Cullen

(2060-17 P) **Quality Assurance Project Plan (QAPP) Boiler Plate Review Comments for both RCRA/MACT I and II Trial Burn and Comprehensive Performance Test Plans** LARRY KENNETH LANDRY, US EPA

POSTER SESSION Session 2070

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

GC-MS Methodologies

Wednesday Morning, Blue Area - Hall A2, Aisles 700 - 1300

(2070-1 P) **GC-MS and GC-IRD Studies on Ethoxy- and Methoxymethyl-phenethylamines: Isobaric Substances Related to the Methylenedioxyphenethylamine Drugs** TAMER AWAD, Auburn University, Abdallah Al-Hossaini, Jack DeRuiter, C Randall Clark

(2070-2 P) **ATD/GC/MS Analysis of Alcohols in Exhaled Air: Application to Passive Alcoholism Assessment Related to Alcohol-based Hand Rubs Intense Use** VINCENT BESSONNEAU, EHESP, Michel Clement, Olivier Thomas, Barbara LeBot

(2070-3 P) **Determination of Flame Retardants by Means of Fast Gas Chromatography Hyphenated to Time Of-Flight Mass Spectrometry** ALESSANDRO CASILLI, DANI Instruments SPA, Manuela Bergna

(2070-4 P) **Confirmation of Delta 9-tetrahydrocannabinol (THC) in Saliva by Selected Reaction Monitoring on a GC-Triple Quadrupole Mass Spectrometer** ERIC CHI, Thermo Fisher Scientific, Jason Cole, Trisa Robarge, Matthew Lambing, Jim Edwards, Hans-Joachim Huebschman

(2070-5 P) **Introduction of a Portable Gas Analyzer: Micro Gas Chromatograph/ Ion-Camera Coupling - Application to On-line Monitoring of Volatile Organic Compounds** RONAN COZIC, SRA Instruments, Xavier Cardot, Gottfried KIibelka

(2070-6 P) **A Novel On-line UV Irradiator for Evaluating the Photo, Thermal and Oxidative Degradation of Polymers** ROBERT FREEMAN, Quantum Analytics, Chuichi Watanabe, Tetsuro Yuzawa

(2070-7 P) **Comparative Capabilities of Biochemical and Chromatographic Methods for Trace Analysis of Toxic Substrance VX in Complex Matrices** LYUDMILA GUSTYLEVA, RIHOPHE, Daria Prokofieva, Elena Savelieva, Nikolay Goncharov

(2070-8 P) **The Use of Pyrolysis Gas Chromatography Mass Spectrometry to Characterize Synthetic, Degradable Polymers** KAREN JANSSON, CDS Analytical, Thomas Wampler, Ben Peters, Gary Deger, Stephen D Wesson

(2070-9 P) **Low Level Analysis of Geosmin and 2-Methylisoborneol** ANNE JUREK, Teledyne Tekmar, Roger Bardsley, Stephen Lawson, Thomas Hartlein

(2070-10 P) **Evaluating USEPA Method 524.3 Utilizing Newly Permissible Method Modifications to Purge and Trap Techniques** ANNE JUREK, Teledyne Tekmar, Roger Bardsley, Stephen Lawson, Ed Price

(2070-11 P) **A Comparison of Volatile Organic Compound Response When Using Nitrogen as a Purge Gas** ANNE JUREK, Teledyne Tekmar, Roger Bardsley, Thomas Hartlein, Stephen Lawson

(2070-12 P) **Chromatographic Analysis of Vanilla Extracts** VANESSA R KINTON, Alcohol and Tobacco and Tax Trade Bureau (TTB), Janet Scalese

(2070-13 P) **Expanded Analysis of Urine Amphetamines by Single Quadrupole GC/MS** MATTHEW LAMBING, Thermo Fisher Scientific, Jason Cole, Eric Chi, Trisa Robarge, Jim Edwards

(2070-14 P) **Fingerprinting of Polymer Manufactures by Syringeless Injection GC/MS** GARY LAVIGNE, University of Connecticut, IMS, Edward Kurz, Fiona Leek

(2070-15 P) **Identification of Pesticide Residues in Orange Essential Oils by Using GC/MS with Negative Chemical Ionization and A Novel Pesticide Database** NOVALINA LINGGA, Shimadzu (Asia Pacific) Pte. Ltd., Lai Chin Hui-Loo, Cynthia Melanie Lahey, Boon Theng Chia, Mark Taylor, Katsuhiro Nakagawa, Haruhiko Miyagawa

(2070-16 P) **Modern Methods to Unlock Ancient Chemical Clues: The Extraction of Fat Residue from Charcoal to Determine Partition Coefficients** JOHN A MALAMAKAL, Idaho State University, Jeffrey J Rosentreter

(2070-17 P) **Withdrawn**

(2070-18 P) **Optimization and Validation of a Thermal Desorption-GC/MS Method for the Measurement of 39 VOC in Air** GAËL MUCKENSTURM, CAE, Géraldine Leroy, Valérie Ingrand

(2070-19 P) **Double Capillary Column GC/MS System for Semi-volatile Compounds in Drinking Water Analysis** KATSUHIRO NAKAGAWA, Shimadzu Corporation, Kawana Shuichi, Kouki Tanaka, Hiroko Okuda, Richard R Whitney, Mark Taylor, Haruhiko Miyagawa

(2070-20 P) **Automatic Peak Identification for Metabolome Analysis Using GC/MS** KATSUHIRO NAKAGAWA, Shimadzu Corporation, Shuichi Kawana, Richard R Whitney, Mark Taylor, Haruhiko Miyagawa

(2070-21 P) **Recent Advancements for Improved Accuracy for Biomonitoring 52 VOCs in Blood Using Headspace SPME GC-MS** JESSICA M OCARIZ, Centers for Disease Control and Prevention, David M Chambers, Maureen F McGuirk, Benjamin C Blount

(2070-22 P) **The Combination of a Selectable 1D or 2DGC-MS System, Retention Indices and**

Odor Active Compounds Database for Flavor Analysis NOBUO OCHIAI, GERSTEL KK, Kikuo Sasamoto, Tomoko Kamimura, Katsuhisa Satou

(2070-23 P) **Development and Validation of a Method for the Detection of PCBs in Feed and Vegetable Raw Material** GIULIANA OTTONELLO, Istituto Zooprofilattico Sperimentale PLVA, Francesca Tarchino, Giuseppe Marazzotta, Angelo Ferrari, Barbara Vivaldi

(2070-24 P) **GC/MS Determination of Furan in Food and Beverages Using a PLOT Column** LUISA M PEREIRA, Thermo Fisher Scientific, Anila I Khan, Rob Bunn

(2070-25 P) **Withdrawn**

(2070-26 P) **Maximizing Sample Throughput in Purge and Trap Analysis** LINDSEY H PYRON, EST Analytical, Doug Meece, Jim Monl

(2070-27 P) **Headspace Analysis of Difficult Matrices** LINDSEY H PYRON, EST Analytical, Doug Meece, Jim Monk

(2070-28 P) **Introducing a New Advanced Data Processing Software for Mass Spectrometry Employing Dynamic Background Compensation, Spectral Deconvolution and Chemometric Data Analysis** GARETH M ROBERTS, ALMSCO International, Gerhard Horner

(2070-29 P) **Can "Deconvolution" Improve GC/MS Sensitivity?** CHINKAI MENG, Agilent Technologies

(2070-30 P) **Determination of Furan in Food by GC/HS/MS** WILLIAM GOODMAN, PerkinElmer, Padmaja Prabhu, Adam Patkin

(2070-31 P) **Multi-Residue Pesticide Analysis of Food Matrices with GC/MS in Combination with SPE Clean-Up and Spectral Deconvolution** WILLIAM GOODMAN, PerkinElmer, Meng Yuan, Adam Patkin

(2070-32 P) **Service GC-MS with the Supersonic GC-MS** AVIV AMIRAV, Tel Aviv University, Alexander Gordin, Alexander B Fialkov

(2070-33 P) **Determination of Benzo[a]pyrene Tetrol Isomers in Human Breast Milk Using Gas Isotope Dilution /Chromatography High Resolution Mass Spectrometry** DONALD HURTZ, Centers for Disease Control and Prevention, Kenroy Crawford, Alsiha Etheredge, Kristin Ashby, James Grainger

(2070-34 P) **Sensitivity of Comprehensive Two-dimensional Gas Chromatography (GCXGC) Versus One Dimensional Gas Chromatography (1D-GC)** AHMED MOSTAFA, Waterloo University, Tadeusz Gorecki

POSTER SESSION Session 2080

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

General Applications of Liquid Chromatography

Wednesday Morning, Gray Area - Hall B4, Aisles 3400-3900

(2080-1 P) **A Web-based Search Engine for Chromatography Applications** ANDREAS BRUNNER, Dionex Softron GmbH, Fraser McLeod, Barbara van Cann, Shaun Quinn

(2080-2 P) **Liquid Handling Applied to Automated Sample Preparation in Liquid Chromatography** ANNE SHEARROW, Metrohm USA, Stefanie Czyborra

(2080-3 P) **A New HILIC Stationary Phase and Its Uses** XIAODONG LIU, Dionex Corporation, Jinhua Chen, Chris Pohl

(2080-4 P) **Removal of Trace Organics in High Purity Water for Reversed-phase High Pressure Liquid Chromatography Applications Using a Point-of-use Polisher** CECILIA REGNAULT, Millipore SAS, Coralie Monferran, Maricar Tarun, Estelle Riche, Daniel Darbouret

(2080-5 P) **An Innovative Electrical Conductivity Detector Designed to Easily and Economically Convert Conventional HPLC Systems into Ion Chromatographs** TSUNEMI TOKIEDA, Showa Denko K.K., Kuniko Igarashi, Sabrina Tachdjian, Takashi Kotsuka

(2080-6 P) **Overpressured Layer Chromatography: An Hybrid Between HPLC and TLC for the Analysis and Isolation of Natural Products** NURHAYAT TABANCA, USDA-ARS, David E Wedge, Emil Mincsovics

(2080-7 P) **Sample Delivery Flexibility for Routine Analysis by UPLC** TANYA JENKINS, Waters Corporation, Daniel Root, Azita Kaffashan, Patricia McConville

(2080-8 P) **Benefits of High-temperature HPLC Reversed Phase Column: Effect of Temperature on Solvent Consumption, Analysis Time, Separation Efficiency, and Flow Rate Optimization** EIJI KAGAWA, Showa Denko K.K., Ritsuko Ohno, Kuniko Igarashi, Sabrina Tachdjian, Takashi Kotsuka

(2080-9 P) **Optimization of HPLC Instrumentation for Use with Superficially Porous Columns** WILLIAM LONG, Agilent Technologies, John W Henderson Jr

(2080-10 P) **Key Considerations for Highly Sensitive UPLC Detection** PATRICIA MCCONVILLE, Waters Corporation, Tanya Jenkins, Charles Phoebe

(2080-11 P) **Developing a Highly Sensitive Method for the Analysis of a Series of Developing a Highly Sensitive Method for the Analysis of a Series of ß-Blockers by UPLC with Fluorescence and Photodiode Array Detection** PATRICIA MCCONVILLE, Waters Corporation, Michael Waite, Tanya Jenkins

(2080-12 P) **How to Achieve UHPLC-like Performance with Conventional HPLC Equipment** ROBERT T MOODY, MAC-MOD Analytical, Thomas J Waeghe, Carl L Zimmerman

(2080-13 P) **Study of State of Alkyl Chains for Reversed-Phase: Collapse or Brush Up** NORIKAZU NAGAE, ChromaNik Technologies Inc.

(2080-14 P) **A Novel Bonding Technique Using a Polyfunctional Silyl-Reagent for Reversed-Phase Liquid Chromatography** NORIKAZU NAGAE, ChromaNik Technologies Inc., Chiaki Kadota, Kouji Yamamot

(2080-15 P) **Selection of Column Length and Particle Size for High Resolution, Fast LC and LC/MS** LUISA M PEREIRA, Thermo Fisher Scientific, William Faulkner, Dafydd Milton

(2080-16 P) **A Systematic Approach to LC Method Transfer from 4.6 to 2.1mm i.d. Columns** LUISA M PEREIRA, Thermo Fisher Scientific, Joanne Gartland, Stephen M Aspey

(2080-17 P) **A Method for Determining Column Performance Independent of Instrument Variance** LUISA M PEREIRA, Thermo Fisher Scientific, Stephen M Aspey, Joanne Gartland

(2080-18 P) **Achieving Maximum Productivity by Combining UHPLC with Advanced Chromatographic Techniques** CHRISTIAN SCHMIDT, Dionex, Fraser McLeod, Tobias Fehrenbach, Wim Decrop

(2080-19 P) **Characteristics of a Multi-mode (AX+CX+NP+RP) ODS Column** ITARU YAZAWA, Imtakt

(2080-20 P) **Development of a Highly Selective, "Phenyl-modified" C18 Bonded Phase for HPLC** CARL L ZIMMERMAN, MAC-MOD Analytical, Thomas J Waeghe, Robert T Moody

(2080-21 P) **Development of an Ultra High Pressure Liquid Chromatography Column Family** MAX B ERWINE, Varian Inc., Wilroy Bennen, Norwin Von Doehren, Janice Perez, Ritu Arora, David Jones, Mike Chang

(2080-22 P) **Ensuring Best Possible UHPLC Performance Through an Innovative Capillary and Fitting Design** FRANK STEINER, Dionex, Thomas Piecha, Tobias Fehrenbach, Fraser McLeod

(2080-23 P) **Using Charged Aerosol Detection as a Universal Approach to Analyze Pharmaceutical Salts Including Inorganic and Organic Counter-ions** CHRISTOPHER A CRAFTS, ESA Magellan Biosciences, Marc Plante, Ian N Acworth, Bruce Bailey, John Waraska, Paul H Gamache

(2080-24 P) **Simplifying Cleaning Validations and the Analysis of Extractables and Leachables with UHPLC and Charged Aerosol Detection** CHRISTOPHER A CRAFTS, ESA Magellan Biosciences, Marc Plante, Bruce Bailey, Ian N Acworth, Paul H Gamache, John Waraska

(2080-25 P) **Simultaneous Analysis of Free PEG and PEGylated Proteins Using HPLC with Charged Aerosol Detection** MARC PLANTE, ESA Biosciences, Inc., Tom Villasenor, Bruce Bailey, Christopher A Crafts, John Waraska, Paul H Gamache, Ian N Acworth

(2080-26 P) **Analysis of Fat Soluble Vitamins by Reverse Phase HPLC and Corona CAD Detection** MARC PLANTE, ESA Biosciences, Inc., Christopher A Crafts, Bruce Bailey, John Waraska, Paul H Gamache, Ian N Acworth

(2080-27 P) **Sensitive Analysis of Genotoxins by HPLC-ECD Using Boron-Doped Diamond** MARC PLANTE, ESA Biosciences, Inc., Bruce Bailey, Christopher A Crafts, Paul H Gamache, John Waraska, Ian N Acworth

(2080-28 P) **The Use of Electrolytic Devices for Sample Pretreatment** BERNARD G SHELDON, Dionex Corporation

(2080-29 P) **Advances in Capillary Ion Chromatography Systems Using On-line Electrolytic Eluent Generation and Suppression** YAN LIU, Dionex Corporation, Victor Barreto,

Chris Pohl

(2080-30 P) **New HPLC Chiral Stationary Phases (CSPs) Based on Derivatized Cyclofructans (CF6)** PING SUN, University of Texas at Arlington, Chunlei Wang, Zachary Breitbach, Ying Zhang, Daniel Armstrong

(2080-31 P) **Core-shell Diamond Particles for Use in SPE and HPLC** LANDON A WIEST, Brigham Young University, Gaurav Saini, David S Jensen, Michael A Vail, Andrew Dadson, Matthew R Linford

(2080-32 P) **New Techniques for Fast HPLC Method Screening Using Orthogonal Phase Selectivity** SUSAN DIAZ, Grace Discovery Sciences, Karin Hallberg, Reno Nguyen, Scott Anderson, Laura Kaepplinger

(2080-33 P) **Simultaneous Determination of Dopamine and 3,4-dihydroxyphenylacetic Acid in Mouse Striatum Using Mixed-mode Reversed-phase and Cation-exchange High-performance Liquid Chromatography** MAKOTO TSUNODA, University of Tokyo

POSTER SESSION Session 2090

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Sampling & Sample Preparation - ASE & Other Techniques

Wednesday Morning, Gray Area - Hall B4, Aisles 3400-3900

(2090-1 P) **One Step Automated Extraction and Concentration** TOM HALL, Fluid Management Systems, Inc.

(2090-2 P) **An Automated High Throughput Sample Fractionation Method for the Determination of PAHs, MADEP-EPH, TNRCC Method 1005-1006** TOM HALL, Fluid Management Systems, Inc.

(2090-3 P) **A New Supercritical Fluid Extraction Instrument Demonstrates its Ability to Maintain Sample Cleanliness for Radiocarbon Dating** AL KAZIUNAS, Applied Separations, Rolf Schlake, Kathy Pearl

(2090-4 P) **Determination of Trace Components Using a Selectable 1D or 2DGC-MS System based on Capillary Flow Technology and Heart-cut Fraction Collection** JOHN STUFF, GERSTEL, Inc., Jacqueline Whitecavage, Nobuo Ochiai, Kikuo Sasamoto

(2090-5 P) **Patent Pending Electromagnetic Stirring Capabilities Enhance Classic Liquid Autosampler** THOMAS SZAKAS, GE Analytical Instruments

(2090-6 P) **Volatile Organic Compounds in Drinking Water - A Dynamic Approach to EPA Method 502.2** MANUELA BERGNA, Dani Instruments S.p.A., Roberta Lariccia, Ilaria Ferrante

(2090-7 P) **Expanding the Application of the Tablet Processing Workstation (TPW) to Support the Sample Preparation of Powders for Oral Suspension** ALEX MANUEL OPIO, Pfizer, Beverly Nickerson, Gang Xue, John Warzeka, Ken Norris, Matt Santangelo

(2090-8 P) **On-line Water Quality Monitoring as a Security Program** LINDSAY PEDDLE, ManSci Inc.

(2090-9 P) **Preliminary Evaluation of Potential Field Laboratory Equipment and Instrumentation for On-Site Analysis** MARK T STAUFFER, University of Pittsburgh at Greensburg, Samuel J Tokich

(2090-10 P) **Semi - Open Focused Microwave Methodology for Fast Sequential Sample Preparation** TINA RESTIVO, CEM Corporation, David Barclay

(2090-11 P) **Sampling Unit for Tics Developed for a System to Detect Explosives and Hazardous Compounds in Closed Containers** ANDREAS WALTE, Airsense Analytics, Wolf Muenchmeyer, Bert Ungethuem

(2090-12 P) **Accumulation Rates and Partitioning of PAHs into PDMS Thin-films and Black Worms from Aqueous Samples** JANUSZ PAWLISZYN, University of Waterloo

(2090-13 P) **Development of Spray Desorption Collection for Large Surface Area Analysis** AFRAND KAMALI SARVESTANI, Western Michigan University, Shashank Jain, Semere G Bairu, Kevin A Douglass, Andre R Venter

(2090-14 P) **Automated Sample Handling for Karl Fisher Determinations** GREGORY K WEBSTER, Abbott Laboratories, Gregory Robinson, Anthony Pleva, James McClure

(2090-15 P) **Overview of Toy Safety Regulations and Benefits of Different Analytical Methods** ANIRUDDHA DATTATRAYA PISAL, PerkinElmer, Anil Nimkar, Zoe Grosser

(2090-16 P) **Biochemical Methods to Estimating Organophosphates in Environmental Objects** DARIA PROKOFIEVA, RIHOPHE, Lyudmila Gustyleva, Natalia Voitenko, Vladimir Babakov, Nikolay Goncharov

POSTER SESSION Session 2100

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Thermal Analysis

Wednesday Morning, Gray Area - Hall B4, Aisles 3400-3900

(2100-1 P) **Thermal Analysis of Vitamin C: EGA/IAMS** MARTA JUHASZ, Meisei University, Yuki Kitahara, Toshihiro Fujii

(2100-2 P) **The New High Temperature Accelerating Rate Calorimeter (ARC)** PETER J RALBOVSKY, Netzsch Instruments

(2100-3 P) **Thermal Analysis Techniques for Battery Safety and Design** PETER J RALBOVSKY, Netzsch Instruments

(2100-4 P) **HyperDSC Application for Advanced Aerospace Composite Material** PENG YE,

PerkinElmer, Andrew Walker Salamon, Robert John Packer, Kevin P Menard

(2100-5 P) **UV/DSC Study on New Double Furnace DSC** PENG YE, PerkinElmer, Andrew Walker Salamon, Robert John Packer, Kevin P Menard

(2100-6 P) **Thermogravimetric Study of Interactions Between Paper and Fountain Solution in Heatset Offset Lithography** FRANÇOIS BROUILLETTE, UQTR, Ali Chami, Patrice J Mangin

CONFEREE NETWORKING

Wednesday, March 3, 2010

9:00 - 11:00 AM

Career Placement for Senior Scientists Facilitated by: John Guarniere, RCE Associates, Room 312C
Contemporary Food and Environmental Residue Analysis Facilitated by: John Mathis, Global Laboratory Services, Inc, Room 311F
Conversion of HPLC Test Methods to UPLC Facilitated by: Jennifer Roosien, Perrigo Company, Room 312B
LC-MS Users Forum Facilitated by: Arindam Roy, Consultant, Chromatography and Mass Spectrometry, Room 312A
Near-IR Calibration Transfer: Approaches, Applications, Success Stories Facilitated by: Ronald Rubinovitz, Buchi Corporation, Room 311H
Supercritical Fluid Chromatography in the Pharmaceutical Industry Facilitated by: Larry Taylor, Virginia Tech, Room 311G

WEDNESDAY, MARCH 3, 2010 AFTERNOON

AWARD Session 2110

Ralph N Adams Award- arranged by Liang Li, University of Alberta

Wednesday Afternoon, Room 206A

Liang Li, University of Alberta, Presiding

2:00 **Introductory Remarks - Liang Li**

2:05 **Presentation of the 2010 Ralph N Adams Award to Catherine Fenselau, University of Maryland, by Edward P Ladner, Jr, Immediate Former President, The Pittsburgh Conference**

2:10 (2110-1) **Biomedical Mass Spectrometry: Aspirations and Achievements** CATHERINE FENSELAU, University of Maryland

2:45 (2110-2) **ExD Tandem Mass Spectrometry Meets the Challenges of Glycoproteomics** CATHERINE E COSTELLO, Boston University School of Medicine, Liang Han, Xiang Yu, Ying Zhou, Nancy Leymarie, Joseph Zaia, Cheng Lin

3:20 (2110-3) **Stable Isotopes and the Origin of Life** ROMAN ZUBAREV, Karolinska Institute

3:55 **Recess**

4:10 (2110-4) **Recent Developments in Ion Mobility/Mass Spectrometry for the Analysis of Complex Mixtures** DAVID E CLEMMER, Indiana University

4:45 (2110-5) **Whole Proteome Analysis: Are We There Yet?** LIANG LI, University of Alberta

AWARD Session 2120

Williams-Wright Award- arranged by Brian C Smith, Spectros Associates/Coblentz Society

Wednesday Afternoon, Room 300

Brian C Smith, Spectros Associates/Coblentz Society, Presiding

2:00 **Introductory Remarks - Brian C Smith**

2:05 **Presentation of the 2010 Williams-Wright Award to Patrick J Treado, ChemImage Corporation, by Brian C Smith, Spectros Associates/Coblentz Society**

2:10 (2120-1) **Molecular Chemical Imaging – Technology and Applications that Make a Difference** PATRICK J TREADO, ChemImage Corporation

2:45 (2120-2) **Raman Chemical Imaging Biothreat Detection** KATHRYN S KALASINSKY, Armed Forces Institute of Pathology

3:20 **Recess**

3:35 (2120-3) **Standoff Raman Detection of Contaminated Surfaces** STEVEN CHRISTESEN, US Army ECBC, Jason Guicheteau, Phillip Wilcox

4:10 (2120-4) **To Map or to Image: That is the Question!** DON A CLARK, Pfizer Global R&D

SYMPOSIUM Session 2130

Affinity Methods in Biochemical Separations - arranged by

Adam T Woolley, Brigham Young University

Wednesday Afternoon, Room 308B

Adam T Woolley, Brigham Young University, Presiding

2:00 **Introductory Remarks - Adam T Woolley**

2:05 (2130-1) **Recent Advances and Applications of Microaffinity Chromatography** DAVID S HAGE, University of Nebraska

2:40 (2130-2) **Studying Molecular Interactions Using Micro Free Flow Electrophoresis** MICHAEL T BOWSER, University of Minnesota, Ryan T Turgeon, Brian R Fonslow

3:15 (2130-3) **Multi-functional Device Based on Immunoaffinity Capillary Electrophoresis for the Study of Toxicoproteomic Biomarkers** NORBERTO A GUZMAN, Princeton Biochemicals, Inc.

3:50 (2130-4) **Immunoaffinity Capillary Electrophoresis Using Cleavable Detection Tags** CHARLES S HENRY, Colorado State University, Yupaporn Sameenoi, Brian M Murphy

4:25 (2130-5) **Integrated Affinity/Capillary Electrophoresis Microchips for Multiplexed Biomarker Quantitation** ADAM T WOOLLEY, Brigham Young University

SYMPOSIUM Session 2140

Atomic Spectroscopy: Where the Rubber Meets the Road (Society for Applied Spectroscopy)- arranged by Paul B Farnsworth, Brigham Young University

Wednesday Afternoon, Room 205C

Paul B Farnsworth, Brigham Young University, Presiding

2:00 **Introductory Remarks - Paul B Farnsworth**

2:05 (2140-1) **Challenges to Accurately Measure PPM to PPT Concentrations in Complex Samples Using ICP-OES or ICP-MS: What Challenges? Isn't it Easy?** JOHN W OLESIK, The Ohio State University, Patrick Gray, Josh Dettman, Elodie Linard, Anthony Lutton

2:40 (2140-2) **Analytical Issues in Elemental Analysis for Biomonitoring** JEFFERY M JARRETT, CDC

3:15 (2140-3) **Achieving Extraordinary Accuracy and Precision Using 'Off-the-Shelf' Atomic Spectroscopy Instrumentation** MICHAEL R WINCHESTER, National Institute of Standards and Technology, Gregory C Turk, Therese A Butler

3:50 (2140-4) **The Consequence of Vapour or/and Particle Formation in Laser Ablation-ICP-MS** DETLEF GUNTHER, ETH Zurich, Robert Kovacs, Kohei Nishiguchi, Keisuke Utani

4:25 (2140-5) **Photochemical Vapor Generation for Enhanced Sample Introduction Efficiency** RALPH EDWARD STURGEON, National Research Council Canada, Chengbin Zheng, Xiandeng Hou, Patricia Grinberg, Zoltan Mester

SYMPOSIUM Session 2150

Challenges and Opportunities in the Characterization of Protein Therapeutics Using Mass Spectrometry- arranged by

Guodong Chen, Bristol-Myers Squibb

Wednesday Afternoon, Room 207B

Guodong Chen, Bristol-Myers Squibb, Presiding

2:00 **Introductory Remarks - Guodong Chen**

2:05 (2150-1) **Characterization of Protein Therapeutics by Mass Spectrometry: Recent Development and Future Directions** GUODONG CHEN, Bristol-Myers Squibb, Bethanne

M Warrack, Angela K Goodenough, David B Wang-Iverson, Adrienne A Tymiak

2:40 (2150-2) **Maximizing Structural Information from Whole Protein Tandem Mass Spectrometry** SCOTT MCLUCKEY, Purdue University

3:15 (2150-3) **Detailed Characterization of Monoclonal Antibodies** DAVID M HAMBLY, Amgen, Inc.

3:50 (2150-4) **Application of Protein Mass Spectrometry in Drug Discovery and Development** LI TAO, Bristol-Myers Squibb

4:25 (2150-5) **The Use of Mass Spectrometry to Characterize the Metabolism of Peptide Therapeutics** PATRICK J RUDEWICZ, Elan Pharmaceuticals, Inc.

SYMPOSIUM Session 2160

High Speed HPLC- arranged by William E Barber and Monika M Dittmann, Agilent Technologies, Inc.

Wednesday Afternoon, Room 206B

William E Barber, Agilent Technologies, Inc., Presiding

2:00 **Introductory Remarks - William E Barber**

2:05 (2160-1) **Consequences of Recent Developments in HPLC for Green Chromatography** PAT J SANDRA, RIC

2:40 (2160-2) **High Speed HPLC** PETER W CARR, University of Minnesota, Dwight R Stoll

3:15 (2160-3) **Fast Gradient Separations** UWE D NEUE, Waters Corporation, Pamela C Iraneta, Kenneth J Fountain

3:50 (2160-4) **Kinetic Optimization of Fast Gradient Separations with UHPLC** MONIKA MARIA DITTMANN, Agilent Technologies GmbH, Konstantin Choikhet, Ken Broeckhoven

4:25 (2160-5) **The Application of Poppe/Kinetic Plot Technique in Achieving Fast Separations for Pharmaceutical Analysis** XIAOLI WANG, AstraZeneca, Partha Mukherjee, Patrik Petersson

SYMPOSIUM Session 2170

High Throughput Sample Preparation: Techniques and Applications - arranged by Janusz Pawliszyn, University of Waterloo

Wednesday Afternoon, Room 206C

Janusz Pawliszyn, University of Waterloo, Presiding

2:00 **Introductory Remarks - Janusz Pawliszyn**

2:05 (2170-1) **Why Do We Need Sample Preparation for Chemical Analysis and What is the Role for Automation?** HEATHER L LORD, University of Waterloo

2:40 (2170-2) **Is the High-throughput Preparation of Solid Samples a Fallacy?** DOUGLAS E RAYNIE, South Dakota State University, Julee L Driver

3:15 (2170-3) **Recent Developments in High Throughput Analytical Methods Based on GC Determination** JOSEP M BAYONA, CSIC

3:50 (2170-4) **Automation of Sample Preparation Process for Pharmaceutical Samples – Helping to Accelerate Drug Discovery and Development Process** WAYNE MARK MULLETT, MDS Nordion, Wei Xie

4:25 (2170-5) **High Throughput Microextraction Approaches** JANUSZ PAWLISZYN, University of Waterloo

SYMPOSIUM Session 2180

Life Sciences (PAI-Net/JST) - arranged by Kei Koyama, Japan Science and Technology Agency (JST)

Wednesday Afternoon, Room 313

Kei Koyama, Japan Science and Technology Agency (JST), Presiding

2:00 **Introductory Remarks - Kei Koyama**

2:05 (2180-1) **Developing the New Mass Microscope Based on an QIT-TOF System** MITSUTOSHI SETOU, HAMA, Takahiro Harada, Takahiro Hayasaka, Akiko Yuba-Kubo, Yuki Sugiura, Nobuhiro Zaima, Naoko Goto-Inoue, Yoshishige Kimura, Koji Tsutsumi, Yoshiyuki Konishi, Koji Ikegami, Yoshikazu Yoshida , Kiyoshi Ogawa

2:40 (2180-2) **Large-scale Glycomics and Glycoproteomics by Glycoblotting Method** SHIN-ICHIRO NISHIMURA, Hokkaido University

3:15 (2180-3) **Localized Surface Plasmon Resonance-based Label-free High-throughput Biochip for Multiple Analysis of Biomoleculer Interactions** TAMIYA EIICHI, Osaka University, Saito Masato, Endo Tatsuro

SYMPOSIUM Session 2190

Multifunctional Nanoclinics and Nanoplexes for Theranostics - arranged by Raoul Kopelman, University of Michigan and Weihong Tan, University of Florida

Wednesday Afternoon, Room 308A

Raoul Kopelman, University of Michigan, Presiding

2:00 **Introductory Remarks - Raoul Kopelman**

2:05 (2190-1) **Theranostic Nanoparticles Enable In vivo Imaging and Therapy of Brain Cancer** RAOUL KOPELMAN, University of Michigan

2:40 (2190-2) **Multifunctional Nanoplexes for Gene Therapy** PARAS N PRASAD, State University of New York at Buffalo

3:15 (2190-3) **Generating Molecular Probes for the Elucidation of the Molecular Foundation of Cancers** WEIHONG TAN, University of Florida

3:50 (2190-4) **SERS Characterization of Living Cells Using Ultrathin Silica Shelled- and Organo-Silica Shelled-Gold Nanoparticles** ZHONG-QUN TIAN, Xiamen University, Yan Cui, Jian-Feng Li, Yong-Liang Zhou, Bin Ren

SYMPOSIUM Session 2200

Polymeric Stationary Phases for HPLC Separations - arranged by R Kenneth Marcus, Clemson University and Frantisek Svec, Lawrence Berkeley National Laboratory

Wednesday Afternoon, Room 205B

R Kenneth Marcus, Clemson University, Presiding

2:00 **Introductory Remarks - R Kenneth Marcus**

2:05 (2200-1) **Capillary-Channeled Polymer (C-CP) Fiber Stationary Phases for Separations and Solid Phase Extraction of Proteins** R KENNETH MARCUS, Clemson University, Jennifer J Pittman, Carolyn E Quarles, Manoj Randunu

2:40 (2200-2) **Impacts on Antibody Separation by Reducing Particle Size of Polymeric Stationary Phase** CHUPING LUO, Sepax Technologies, Inc., Ke Yang, Xueying Huang

3:15 (2200-3) **Molecularly Imprinted Stationary Phases** BORIS MIZAIKOFF, University of Ulm

3:50 (2200-4) **Porous Monolithic Stationary Phases** FRANTISEK SVEC, Lawrence Berkeley National Laboratory

4:25 (2200-5) **Evaluation of New Polymeric Stationary Phases with Reversed-Phase Properties for High Temperature and Green Liquid Chromatography** PAT J SANDRA, RIC, Gerd Vanhoenacker

SYMPOSIUM Session 2210

The 21st Century Renaissance of Vibrational Spectroscopy: New Methods Solving Critical Problems in Today's Technology (Society for Applied Spectroscopy) - arranged by Laurence A Nafie, Syracuse University

Wednesday Afternoon, Room 311B

Laurence A Nafie, Syracuse University, Presiding

2:00 **Introductory Remarks - Laurence A Nafie**

2:05 (2210-1) **Vibrational Spectroscopy Today: A Renaissance in Progress** PETER R GRIFFITHS, University of Idaho

2:40 (2210-2) **Vibrational Spectroscopy in Biomedical Imaging: Spectral Cytology and Spectral Pathology** MAX DIEM, Northeastern University

3:15 (2210-3) **Vibrational Spectroscopy in the Pharmaceutical and Biopharmaceutical Industries: Structure Determination with and without Chirality** RINA K DUKOR, BioTools, Inc., Laurence A Nafie

3:50 (2210-4) **Deep Raman Spectroscopy of Diffusely Scattering Media – Emerging Concepts and Applications** PAVEL MATOUSEK, Rutherford Appleton Laboratory

4:25 (2210-5) **Barcoding Bacteria by Surface Enhanced Raman Microscopy** LAWRENCE ZIEGLER, Boston University

WORKSHOP Session 2220

Lab Manager Boot Camp: Innovation and Creative Problem Solving - arranged by Mario Di Ubaldi, Lab Manager Magazine

Wednesday Afternoon, Room 311D

Pamela Ahlberg, Lab Manager Magazine, Presiding

2:00 **Introductory Remarks - Pamela Ahlberg**

2:05 (2220-1) **Innovation and Creative Problem Solving**

JEFF TOBE, Coloring Outside the Lines

ORGANIZED CONTRIBUTED SESSION Session 2230

Achievements and Challenges in Mass Spectrometry - arranged by Imma Ferrer and Michael Thurman, University of Colorado

Wednesday Afternoon, Room 307B

Imma Ferrer, University of Colorado, Presiding

2:00 (2230-1) **Who Stole Selectivity from Gas Chromatographers and Can We Get It Back?** JACK COCHRAN, Restek Corporation, Frank L Dorman, Gary Stidsen, Roy Lautamo, Shawn Reese, Jason D Thomas, Mike Wittrig, Jaap de Zeeuw

2:20 (2230-2) **Food Authenticity by Metabolomic Profiling with LC/QTOF MS, A Feasibility Study with Red Wine** JERRY ZWEIGENBAUM, Agilent Technologies, Lukas Vaclavik, Ondrej Lacina, Jana Hajslova

2:40 (2230-3) **Overcoming Analytical Tunnel Vision with a New Generation of Accurate Mass, Ultra High Resolution TOF Spectrometers** MICHAEL E MCDONELL, Bruker Daltonics, Kathy Kellersberger

3:00 (2230-4) **LC/TOF-MS Analysis of Psychoactive Drugs and Their Degradates in Wastewater: A Possible Measure of the Great Economic Depression of 2009?** MICHAEL THURMAN, University of Colorado, Imma Ferrer

3:20 **Recess**

3:35 (2230-5) **Screening of Pharmaceuticals by Liquid Chromatography Accurate Mass Spectrometry in Fish Collected from Effluent-Dominated Streams** ALEJANDRO J RAMIREZ, Baylor University, Bryan W Brooks, C K Chambliss

3:55 (2230-6) **The Use of Accurate Mass, Isotope Ratios and MS/MS for the Identification of Pharmaceuticals in Water** MICHAEL ZUMWALT, Agilent Technologies, Chin-Kai Meng

4:15 (2230-7) **Next Generation GC/MS: Gas Chromatography Coupled with Atmospheric Pressure Ionization and High Performance Mass Spectrometry** DOUGLAS M STEVENS, Waters Corporation, Anthony Newton, Steven Lai

4:35 (2230-8) **New MS Platform Design: Technology, Applications, Markets and Cost!** DANIEL PENTEK, PerkinElmer, Alessandro Baldi, Eric Denoyer, Catherine Stacey

ORGANIZED CONTRIBUTED SESSION Session 2240

Integrated Quantitative/Qualitative LC/MS: The Future of DMPK? - arranged by Jonathan Laurence Josephs, Bristol-Myers Squibb

Wednesday Afternoon, Room 207C

Jonathan Laurence Josephs, Bristol-Myers Squibb, Presiding

2:00 (2240-1) **Full Scan HRMS and the Future of Mass Spectrometry in DMPK** KEVIN BATEMAN, Merck & Co, Inc.

2:20 (2240-2) **A Multidimensional LC/MS Quantitative and Qualitative Approach in Lipidomic Biomarker Screening** JOHN SHOCKCOR, Waters Corporation, Jose Castro-Perez

2:40 (2240-3) **Comprehensive Metabolite Profiling Using an Unbiased High Resolution Accurate Mass Approach for Both Metabolite Identification and Quantitation** MARK SANDERS, Thermo Fisher Scientific

3:00 (2240-4) **Accurate DMPK: Requirements of an Ideal MS System** CARMAI SETO, MDS Analytical Technologies, Gary Impey, Yves LeBlanc, Tanya Gamble

3:20 **Recess**

3:35 (2240-5) **Bioanalysis for Steroids in Plasma by LC-MS Employing Full Scan High Resolution Mass Spectrometry Using Accurate Mass for Quantification** SCOTT DAVID STANLEY, University of California, Davis, Daniel McKemie

3:55 (2240-6) **Integrated Qualitative and Quantitative Bioanalysis for Estimation of Metabolite Exposure in Human Plasma from Early Clinical Studies** RAGU RAMANATHAN, Bristol-Myers Squibb, W Griff Humphreys

4:15 (2240-7) **Integrated Qualitative/Quantitative LC/MS Applications in Drug Discovery** JONATHAN LAURENCE JOSEPHS, Bristol-Myers Squibb, Emily C Luk, Yanou Yang, Mary F Grubb

4:35 **Discussion/Wrap Up**

ORGANIZED CONTRIBUTED SESSION Session 2250

Latest Developments in Ion Chromatography for "Matrix-Challenged" Samples - arranged by Rosanne Slingsby, Dionex Corporation

Wednesday Afternoon, Room 311C

Rosanne Slingsby, Dionex Corporation, Presiding

2:00 (2250-1) **Ion Chromatographic Analysis of Difficult Sample Matrices** DAVID SCOTT JACKSONS, US FDA

2:20 (2250-2) **Sampling of Bioprocesses Using In vitro Microdialysis Followed by Ion Chromatography-Pulsed Electrochemical Detection** SARAH M WASSINK, University of Maryland, Baltimore County, William R LaCourse

2:40 (2250-3) **Application of Two Dimensional Matrix Elimination Ion Chromatography (2D MEIC) with Suppressed Conductivity Detection for Analysis of Trace Ions in Drinking Water Matrix** KANNAN SRINIVASAN, Dionex Corporation, Rong Lin, Chris Pohl

3:00 (2250-4) **Automated In-line Sample Pretreatment Using an Integrated Electrolytic Water Purifier** JOHN M RIVIELLO, Trovion, Archava Siriraks, Rosanne W Slingsby

3:20 **Recess**

3:35 (2250-5) **United States Environmental Protection Agency Perchlorate Method 332.0. Statistical Evaluation of the Use of ^{18O}-perchlorate Internal Standard in Drinking Water** LYNN VANATTA, Air Liquide-Balazs, Rosanne W Slingsby

3:55 (2250-6) **Twenty Years of Sample Clean-up in Ion Chromatography** WILLIAM R LACOURSE, University of Maryland, Baltimore County

4:15 (2250-7) **High-Time Resolution Determination of Ions in Matrix Challenged Ambient Air Samples Using the Ion Chromatography Based URG Ambient Ion Monitor** RUSSELL WILLIAM LONG, U.S. EPA, Matthew S Landis, Christopher R Fortune, Julie M Stone

4:35 (2250-8) **New Stationary Phases for use in Combined Matrix Elimination/ion Analysis of "Matrix-challenged" Water Samples** ROSANNE W SLINGSBY, Dionex, Rida Al-Horr, Archava Siriraks, Chris Pohl

ORAL SESSION Session 2260

Biospectroscopy

Wednesday Afternoon, Room 308D

Richard W Bormett, Renishaw Incorporated, Presiding

2:00 (2260-1) **Multilayer Coated Silver Nanoparticles as Optical Labels** KYLE D DUKES, Clemson University

2:20 (2260-2) **Real-time Sensing and Detection of Single Cytokine Molecules Using Photostable Single-molecule Nanoparticle Optical Biosensors** TAO HUANG, Old Dominion

University, Prakash D Nallathamby, X Nancy Xu

2:40 (2260-3) **Antibody Conjugated Nanoparticles for Surface Bioassays** MARK MCDERMOTT, University of Alberta, Chris Grant, Ni Yang, Shereen Elbayomy

3:00 2260-4 **Mechanistic and Functional Studies of C-peptide Activation by Insulin Bound Zn^{2+}** WATHSALA MEDAWALA, Michigan State University, Patrick McCahill, Dana Spence

3:20 **Recess**

3:35 (2260-5) **Aptamer-mediated Cell Assembly and Its Application in Cell-cell Communication Study** XIANGLING XIONG, University of Florida, Haipeng Liu, Dalia C Lopez, Meghan B O'Donoghue, Ling Meng, Weihong Tan

3:55 (2260-6) **Non-invasive Angle-resolved Optical Measurements Near the Critical Angle: Pericritical Reflection Spectroscopy**

ROBERT G MESSERSCHMIDT, Rare Light, Inc.

ORAL SESSION Session 2270

Characterizing Nanoparticles and Their Biological Effects

Wednesday Afternoon, Room 308C

Apryll M Stalcup, University of Cincinnati, Presiding

2:00 (2270-1) **Utilizing Carbon-fiber Microelectrode Amperometry (CFMA) to Examine Nanoparticle Toxicity** SARA A LOVE, University of Minnesota, Christy L Haynes

2:20 (2270-2) **Determining the Collective Diffusion Coefficient, Zeta Potential and Hydrodynamic Radius of Nanoparticles via Capillary Electrophoresis** JARED S BAKER, The State University of New York at Buffalo, Luis A Colon

2:40 (2270-3) **Quantitation of Plasmid DNA on Gold Particles for Particle Mediated Epidural Delivery Using ICP-MS** COLIN D MEDLEY, Pfizer, Stephen Durban, Paul Mehelic, Charles Demarest

3:00 (2270-4) **Capillary Electrophoresis for Monitoring Bioconjugation of Protein to Nanoparticle** NI LI, University of California, Riverside, Wenwan Zhong

3:20 **Recess**

3:35 (2270-5) **Measuring the Mechanical Properties of Polymerizable Lipids: Micropipette Aspiration of Giant Unilamellar Vesicles** KRISTINA OROSZ, University of Arizona, Varuni Subramaniam, S Scott Saavedra

3:55 (2270-6) **Interaction of Micelles with Hydrophobic Surface in Nanopores** CLAUDIU BRUMARU, University of Iowa, Maxwell L Geng

4:15 (2270-7) **Physico-chemical Characterization of Nanosize Zinc Oxide and Titanium Dioxide Used as UV Sunscreen Agents in Cosmetic Formulations** ANASTASIA MORFESIS,

Malvern Instruments, Ulf Nobbmann, David Fairhurst

ORAL SESSION Session 2280

Environmental Field Studies (Half Session)

Wednesday Afternoon, Room 310A

Manuel R Miller, PA Department of Environmental Protection, Presiding

2:00 (2280-1) **Characterization of Dissolved Organic Nitrogen in Treatment Wetlands Using Atmospheric Pressure Photoionzation Fourier Transform-Ion Cyclotron Resonance Mass Spectrometry** DANIEL M OSBORNE, Florida State University, David C Podgorski, William T Cooper

2:20 (2280-2) **Field and Lab Methods Used in the Design and Implementation of the New York City Community Air Survey (NYCCAS)** HOLGER M EISL, City University of New York, John Gorczynski

2:40 (2280-3) **Evaluation of Dioxin Patterns to Apportion Pollution Sources** SCOTT RAMOS, Infometrix, Inc., Gregory L Glass

3:00 (2280-4) **Optimizing Analytical Parameters for Soil Vapor and Indoor Air Samples Using Automated Thermal Desorption/Gas Chromatography/Mass Spectrometry (ATD/GC/MS)** LEE MAROTTA, PerkinElmer LAS, Miles Snow, Stephen Varisco

ORAL SESSION Session 2290

Environmental: Calibrating for Air Analyses (Half Session)

Wednesday Afternoon, Room 310A

Manuel R Miller, PA Department of Environmental Protection, Presiding

3:35 (2290-1) **How Close to Zero is your Zero Gas?** MICHAEL E KELLEY, NIST, Gerald D Mitchell

3:55 (2290-2) **An Automated Single Piston Pump Setup for the Production of Calibration Gases** K PHILLIP SCHIERJOTT, H Woesthoff Messtechnik Gmbh, Gerd Pszolla, K Guenter Schierjott

4:15 (2290-3) **Accurate Quantification of Multi Component Protocol Gases** LYN GAMESON, NIST

4:35 (2290-4) **Traceable Calibration of Trace Levels Formaldehyde Standards Using Dynamic Dilution Generation Technique and Cavity Ring Down Spectroscopy** ROB WESSEL, VSL, Stefan Persijn, Annarita Baldan

ORAL SESSION Session 2300

GC-MS Method Development Continued and Software Development

Wednesday Afternoon, Room 205A

Ibolya Molnar-Perl, L Eotvos University, Presiding

2:00 (2300-1) **Effects of Temperature and Pressure on the Pyrolysis of Cellulose** THOMAS WAMPLER, CDS Analytical, Karen Jansson, Stephen D Wesson, Gary Deger, Ben Peters

2:20 (2300-2) **Rapid Determination of Antioxidants in Technical Oils** KYLE ANDERSON, University of Missouri, Racha Seemamahanop, Shubhen Kapila, Vander Tumiatti

2:40 (2300-3) **Hyphenation of Single Photon Ionization Mass Spectrometry with Gas Chromatography Leading to a Comprehensive Two Dimensional Approach (GCxMS)** MARKUS S ESCHNER, Helmholtz Muenchen, Thomas Groeger, Ralf Zimmermann

3:00 (2300-4) **Identification of Target Compounds by Means of Gas Chromatography and Time of Flight Mass Spectrometric Detection Supported by Dedicated Software** ALESSANDRO CASILLI, DANI Instruments SPA, Manuela Bergna

3:20 **Recess**

3:35 (2300-5) **Searching for the Unknown: GC-MS Deconvolution and Componentization** MARGARET ANTLER, Advanced Chemistry Development, Graham A McGibbon

3:55 (2300-6) **Microwave Assisted Techniques for the Analysis of Organochlorine Pollutants in Rock Matrices** MATTHEW KUSINSKI, University of Waterloo, Tadeusz Gorecki, Beth L Parker

4:15 (2300-7) **Diazomethane: A Direct Derivatization of Breakdown Products of Nerve Agents in Urine and Water** PADINJAREKUTTU R RAVIKUMAR, NYC DOH & MH, Sara T Beatrice, Ramon V Rosal, Michael Heller

4:35 (2300-8) **Gas Chromatography-mass Spectrometry of the Trimethylsilyl (oxime) Ether/ester Derivatives of Cholic Acids: Their Presence in the Aquatic Environment** IBOLYA MOLNÁR-PERL, L. Eötvös University

ORAL SESSION Session 2310

LC-MS General Interest

Wednesday Afternoon, Room 307D

Graham A McGibbon, Advanced Chemistry Development, Presiding

2:00 (2310-1) **Gas-Phase Formation of Protonated Benzene During Collision-Induced Dissociation of Certain Organic Molecular Ions Produced in Electrospray Ionization** MIN LI, Schering-Plough, Mingxiang Lin, Abu M Rustum

2:20 (2310-2) **Design and Selection of an Orthogonal Method Set for Chromatographic Method Screening** WILLIAM LONG, Agilent Technologies, Margaret Antler, Mike Allen McBrien, Alexey Galin, Andrey Vazhentsev

2:40 (2310-3) **Application of 2D-Mapping Software for Profiling Complex Mixtures** WANLONG ZHOU, Wright State University, Roger K Gilpin

3:00 (2310-4) **Qualitative Screening Software for Small Molecule** GRAHAM A MCGIBBON, Advanced

Chemistry Development

3:20 **Recess**

3:35 (2310-5) **Analysis of Samples Stored as Individual Droplets by Nanoscale Liquid Chromatography and Electrospray Ionization Mass Spectrometry** QIANG LI, University of Michigan, Jian Pei, Gary A Valaskovic, Mike S Lee, Robert T Kennedy

3:55 (2310-6) **Chromatography on Nanoparticles – Circumventing Column Contamination and Pressure Drops** DAVID MALMSTRÖM, Uppsala University, Jonas Bergquist, Peter Spegel

4:15 (2310-7) **Multiple Analytical Approaches to the Characterization of Acylphosphine Oxide Photoinitiator** AGNIESZKA CIECHACKA, Dublin City University, Raymond Leonard, Gillian McMahon, Fiona Regan

4:35 (2310-8) **Disposable Analytical Columns** JONAS BERGQUIST, Uppsala University, David Malmström, Peter Spegel

ORAL SESSION Session 2320

LC-MS Genomics, Proteomics and Other Omics

Wednesday Afternoon, Room 311A

Na Yang, University of Michigan Medical Center, Presiding

2:00 (2320-1) **Identification of Tyrosine Nitration Sites in UCHL1 and GAPDH** JOY GUINGAB, University of Florida, Stanley Stevens, Firas Kobaissy, Kevin Wang

2:20 (2320-2) **Streamlined Bacterial Protein Processing for Mass Spectrometry-based Proteomics Identification** RABIH E JABBOUR, Science Applications International Corporation, Samir V Deshpande, Michael F Stanford, Charles H Wick, Alan W Zulich, A Peter Snyder

2:40 (2320-3) **A Label-free Quantitative Analytical Approach for Phosphopeptide Profiling** XIAOLEI XIE, University of Michigan, Shun Feng, Huy Vuong, Yashu Liu, Steve Goodison, David M Lubman

3:00 (2320-4) **Ultra-high-performance NanoLC-MS/MS Analysis of Complex Proteomic Samples** EVERT-JAN SNEEKES, Dionex, Bjorn De Haan, Remco Swart

3:20 **Recess**

3:35 (2320-5) **Rugged 2D Column Switching Universal Platform: An Integrated Approach** EDUARD ROGATSKY, Albert Einstein College of Medicine, Daniel T Stein

3:55 (2320-6) **Single Mobile Phase Method for LC/MS-TOF Analysis of Hydrophilic Metabolites in Positive & Negative Ion Modes** JOSEPH PESEK, San Jose State University, Maria Matyska, Steven Fischer, Theodore Sana

4:15 (2320-7) **^{13C} Metabolic Fluxes in INS-1 Cells Analyzed by Capillary LC-nanoESI Mass Spectrometry** CHUNHAI RUAN, University of Michigan, Robert T Kennedy

4:35 (2320-8) **Urinary Glycoprotein Biomarker Discovery for Bladder Cancer Using Multi-lectin Affinity Chromatography and LC-MS/MS** NA YANG, University of Michigan, Feng Shun, Charles J Rosser, Steve Goodison, David M Lubman

ORAL SESSION Session 2330

Liquid Chromatography - Method Development IV

Wednesday Afternoon, Room 307A

Gary W Yanik, PDR-Chiral, Inc., Presiding

2:00 (2330-1) **Meeting the Challenge of HILIC without Acetonitrile** RICARDO GONZALEZ, Virent Energy Systems, Ryan W Wilkinson

2:20 (2330-2) **Preferred Columns and Conditions for Achieving Quantitative HPLC Performance in the HILIC Separation Mode** MERLIN K BICKING, ACCTA, Inc., Richard A Henry

2:40 (2330-3) **Retention and Selectivity in Aqueous-Normal Phase/HILIC Separations** DAVID S BELL, Supleco/Sigma-Aldrich, Carmen T Santasania, Craig R Aurand

3:00 (2330-4) **Development and Evaluation of A New Entrapment Method for Protein Immobilization in High Performance Affinity Chromatography** ABBY J JACKSON, University of Nebraska-Lincoln, David S Hage

3:20 **Recess**

3:35 (2330-5) **Optimizing the Performance of Old and New Generation HPLC Separations** JASON ANSPACH, Phenomenex, Gareth Friedlander, Lawrence Y Loo, Carl Sanchez, Tivadar Farkas

3:55 (2330-6) **Achieving Thermal Fidelity for Robust UPLC Methods and Easy Transferability** TANYA JENKINS, Waters Corporation, Patricia McConville, Daniel Root

4:15 (2330-7) **Effect of Pressure and Temperature on the Elution Strength of Aqueous and Modified Aqueous Mobile Phases for Reversed-Phase Liquid Chromatography** ZAHRA M ALGHOUL, Florida State University, John G Dorsey

4:35 (2330-8) **Issues Affecting the Analysis of Data Arising from Comprehensive Two-dimensional-liquid Chromatography with Diode Array Detection (2D-LC-DAD)** HOPE P BAILEY, Virginia Commonwealth University, Sarah C Rutan

ORAL SESSION Session 2340

Polymer Developments

Wednesday Afternoon, Room 310B

Thomas J Conti, The Pittsburgh Conference, Presiding

2:00 (2340-1) **Multifunctional Molecular Conjugate as a Tool in Cancer Therapy** LIU YANG, University of Florida, Weihong Tan

2:20 (2340-2) **Separation of 3-hydroxybutyrate-co-3-hydroxyvalerate Polyhydroxyalkanoate Copolymers by Gradient Polymer Elution Chromatography** CHERIE OWENS, The Ohio State University, Susan V Olesik

2:40 (2340-3) **Study of Selectivity and Permeability of Fluorous Compounds through Novel Teflon-AF Films** LEI HONG, University of Pittsburgh, Stephen G Weber

3:00 (2340-4) **A Rapid and Simple Thermal Desorption-GC/MS Method for the Determination of Phthalates in Plastic Children's Toys** ROBERT FREEMAN, Quantum Analytics, Tetsuro Yuzawa, Chuichi Watanabe

3:20 **Recess**

3:35 (2340-5) **The Direct Determination of Residual Bisphenol A Using Thermal Desorption (TD) – GC/MS** ROBERT FREEMAN, Quantum Analytics, Tetsuro Yuzawa, Chuichi Watanabe

3:55 (2340-6) **Palm-size Materials Identification Tool for Plastics Manufacturing Utilizing a Miniature Raman Spectrometer** MICHAEL KAYAT, Intevac Photonics DeltaNu, Bryan Ray, Justin Lairscey

4:15 (2340-7) **Measuring Trace Levels of Copolymers in Polycarbonate Using Chemical Degradation as a Precursor to Chromatographic Analysis** DAVID ZOLLER, SABIC Innovative Plastics

4:35 (2340-8) **Synthesis and Characterization of Novel Heterocyclic Polymeric Dyes with Good Dyeing Properties** SMITA MANISH JAUHARI, Sardar Vallabhbhai National Institute of Technology

ORAL SESSION Session 2350

Raman/IR Imaging II (Half Session)

Wednesday Afternoon, Room 307C

Emil W Ciurczak, Cadral Technical Group, Presiding

2:00 (2350-1) **Development of a Multivariate Hyperspectral Raman Imaging Spectrometer** BRANDON DAVIS, Purdue University, Amanda Hemphill, Chris Dettmar, Dor Ben-Amotz

2:20 (2350-2) **Application of Infrared Chemical Imaging for the Study of Dynamic Reactions on the Sub-millisecond Timescale Through the Use of Microfluidic Devices** JONAH PREVOST KIRKWOOD, Varian Inc., Ashraf A Ismail, Jacqueline Sedman, Moeed Haq

2:40 (2350-3) **In-situ Imaging of Usnic Acid in Selected *Cladonia* sp by Vibrational Spectroscopy** CATHERINE R LIAO, The University of Manitoba, John L Sorensen, Michele D Piercey-Normore, Kathleen M Gough

3:00 (2350-4) **Synchrotron Infrared Confocal Microspectroscopic Detailed Mapping Reveals Naturally Occurring Phosphate Groups in Individual Starch Granules** DAVID L WETZEL, Kansas State University, Yongcheng Shi

ORAL SESSION Session 2360

Sampling & Sample Preparation - Bioanalytical Applications

Wednesday Afternoon, Room 309AB

Olujide T Akinbo, Butler University, Presiding

2:00 (2360-1) **Evaluation of Needle Trap Devices, SPME and SPME on-fibre Derivatization for Clinical Breath Analysis** BASTIAN SABEL, University Rostock, Maren Mieth, Sabine Kischkel, Patricia Fuchs, Jochen K Schubert, Wolfram Miekisch

2:20 (2360-2) **In vivo Sampling Using Miniaturized SPME Probes, Review of Calibration Procedures** HEATHER L LORD, University of Waterloo, Joanne C Yeung, Dajana Vuckovic, Janusz Pawliszyn

2:40 (2360-3) **Immunoisolation of Functional Peroxisomes to Study Peroxisomal Xenobiotic Biotransformation** YAOHUA WANG, University of Minnesota, Leon G Clark, Edgar A Arriaga

3:00 (2360-4) **Does Your Research Involve the Use of a Human Specimen? Understanding How Quality Affects Your End Readout** MARK DAVID LIM, National Cancer Institute, NIH, Carolyn C Compton

3:20 **Recess**

3:35 (2360-5) **SPME-LC-MS/MS Method Development for Monitoring of Neurotransmitters** ERASMUS CUDJOE, University of Waterloo, Ehsanul Hoque, Janusz Pawliszyn

3:55 (2360-6) **High Spatial and Temporal Resolution Monitoring of Neurotransmitters in the Brain with Segmented Flow-coupled Low-flow Push-pull Perfusion** THOMAS R SLANEY, University of Michigan, Meng Wang, Robert T Kennedy

4:15 (2360-7) **ESI-MS Protein Analysis Employing an In-line C-CP SPE Technique** CAROLYN E QUARLES, Clemson University, R Kenneth Marcus

4:35 (2360-8) **Pretreatment of Biological Fluids Using the Advanced Oxidation Process** STEFANIE A BRAGG, University of Tennessee, James Q Chambers, Zi-ling Xue

ORAL SESSION Session 2370

Surface Enhanced IR and Raman (Half Session)

Wednesday Afternoon, Room 307C

Emil W Ciurczak, Cadral Technical Group, Presiding

3:35 (2370-1) **Optimized SEIRA Substrate Fabrication by Physical Vapor Deposition: Influence of the Choice of Underlying Substrate, Film Thickness, Angle of Deposition, and Substrate Rotation on the SEIRA Response** MICHELLE KILLIAN, University of South Carolina Aiken, Simona Murph, Eliel Villa-Aleman, Chad Leverette

3:55 (2370-2) **Physical Vapor Deposition vs. Electroless Deposition: A Comparison of Two Popular SEIRA Substrate Fabrication Methods** CHAD LEVERETTE, University of South

Carolina Aiken, Michelle Killian, Brent Peters, Simona Murph, Eliel Villa-Aleman

4:15 (2370-3) **SEIRA Investigation of Substrate Mediated Reduction of Nitro Compounds Adsorbed on Silver Nanoparticles on a Germanium Substrate** AYUBA FASASI, University of Idaho, Peter R Griffiths, Liou M Yen-Chen, Yang Jyisy

4:35 (2370-4) **Highly Sensitive SER-active Sol-gel Substrates** ATANU SENGUPTA, Real-Time Analyzers, Frank E Inscore, Chetan S Shende, Stuart Farquharson

POSTER SESSION Session 2380

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Clinical and Toxicological Analyses

Wednesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(2380-1 P) **The Response to Volatile Organic Compounds Found in the Human Breath at Physiologic Concentrations** ELADIO A MENDEZ, Florida International University

(2380-2 P) **Dimethyl Fumarate in Shoes: A Novel Potent Contact Sensitizer, Analytical Method Proposed for Its Monitoring** ALFREDO LO BALBO, Centro de Investigaciones Toxicológicas, Mariano Gotelli , Carlos Gotelli

POSTER SESSION Session 2390

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Digital Microanalysis

Wednesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(2390-1 P) **Passive Microfluidic Device for High-throughput Sampling of Single Islet Secretions** CHRISTOPHER J EASLEY, Auburn University, Leah A Godwin

(2390-2 P) **Nanovolume Optimization of Protein Crystal Growth Using the Microcapillary Protein Crystallization System** CORY GERDTS, Emerald BioSystems, Glenn Stahl, Bart Staker, Peter Nollert, Lance Stewart

(2390-3 P) **Profiling and Performing Reactions in Microdroplets** ANGELA M JOVANOVIC, Duquesne University, Sean C Pawlowski, Mitchell E Johnson

(2390-4 P) **A Droplet-based Microfluidic Device for Single Immune Cell Characterization** DONGHYUK KIM, University of Minnesota, Christy L Haynes

(2390-5 P) **Use of Virtual Air Walls in PDMS Microfluidic Devices for Bioanalytical Applications** HSUAN HONG LAI, University of North Carolina, Wei Xu, Nancy L Allbritton

(2390-6 P) **Optimization of Laser Induced Fluorescence for the Detection of Microdroplets** SEAN C PAWLOWSKI, Duquesne University, Mitchell E Johnson

POSTER SESSION Session 2400

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Environmental: Air, Aerosol, Soil Gas Analyses

Wednesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(2400-1 P) **Online, Cryogen-free Monitoring of Trace-level Ultra-volatile Fluorinated Compounds with High Global Warming Potential** NICOLA M WATSON, Markes International Ltd., Elizabeth Woolfenden, John Dwan

(2400-2 P) **Expanding the Molecular Weight Range of Whole Air Sampling with Stainless Steel Canisters Using Active SPME Sample Preparation and GCMS Analysis** THOMAS XAVIER ROBINSON, Entech Instruments, Inc., Daniel B Cardin, Christopher Casteel

(2400-3 P) **Fabrication of the Photoacoustic Resonant Cell for Trace Gas Analysis** LAKSHMI M PRASAD, ELICO Limited, Ramesh Datla, K Malakondaiah

(2400-4 P) **Determination of the Anhydrosugars Levoglucosan, Mannosan and Galactosan in Aerosols** JAY GANDHI, Metrohm USA, Christine Hack, Thomas Kolb, German Bogenschuetz

(2400-5 P) **Starvation Effect Role in the Application of Vial-based Permeation Passive Samplers for Soil Gas Sampling** TADEUSZ GORECKI, University of Waterloo, Suresh Seethapathy, Todd McAlary, Hester Groenevelt

(2400-6 P) **Comparison of the Performance of Vial-based Permeation Passive Samplers and Commercial Diffusive Samplers in Soil Gas Sampling at a Contaminated Site** TADEUSZ GORECKI, University of Waterloo, Suresh Seethapathy

(2400-7 P) **Testing Chemical Emissions From Products and Materials in a Routine QC Environment** PETER HUGHES, Markes International Ltd., Elizabeth Woolfenden, John Dwan

(2400-8 P) **Applying Spectroscopic Techniques to the Optimization of Automatic Fire Extinguishing Systems (AFES) in Military Vehicles** MELISSA REINARD STEFFEN, Aberdeen Test Center, Michael Chapman, Edward Myers

(2400-9 P) **Analysis of Airborne Particulate Matter by PILS-IC** JAY GANDHI, Metrohm USA, Peter Jones

(2400-10 P) **Detection of Tics with a Gas Sensor Array System (Electronic Nose)** WOLF MUENCHMEYER, Airsense Analytics, Andreas Walte, Bert Ungethuem

(2400-11 P) **Portable Open-path Optical Remote Sensing (ORS) FTIR Instrumentation Miniaturization and Software Breakthroughs for Point and Click Real-time Analysis** PETER G ZEMEK, MIDAC, Steven V Plowman

(2400-12 P) **Automated Sample Pretreatment of Environmental Samples Before Ion Analysis** BERNARD G SHELDON, Dionex Corporation

(2400-13 P) **Biodegradation of Chlorinated Hydrocarbons in Groundwater of Northwestern Taiwan** JENN-RU SHAO, Tsing Hua University

(2400-14 P) **Development of Solvent Extraction System with FIA for Superheavy Element Chemistry** YUKI KUDOU, RIKEN Nishina Center for Accelerator-Based Science, Hiromitsu Haba, Yoshitaka Kasamatsu, Kosuke Morita, Yutaka Ezaki

(2400-15 P) **An Automated Liquid Handling Strategy for Complex Matrices in Agricultural and Environmental Samples** MEGAN CLAY, Gilson, Inc., Mike Halvorson, Toni Hofhine

POSTER SESSION Session 2410

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Environmental: Analysis of Biological Materials

Wednesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(2410-1 P) **Time-resolved PCA Imaging for Chlorophyll Fluorescence Induction to Monitor the Water Condition in Leaf** HIKARU KOBORI, Nagoya University, Satoru Tsuchikawa

(2410-2 P) **Further Explorations of Phytoremediation of Arsenic from Soils and Waters: Sunflowers** MARK T STAUFFER, University of Pittsburgh at Greensburg, Tara L Delanoy, Jason R Pekarik

(2410-3 P) **Characterization of Low Molecular Weight Compounds in Blood Plasma of the Marine Mussel, *Mytilus edulis* - Metal Binding and Potential Role as a Biomarker** RAHUL S MANMODE, University of Massachusetts Lowell, David K Ryan

(2410-4 P) **Determination of PBDEs in Fish Meat by GCMS with On-line Sample Clean Up** JIN-QIANG ZHANG, Shimadzu International Trading (Shanghai) Co., Ltd., Jun Fan, Xiaoli Deng, Yuki Hashi, Lei Cao

(2410-5 P) **Combined Mass Spectrometry and UV Spectrophotometry for Cyanotoxin Chlorination Understanding** SYLVAIN MEREL, French School of Public Health (EHESP), Michel Clement, Olivier Thomas

(2410-6 P) **Enhanced CID Efficiency of Brevetoxins and Unraveling of Novel Fragmentation Pathways in Negative Ion Electrospray Mass Spectrometry** WEIQUN WANG, University of New Orleans, Richard B Cole

POSTER SESSION Session 2420

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the

posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Environmental: Analysis of Organic Constituents

Wednesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(2420-1 P) **Mass Spectrometer Analysis of Motor Oil Constituents in Surfactant Solutions** THOMAS PETER YAVARASKI, University of Michigan, Peter Adriaens

(2420-2 P) **Determination of Oil, Grease and Petroleum Hydrocarbons in Industrial and Environmental Samples by Infrared Spectrometry** ANIRUDDHA DATTATRAYA PISAL, PerkinElmer, Ben Perston, Dean Brown

(2420-3 P) **Contaminated Soil Analysis by Hyphenated Thermogravimetry and Infrared Spectroscopy Analytical Techniques** ANDREW WALKER SALAMON, PerkinElmer Corporation, Maria G Garavaglia, Robert John Packer, Peng Ye, Kevin P Menard

(2420-4 P) **Utilization of a Hybrid Micelle-Ionic Liquid Extraction Solvent for Headspace Single Drop Microextraction of Aromatic Compounds from Water Samples** PAMELA TWU, The University of Toledo, Cong Yao, Jared L Anderson

(2420-5 P) **LC-MS Method for the Direct Determination of Trace N-Methyl Carbamates in Water Samples** LEO (JINYUAN) WANG, Dionex Corporation, William C Schnute

(2420-6 P) **Sample Clean-up Methods for PCDD/Fs and PBDEs Based on Automated Sample Prep System** TOM K DOBBS, J2Scientific

(2420-7 P) **Separation of Tetra- Through Octachlorine 2,3,7,8 Substituted Dioxins and Furans on High Arylene Modified VF-Xms Column** JOHAN KUIPERS, Varian B.V., Andrea Agostini, Paolo Altemura, Valeria Filippi

(2420-8 P) **Analysis of Dioxins Using Gas Chromatography/multiphoton Ionization/time-of-flight Mass Spectrometry** YUKA WATANABE-EZOE, Kyushu University, Xing Li, Tomohiro Uchimura, Totaro Imasaka

(2420-9 P) **Development of Carbon Nanotube-Polymer Composites for Hydrocarbon Sensing in Aqueous Environments** BOBBY PEJCIC, CSIRO, Petroleum Resources Division, Emma Crooke, Matt Myers, Xiubin Qi, Andrew Ross, Murray Baker

(2420-10 P) **Analysis of High-Molecular Weight Polycyclic Aromatic Hydrocarbons in Water Samples by Solid-Phase Nanoextraction and Laser-Excited Time-Resolved Shpol'skii Spectroscopy** WALTER B WILSON, University of Central Florida, Huiyong Wang, Andres D Campiglia

(2420-11 P) **Analysis of Polynuclear Aromatic Hydrocarbons Using a New Column** JASON D THOMAS, Restek Corporation, Jack Cochran, Frank L Dorman, Mike Wittrig, Gary Stidsen

(2420-12 P) **Polar Nano Stationary Phase GC Capillary Columns for Environmental Sample Analysis by GC** KRISHNAT P NAIKWADI, J & K Scientific Inc., Allen J Britten

(2420-13 P) **Ultra Trace Analysis of Pesticides in Water Using On-Line SPE and LC/MS/MS with a Vortex Electrospray Ionization Source** TIFFANY PAYNE, Varian, Inc., Ed George

(2420-14 P) **Improved Performance for GC Columns** PAUL WHEELER, Thermo Fisher Scientific,

Luisa M Pereira, Rob Bunn

(2420-15 P) **Withdrawn**

(2420-16 P) **Systematic Approach Using Mix-phase to Improve the Sample Clean-up of Phenols in Water** JING ZHAO, Agela Technologies

(2420-17 P) **Total Organic Carbon Analysis of Solid Samples for Environmental and Quality Control Applications** JEFFREY LANE, O I Analytical, William Lipps, Gary Engelhart

(2420-18 P) **Combining Hardware, Software, and Chromatography to Improve the GC-MS Analysis of Semi-Volatile Organic Compounds** ERIC W PHILLIPS, Thermo Fisher Scientific, Jessie Butler, Jason Cole, Trisa Robarge, Jim Edwards

(2420-19 P) **Latest Advances in the Analysis of Volatile Organic Compounds by GC-Single Quadrupole MS** ERIC W PHILLIPS, Thermo Fisher Scientific, Jessie Butler, Jason Cole, Trisa Robarge, Jim Edwards

(2420-20 P) **Determining Volatile Organic Compounds from Difficult Soil Matrices Utilizing both Headspace and Purge and Trap Techniques** ANNE JUREK, Teledyne Tekmar, Roger Bardsley, Thomas Hartlein, Stephen Lawson

(2420-21 P) **Analysis of Odorants in Drinking Water by GC-TOFMS and GCxGC-TOFMS** JOE E BINKLEY, LECO Corporation, Scott Pugh

(2420-22 P) **Thick Film Nano Stationary Phase GC Columns for Volatile Organic Compounds** ALLEN J BRITTEN, Cape Breton University, Krishnat P Naikwadi

(2420-23 P) **Specificity and Robustness Validation Testing in Total Organic Carbon (TOC) Water Analysis** JONATHAN YOURKIN, GE Analytical Instruments

(2420-24 P) **Rapid Dissolved Gas in Oil Analysis with Head Space/Micro-GC Coupling** RONAN COZIC, SRA Instruments, Lise Bonvalot, Xavier Cardot

(2420-25 P) **Detection of Voc and Orods by Autonomous Gas Sensor Array Systems** WOLF MUENCHMEYER, Airsense Analytics, Andreas Walte, Bert Ungethuem

(2420-26 P) **Urinary Excretion Kinetics of Polycyclic Aromatic Hydrocarbon Metabolites Following Dietary Exposure** LOVISA ROMANOFF, Centers for Disease Control and Prevention, Zheng Li, Erin Pittman, Debra Trinidad, Kevin Hand, Sandra Lester, Michael McClean, Webster Thomas, Andreas Sjodin

(2420-27 P) **Small Multicolumn GC-PID for Detection of VOCs** HENDRIK FISCHER, Hamburg University of Technology, Joern Frank, Isabel Pérez, Wolfgang Schroeder, Gerhard Matz

POSTER SESSION Session 2430

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Environmental: Analysis of Pharmaceuticals and Personal Care Products in Water

Wednesday Afternoon, Blue Area - Hall A2, Aisles 700 - 1300

(2430-1 P) **Development of an Analytical Method for Analyzing Antibiotics and Others Pharmaceuticals in Wastewater by LC-MS/MS** VÉRONIQUE BOIREAU, CAE - Veolia Environment, Valérie Ingrand, Aurélien Raimbault

(2430-2 P) **Use of LC-PDA Technique in Monitoring Antibiotics and Their Products in Oxidative Treatment by Ferrate** GEORGE AK ANQUANDAH, Florida Institute of Technology, Virender K Sharma

(2430-3 P) **Determination of Triclosan, Triclocarban and Related Transformation Products in Aqueous Samples Using SPME-HPLC-DAD** JIA CHERNG GASTON WU, National Taiwan University, Jermiah YH Shen, Sheng-Hsiung Yang, Matt SC Chang

(2430-4 P) **Identifying Pharmaceuticals and Personal Care Products in Water, Biosolids and Solids** ELIZABETH GROTZKE, Fluid Management Systems, Inc.

(2430-5 P) **Accelerated LC/MS/MS for the Quantitation and Identification of Pesticides, Pharmaceuticals, and Personal Care Products in Surface Water Samples** ANDRE SCHREIBER, Applied Biosystems, Rolf Kern, Christopher Borton, Pace Nadia, Robert Ellis

(2430-6 P) **In vivo Solid-Phase Microextraction (SPME) for Monitoring of Pharmaceutically Active Compounds (PhACs) in Fish** XU ZHANG, University of Waterloo, Ken Oakes, Mark Servos, Janusz Pawliszyn

(2430-7 P) **Endocrine Disrupter Compounds in the Environment** GAËLA LEROY, Veolia, Valérie Ingrand

(2430-8 P) **Investigation of Pharmaceuticals and Personal Care Products in Missouri Natural and Drinking Water Using LC-MS/MS** CHUAN WANG, Missouri University of Science and Technology, Honglan Shi, Craig D Adams, Terry Timmons, Yinfa Ma, Sanjeewa Gamagedara

(2430-9 P) **Effect of Natural Organic Matter on the Detection and Quantification of EDCs/PPCPs in Watersheds from Different Geographical Locations Using SPE and UPLC-MS/MS** SAMANTHI WICKRAMASEKARA, University of Arizona, Selene Hernandez Ruiz, Leif Abrell, Alandra Kahl, Maxfield Disante, Jon Chorover

POSTER SESSION Session 2440

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 1:00 PM to 3:00 PM. Location of the posters is on the center of the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Food Science - Components and Contaminants II

Wednesday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(2440-1 P) **Simple and Direct Analysis of Phytosterols by Reverse Phase HPLC and Charged Aerosol Detection** MARC PLANTE, ESA Biosciences, Inc., Christopher A Crafts, Bruce Bailey, Paul H Gamache, John Waraska, Ian N Acworth

(2440-2 P) **Chromatographic and Spectroscopic Analysis of Yerba Mate and Green Tea Infusions** JERZY MIERZWA, University of Central Florida, Christophe Brandily

(2440-3 P) **Detection of Isoflavones in a Dietary Supplement Using UPLC-UV/MS** SHARANYA REDDY, PerkinElmer, David F Negrotti, Avinash Dalmia, William Goodman

(2440-4 P) **Food & Beverage Load Monitoring for (TOC) Total Organic Carbon** THOMAS SZAKAS, GE Analytical Instruments, Steve Austin, Caryn Cullen

(2440-5 P) **UHPLC of Polyphenols in Red Wine** JOHN W HENDERSON JR, Agilent Technologies, Judy Berry, William Long

(2440-6 P) **Removing the Need for Extractions in the Analysis of Pesticides Using Triple Quadurpole GC/MS System** ERIC W PHILLIPS, Thermo Fisher Scientific, David Steiniger, James Chang, Hans-Joachim Huebschman

(2440-7 P) **Simultaneous Determination of Water-Soluble Vitamins in Two Fortified Food Reference Materials by Liquid Chromatography/Isotope Dilution Mass Spectrometry** ROBERT J GOLDSCHMIDT, USDA, ARS, BHNRC, FCL, Wayne R Wolf

(2440-8 P) **Visual Analysis of Food Products Using a Vision Machine** JEAN-CHRISTOPHE MIFSUD, Alpha MOS, Xavier Bredzinski, Michaël Lebrun, Alain Gaudon, Geneviève Carayon, Marion Bonnefille

(2440-9 P) **Analysis of Phenolic Constituents and Furans in Whiskey by LC TOF** SUSAN DANTONIO, Agilent Technologies, Rita Steed, Luke Adam, Lynne Marshall, Andre Szczesmoewslo

(2440-10 P) **A Cookbook Method for Integrated Sample Preparation for Dioxin analysis in Food** TOM HALL, Fluid Management Systems, Inc.

(2440-11 P) **Determination of THM in Soft Drink by Solid-phase Microextraction and Gas Chromatography** EDUARDO CARASEK, Federal University of Santa Catarina, Marcel S dos Santos

(2440-12 P) **Quantitative Determination of Gamma Butyrolactone in Beverages by Colorimetric Method** YI HE, John Jay College / CUNY, Marta Ekstrom, Ellen Siu, Teesha Narayne

(2440-17 P) **Method Development and Validation for the Analysis of Chokecherry Using HPLC and LC-MS** Yuping V. Williamson, Bio-Botanica, Inc., 75 Commerce Drive, Hauppauge, NY 11788, Frank S. D'Amelio, Youssef W. Mirhorn

POSTER SESSION Session 2450

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Industrial Hygiene

Wednesday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(2450-1 P) **New Solvent Desorption Tube for Sampling Diacetyl and Acetoin** JAMIE L BROWN, Supleco/Sigma-Aldrich, Leonard Sidisky, Kristen Schultz

POSTER SESSION Session 2460

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LC-MS Methodologies

Wednesday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(2460-1 P) **Problems Measuring Analytes by LC-MS? Try EC-Assisted LC-MS** IAN N ACWORTH, ESA Biosciences, Inc., Paul H Gamache, David Meyer, John Waraska

(2460-2 P) **Efficient Methods for Determination of Metal Deactivators in Insulating and Lubricating Oils** KYLE ANDERSON, University of Missouri, Shubhen Kapila, Racha Seemamahanop, Vander Tumiatti

(2460-3 P) **A Quantitative Assessment of Large Scale Data Processing for LC/UV & MS Based Compound QC** MARK A BAYLISS, Virscidian Inc., Joseph Simpkins

(2460-4 P) **Universal Tool for On-Line Processing and AIterative Analysis** JENNIFER BUSBY, Scripps Florida, Kristie Rose, Valerie Cavett, Bruce Pascal

(2460-5 P) **Determination of Illicit Drugs and Their Metabolites in Water Using Fast Solid-phase Extraction and Ultra-Performance Liquid Chromatography/Tandem Mass Spectrometry** CHIA-YANG CHEN, National Taiwan University, Yu-Ting Feng, I-Ting Wang, Gen-Shuh Wang

(2460-6 P) **Speciation of the Bioaccessible Fraction of Arsenic in Rice Using IC-ICP-MS** PATRICIA A CREED, US Environmental Protection Agency, John T Creed, Heather Trenary, Madhavi Mantha, John T Trent, Andrea R Young, Christina M Gallawa, Schwegel Carol

(2460-7 P) **Multidimensional Chromatography of Polar Neutral Lipid Extracts** ERIN DIVITO, Duquesne University, Kristin M Kroniser, Mitchell E Johnson

(2460-8 P) **On-Line Electrochemical/LC-MS Techniques for Profiling and Characterizing Metabolites and Reactive Species** PAUL H GAMACHE, ESA Biosciences, Inc., John Waraska, Ian N Acworth

(2460-9 P) **Evaluation of Precision, Accuracy and Dilution Reliability in Upper Portions of Quadratic Calibration Curves in Bioanalytical Methods** FABIO GAROFOLO, Algorithme Pharma Inc., Alexandre Cadieux

(2460-10 P) **Elimination of LC-MS/MS Matrix Effect Due to Phospholipids Using Specific Solid Phase Extraction (SPE) Elution Conditions** FABIO GAROFOLO, Algorithme Pharma Inc., Mathieu Lahaie, Jean-Nicholas Mess, Milton Furtado

(2460-11 P) **Determination of PBDEs in Fish Meat by LCMS with On-line Sample Clean Up GPC System** FENG JI, Shimadzu International Trading (Shanghai) Co., Ltd., Jin-Ting Yao, Hong-yuan Hao, Lei Cao, Yuki Hashi

(2460-12 P) **Analysis of Polybrominated Diphenyl Ethers (PBDEs) by Liquid Chromatography with Negative-Ion Atmospheric Pressure Photoionization Tandem Mass Spectrometry (LC/NI-APPI/MS/MS) and Gas Chromatography Electron Capture**

Negative Ionization Mass Spectrometry (GC/ECNI-MS). Method Validation and Application to Automobile Dust ANTHONY LAGALANTE, Villanova University, Timothy Oswald, Courtney Shedden, Peter Greenbacker

(2460-13 P) **Non-enzymatic Glycation of Melamine with Sugar and Sugar Like Compounds** WEIXI LIU, University of Rhode Island, Menashi A Cohenford, Padmanie C Seneviratne, Joel A Dain

(2460-14 P) **Quantifying Diethylene Glycol in Liquid Pharmaceuticals** GERTRUDIS P MORALES-A, CDC/Battelle, Samuel E Baker, Dana B Barr, Amanda M Bishop, Larry L Needham

(2460-15 P) **Zero Carry-over with Enabled Improved and Flexible Sample Injection for High Sensitive Trace UHPLC Triple Quadrupole MS Analysis** EDGAR NAEGELE, Agilent Technologies, Stephan Buckenmaier

(2460-16 P) **High-throughput UHPLC/MS for Bioanalysis Using 1mm Columns** DAVID NEYER, Eksigent Technologies, Steve Hobbs, Remco van Soest

(2460-17 P) **Determination of Impurities in Pharmaceutical Products by 2D-LC Combined with LCMS-IT-TOF Mass Spectrometer** KUNIHIRO OKIYUKI, Shimadzu Corporation, Hayakawa Yoshihiro, Maruyama Shuzo, Yamaki Satoshi

(2460-18 P) **Increased Throughput for Vitamin D Analysis Utilizing a Multiple Parallel LC-MS/MS System** TANIA A SASAKI, Applied Biosystems, Adrian M Taylor, David M Cox, Min Yang, John Gibbons

(2460-19 P) **Forensic Multi-Target Screening and General Unknown Screening on an LC/MS/MS System with Automatic Library Searching for Compound Identification** TANIA A SASAKI, Applied Biosystems, Pauline Vollmerhaus, Andre Schreiber

(2460-20 P) **Development and Application of a Pesticide Library for the Identification and Confirmation Analysis in Various Sample Matrices by LC/MS/MS** ANDRE SCHREIBER, Applied Biosystems, Lutz Alder

(2460-21 P) **High Sensitive and High Throughput Analysis of Diltiazem Metabolites Using LC/TOF-MS** NORIKO SHOJI, YMC Co., Ltd., Naohiro Kuriyama, Chie Yokoyama, Jun Watanabe, Haruo Hosoda, Joji Seta, Noriyuki Iwasaki

(2460-22 P) **Sensitive and Accurate Determination of Tranexamic Acid in Human Skin by a Novel LC/MS Method Coupling an HILIC Column and a Unique Internal Standard** HAYATO TAKAHASHI, Shiseido Co., Ltd., Akira Motoyama, Satoru Takamatsu, Masahito Hayashi

(2460-23 P) **Liquid Chromatography Ion Trap Mass Spectrometry for the Analysis of Target and Unknown Extractable Materials in Beverage Packaging** KURT THAXTON, Varian Inc.

(2460-24 P) **Speciation Analysis of Gadolinium Chelates in Hospital Effluents and Wastewater Treatment Plant Sewage by a Novel HILIC/ICP-MS Method** MARTIN VOGEL, University of Muenster, Jens Kuennemeyer, Lydia Terborg, Bjoern Meermann, Christine Brauckmann, Uwe Karst

(2460-25 P) **Determination of Hydrazines in Aqueous and Soil Samples by LC/MS/MS** JIA WANG, Lancaster Laboratories, Chuck Neslund

(2460-26 P) **IC-MS Determination of Anionic Ionic Liquids, Counter-ions and Impurities** LEO (JINYUAN) WANG, Dionex Corporation, William C Schnute

(2460-27 P) **Characterization of Phenolic Antioxidants and Related Structures in Distillates and Flavor Ingredients by LC/DAD/MS** MICHAEL WOODMAN, Agilent Technologies, Jerry Zweigenbaum

(2460-28 P) **Improved Sample Injection Performance on UHPLC System** YOSHIAKI MAEDA, Shimadzu Corporation, Ken-ichi Yasunaga, Masami Tomita, Shuzo Maruyama, Yoshihiro Hayakawa, Takafumi Nakamura

(2460-29 P) **Capillary Liquid Chromatography Tandem Mass Spectrometry for High Sensitivity Metabolomic Analysis** PENG SONG, University of Michigan, Robert T Kennedy

(2460-30 P) **Multiple Assays of the Early Diabetic Rat Vitreal Fluid** JEANITA S PRITCHETT, University of Illinois, Nikolay V Kocherov, Scott A Shippy

POSTER SESSION Session 2470

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Microchips: Bioanalytical Separation and Analysis

Wednesday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(2470-1 P) **Microfluidic Pre-concentration of Cells from Large-volume Samples for World-to-chip Interfaces** I-JANE CHEN, University of Maryland, Ian White

(2470-2 P) **Microtable Arrays for Cell Separation** JENG-HAO PAI, University of North Carolina, Chapel Hill, Wei Xu, Christopher E Sims, Nancy L Allbritton

(2470-3 P) **Microchip Electrophoresis Coupled with Chemiluminescence Detection Enhanced by Enzyme-coated Superparamagnetic Nanoparticles** ZHENG YI, Jackson State University, Yiming Liu

(2470-4 P) **Using Microfluidics and Mass Spectrometry to Study Peptide Release in *Aplysia californica* Neurons** CALLIE A CROUSHORE, University of Illinois, Urbana-Champaign, Ming Zhong, Jonathan V Sweedler

(2470-5 P) **Two-parameter Detection with a Single Detector Using Fluorescence Nanoparticles for HIV Screening** PARK EUNHEE, Digital Biotechnology

(2470-6 P) **Quantification of Pteridine Levels in Urine Samples by Chip Electrophoresis with Laser Induced Fluorescence Detection** STEPHEN E GIBBONS, Missouri University of Science and Technology, Yinfa Ma

(2470-7 P) **Polymer Chip for Amperometric Detection of Neurotransmitter Release from Single Cells** SIMON TYLSGAARD LARSEN, Technical University of Denmark, Rafael Taboryski

(2470-8 P) **Microchip-based Two-Step Southern Hybridization Analysis** KIICHI SATO, The

University of Tokyo, Keisuke Aono, Etsuro Yoshimura

(2470-9 P) **Use of Microcup Array for Cell Isolating and Sorting** WEI XU, University of North Carolina, Chapel Hill, Christopher E Sims, Nancy L Allbritton

(2470-10 P) **Off- or On-chip Labeling of Proteins with Chameleon Dye for Polymer Microchip Capillary Electrophoresis** MING YU, Brigham Young University, Hsiang-Yu Wang, Adam T Woolley

(2470-11 P) **Microchip Electrophoresis-based Immunoassay for Sensitive Detection of Insulin-like Growth Factor-I (IGF-1) in Human Serum** MEIPING ZHAO, Peking University, Qiong Pan

(2470-12 P) **From SPRi (Surface Plasmon Resonance Imaging) Affinity Capture Analysis to On-chip MALDI-MS/MS Analyte Identification** KAREN E STEEGE, Horiba Jobin Yvon Inc., Sophie Bellon

POSTER SESSION Session 2480

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Microchips: Fabrication and Implementation

Wednesday Afternoon, Gray Area - Hall B4, Aisles 3400-3900

(2480-1 P) **High Aspect Ratio Microfluidic Systems for Quantitation of Nitroaromatics** ANDRE A ADAMS, Naval Research Laboratory, Paul T Charles, Peter B Howell, Scott Trammell, Brian Melde, Jeff Deschamps, Anne Kusterbeck, Scott Veitch

(2480-2 P) **Dependence of Fluidic Capacitance on Elastomer Membrane Geometry in Single-layer Microfluidic Devices** CHRISTOPHER J EASLEY, Auburn University, Kennon S Deal

(2480-3 P) **Breaking the Taylor Limit: Enhancing Mass Transfer** PETER B HOWELL, Naval Research Laboratory

(2480-4 P) **Development of a Intergrated Microscale Ceramic Separation Device to Address Limited Sample Volumes in Bioanalysis** PAUL RAINVILLE, Waters Corporation, Norman Smith, Robert Plumb

(2480-5 P) **Withdrawn**

(2480-6 P) **Improved Reproducibility in NanoLC Using Chip Based Columns** REMCO VAN SOEST, Eksigent Technologies, J B Young, Nicole Hebert, Erika Lin

CONFEREE NETWORKING

Wednesday, March 3, 2010

1:00 - 3:00 PM

Biofuel Production, Storage and Use: Are We Ready for the Challenge Facilitated by: Michael Cheng, Chevron Energy and Technology Company, Room 311G
GPC Related Techniques for Determining the Composition Distribution of Synthetic Copolymers as a Function of Molecular Weight Distribution Facilitated by: Wei Gao, The Dow Chemical Company, Room 312A
How Can Virtual Centers of Excellence for Analytical Chemistry be Established and Maintained Facilitated by: Jeanette Van Emon, US EPA, Room 312B
HPLC/ Recent Development/Method Development/Validation/Troubleshooting Facilitated by: Shelly Li, Pfizer Inc, Room 311H
Lab-on-a-Chip Is Beautiful - But Where are Chips-in-Lab Now? Facilitated by: Werner Hoffman, Karlsruhe Research Center, Room 311F
LC-MS - Current Trends for Fast LC Facilitated by: Adrian Clarke, AstraZeneca R&D, Room 312C
No Needles No Pins: New Directions for Non-invasive Drug Monitoring and Biomarker Determination Facilitated by: Wolfram Miekisch, University Hospital of Rostock, Room 311E

THURSDAY, MARCH 4, 2010
MORNING

SYMPOSIUM Session 2490

ACS Division of Analytical Chemistry Separation and Characterization of Large Macromolecules and Nanoparticles: There's Plenty of Room at the Top- arranged by Kim Williams, Colorado School of Mines

Thursday Morning, Room 205B

Kim Williams, Colorado School of Mines, Presiding

8:00 **Introductory Remarks - Kim Williams**

8:05 (2490-1) **Nanofluidic Devices for Characterizing Individual DNA Molecules** J MICHAEL RAMSEY, University of North Carolina, Laurent D Menard, Chad Mair, Jean Pierre Alarie, Hanno Weitering, Massimiliano Di Ventra

8:40 (2490-2) **Analytical Challenges in the Study of Complex and Diverse Protein Aggregation** TUDOR ARVINTE, University of Geneva

9:15 (2490-3) **Ultrafast Chemical Separation and Sorting of Single Particles and Single Molecules** DANIEL T CHIU, University of Washington

9:50 (2490-4) **Analytical Polymer Science Interfacing Materials Science and Analytical Chemistry** HARALD PASCH, University of Stellenbosch

10:25 (2490-5) **Field-Flow Fractionation of Polymers and Nanoparticles: Recent Advances and Future Needs** KIM R WILLIAMS, Colorado School of Mines

SYMPOSIUM Session 2500

Advanced Technologies for Explosive/IED Detection - Analytical Chemistry Contributes

Solutions for Improved National Defense - arranged by M Bonner Denton, University of Arizona

Thursday Morning, Room 205C

M Bonner Denton, University of Arizona, Presiding

8:00 **Introductory Remarks - M Bonner Denton**

8:05 (2500-1) **Fido Explosives Detectors: Amplifying Fluorescent Polymer Technology for Effective IED Detection** WAYNE A BRYDEN, ICx Technologies

8:40 (2500-2) **Capabilities of a New-Generation Hand-Held Ion Mobility Spectrometer** DAVID A JONES, Sandia National Laboratories, M Bonner Denton, Roger P Sperline

9:15 (2500-3) **Cycloidal Mass Spectrometry** ANTHONY NICHOLAS DURYEA, Monitor Instruments

9:50 (2500-4) **Portable Raman Analyzer Based on 1064nm Laser and Deep Cooled InGaAs Detector Array** WILLIAM YANG, BaySpec, Inc.

10:25 (2500-5) **Exploring Large Standoff Real Time Detection of Explosive Vapor Plumes** M BONNER DENTON, University of Arizona

SYMPOSIUM Session 2510

Analytical Applications of Anisotropic Metal Nanoparticles - arranged by Michael J Natan, Oxonica Materials Inc.

Thursday Morning, Room 206B

Michael J Natan, Oxonica Materials Inc., Presiding

8:00 **Introductory Remarks - Michael J Natan**

8:05 (2510-1) **Plasmonic Sensors Based on Anisotropic Metal Nanoparticles** RICHARD P VAN DUYNE, Northwestern University

8:40 (2510-2) **Novel Nanorod Array Substrates for High Sensitivity Microarray Sensing** RICHARD A DLUHY, University of Georgia, J D Driskell, Y-P Zhao, G-J Boons, R A Tripp, Lawrence A Bottomley

9:15 (2510-3) **Anisotropic, SERS-Active Metal Nanoparticles and Nanoparticle Clusters** MICHAEL J NATAN, Oxonica Materials Inc.

9:50 (2510-4) **Assembly of Probe-Coated Nanowires for Biodetection** CHRISTINE KEATING, Penn State University, Theresa Mayer

10:25 (2510-5) **Polarization-Sensitive NIR Imaging Modalities Based on Gold Nanorods and Nanostars** ALEXANDER WEI, Purdue University

SYMPOSIUM Session 2520

Mass Analyzers and Microfabrication Techniques - arranged by Daniel E Austin, Brigham Young

University

Thursday Morning, Room 206C

Daniel E Austin, Brigham Young University, Presiding

8:00 **Introductory Remarks - Daniel E Austin**

8:05 (2520-1) **A Planar Integrated Micro Mass Spectrometer** JOERG MUELLER, Technical University Hamburg

8:40 (2520-2) **Multilayer Manufacturing for Rectilinear Ion Trap Arrays** WILLIAM CHAPPELL, Purdue University, Jeff Maas

9:15 (2520-3) **Fabrication and Implementation of Micro and Nano Ion Optics Utilizing Silicon-on-Insulator, Deep Reactive Ion Etching for Portable Mass Spectrometry** GUIDO VERBECK, University of North Texas

9:50 (2520-4) **Characterization of Micro-Cylindrical Ion Trap Mass Spectrometers Fabricated Using Microelectromechanical Systems Technology** FRISO HW VAN AMEROM, SRI International, Robert T Short, Ashish Chaudhary

10:25 (2520-5) **Quadruple Ion Traps Realized by Planar Microfabricated Electrodes for Compensation of High Order Multipole Effects** BRETT J HANSEN, Brigham Young University, Hannah E Quist, Aaron R Hawkins, Zhiping Zhang, Ying Peng, Miao Wang, Milton L Lee, Daniel E Austin

SYMPOSIUM Session 2530

Nanostructured Optical Biosensors: Pushing the Limits of Sensitivity and Selectivity - arranged by Michael J Sailor, University of California, San Diego

Thursday Morning, Room 207B

Michael J Sailor, University of California, San Diego, Presiding

8:00 **Introductory Remarks - Michael J Sailor**

8:05 (2530-1) **Multiplexed Detection with Nanodisk Codes** CHAD A MIRKIN, Northwestern University

8:40 (2530-2) **Hydrodynamic Focusing for Fabrication of Shaped Polymer Filaments** FRANCES S LIGLER, Naval Research Laboratory, Abel L Thangawng, Philippe Chow, Peter B Howell

9:15 (2530-3) **Ultrasensitive Detection of Pathogen Associated Molecular Patterns for Early Diagnosis of Infection** BASIL I SWANSON, Los Alamos National Laboratory, Harshini Mukundan, Anu Chaudhary

9:50 (2530-4) **Chemical and Biological Sensing with Silicon Nanostructures** MICHAEL J SAILOR, University of California, San Diego

10:25 (2530-5) **Optical Microwell Arrays for High Sensitivity Detection of Nucleic Acids** DAVID R WALT, Tufts University, Aaron F Phillips, Zhaohui Li, Sara De La Rosa

SYMPOSIUM Session 2540

The Hydrophobic-subtraction Model for Characterizing Reversed-Phase Column Selectivity - arranged by Peter W Carr, University of Minnesota and Lloyd R Snyder, LC Resources

Thursday Morning, Room 207C

Lloyd R Snyder, LC Resources, Presiding

8:00 **Introductory Remarks - Lloyd R Snyder**

8:05 (2540-1) **Diverse Applications of Reversed-Phase Column Selectivity** LLOYD R SNYDER, LC Resources

8:40 (2540-2) **The Use of Principal Component Analysis in the Characterization of LC Stationary Phases** MELVIN R EUERBY, Hichrom Ltd

9:15 (2540-3) **USP Web Site on Column Equivalency** MARGARETH R MARQUES, U. S. Pharmacopeia

9:50 (2540-4) **Ionization of Reversed-Phase Columns as a Function of pH and Buffer Composition** JOHN W DOLAN, LC Resources, Daniel H Marchand, Lloyd R Snyder

10:25 (2540-5) **Column Selectivity Database Application to HPLC Method Development: A QbD Perspective** LOREN WRISLEY, Wyeth Research

ORGANIZED CONTRIBUTED SESSION Session 2550

ACS Division of Analytical Chemistry Advances in Pharmaceutical and Biomedical Analysis - arranged by Susan M Lunte, University of Kansas

Thursday Morning, Room 205A

Susan M Lunte, University of Kansas, Presiding

8:00 (2550-1) **High Throughput Profiling of N-Linked Oligosaccharides in Monoclonal Antibodies** QIAN WANG, Pfizer, Melissa Thompson, Nathan A Lacher, Yan He, Michele M Toal, Charles Demarest

8:20 (2550-2) **Enhanced Recombinant Protein Production Using a Novel, Invisible Purification Tag** MELINDA L TOUMI, University of Kansas, Jamie L Wenke, Jennifer S Laurence, Heather Desaire

8:40 (2550-3) **Heparin Microanalysis Using NMR and LC-MS** CYNTHIA K LARIVE, University of California, Riverside, Christopher J Jones, John Kuper Limtiaco, Stacie Eldridge, Derek Langeslay

9:00 (2550-4) **Production of Tunable Nanoparticles Using a Group of Uniform Materials Based on Organic Salts (GUMBOS)** ISIAH M WARNER, Louisiana State University, Bilal El-Zahab, Min Li, David K Bwambok, Sergio De Rooy, Susmita Das, Santhosh Challa, Aaron Tesfai, Ashleigh R Wright

9:20 **Recess**

9:35 (2550-5) **Influence of Polymer Degradation on Spatial Distribution of Components Found in Drug-Eluting Stents by Confocal Raman Microscopy** KARIN M BALSS, Cordis, Maureen F Chisholm, Sarah A Nielsen, Michelle L Johnson, George Papandreou, Cynthia A Maryanoff

9:55 (2550-6) **Agglomerated Silica Monolith Column for Hydrophilic Interaction Chromatography (HILIC)** CHARLES A LUCY, University of Alberta, Mohammed E Ibrahim, Ting Zhou

10:15 (2550-7) **Analysis of Hydrophilic Metabolites in Physiological Fluids by HPLC** JOSEPH PESEK, San Jose State University, Maria Matyska, Steven Fischer, Theodore Sana

10:35 (2550-8) **Development and Preliminary Validation of a RP-HPLC Method for the Estimation of Netilmicin Sulfate and its Related Substances Using Charged Aerosol Detection** JOSEPH ARUL, Schering-Plough, Shrina Patel, Abu M Rustum

ORGANIZED CONTRIBUTED SESSION Session 2560

ACS Division of Analytical Chemistry

Innovations in Separation Science I - arranged by Lisa Ann Holland, West Virginia University

Thursday Morning, Room 311C

Lisa Ann Holland, West Virginia University, Presiding

8:00 (2560-1) **Enhanced Capillary Electrophoresis Separations Using Phospholipids Additives** LISA A HOLLAND, West Virginia University, Ruijuan Luo, Stephanie A Archer-Hartmann, Xingwei Wu, Ted J Langan

8:20 (2560-2) **Self-Assembled Guanosine Media for Capillary Gel Electrophoresis** LINDA B MCGOWN, Rensselaer Polytechnic Institute, Yingying Dong, Katherine M Southard, Sara Sass

8:40 (2560-3) **Surfactant Bilayer Coatings in Narrow CE Capillaries** CHARLES A LUCY, University of Alberta, Makedonka D Gulcev, Mahmoud F Bahnasy

9:00 (2560-4) **Novel Reversed-Phase Liquid Chromatography Stationary Phases Designed for Molecular Shape Recognition** KATRICE A LIPPA, NIST, Lane C Sander, Catherine A Rimmer

9:20 **Recess**

9:35 (2560-5) **The Use of Organic, Cationic Ion-Pairing Agents to Facilitate Anion Detection by CE-ESI-MS in Positive Ion Mode** CHRISTA L COLYER, Wake Forest University, Xuili Lin, Anthony R Gerardi, Zachary Breitbach, Daniel Armstrong

9:55 (2560-6) **Dynamic Isoelectric Focusing for the Discovery of Unknown, Active Proteins** LUKE TOLLEY, Southern Illinois University

10:15 (2560-7) **An Innovative 3-D Visualization Method for Evaluating Selectivity Differences in Separation Systems** MARK F VITHA, Drake University, Timothy Urness, Andrew R Johnson

10:35 (2560-8) **Sample Cleanup and Preconcentration for Capillary Electrophoresis-Mass Spectrometry Using Single Drop Microextraction and Large Volume Sample Stacking** DOO SOO CHUNG, Seoul National University, Jihye Kim, Kihwan Choi

ORGANIZED CONTRIBUTED SESSION Session 2570

Differential Ion Mobility Spectrometry/FAIMS - arranged by Alexandre A Shvartsburg, PNNL

Thursday Morning, Room 307A

Alexandre A Shvartsburg, PNNL, Presiding

8:00 (2570-1) **Recent Advances in FAIMS and FAIMS/MS Instrumentation** KEQI TANG, Pacific Northwest National Laboratory

8:20 (2570-2) **New Developments in DMS / FAIMS as a Prefilter for Mass Spectrometry** STEPHEN L COY, Sionex, Evgeny V Krylov, Erkinjon G Nazarov, Bradley B Schneider, Thomas R Covey

8:40 (2570-3) **Coupling Differential Mobility Spectrometer to Miniature Mass Spectrometer** FATKHULLA K TADJIMUKHAMEDOV, Purdue University, Ayanna Jackson, Zheng Ouyang, R Graham Cooks

9:00 (2570-4) **Gas-Phase Ion Chemistry in FAIMS** LEONARD C RORRER, University of Florida, Richard A Yost

9:20 **Recess**

9:35 (2570-5) **Quantifying Resolving Power in High-Speed, Ultra High-Field FAIMS Detection Systems** ASHLEY T WILKS, Owlstone Ltd, Lara Jamieson

9:55 (2570-6) **Effects of FAIMS Electrode Geometry on Resolution and Transmission Efficiency** MICHAEL W BELFORD, Thermo Fisher Scientific, Jean-Jacques Dunyach

10:15 (2570-7) **Application of LC-FAIMS-MS/MS to Shotgun Proteomics** MICHAEL MACCOSS, University of Washington, Jesse Canterbury

10:35 (2570-8) **Chiral Amino Acid Separation by Complexation - Electrospray Ionization - FAIMS or IMS** AXEL MIE, Stockholm University, Anthony Midey, Clinton A Krueger, Curt T Reimann

ORGANIZED CONTRIBUTED SESSION Session 2580

Specialty Gas Analysis I- arranged by Tracey Jacksier, Air Liquide

Thursday Morning, Room 307C

Barbara Marshik, MKS Instruments, Presiding

8:00 (2580-2) **Method Validation Using FTIR for H_2 Gas Purity Analysis** BARBARA MARSHIK, MKS Instruments

8:20 (2580-3) **Analysis of Permanent Gas Impurities in Corrosive Gases by GC-PDHID Using Parallel PLOT Columns** MARK RAYNOR, Matheson Tri-Gas Inc., Jon Welchhans

8:40 (2580-4) **Centralized Data Collection for Improved Quality Control** JORGE E PEREZ, CIC Photonics, Inc., Richard T Meyer, Elsa E Bonano

9:00 (2580-1) **Hydrogen for Fuel Cell Applications: Is It Possible to Meet the Proposed ISO Specifications?** TRACEY JACKSIER, Air Liquide, Robert Benesch

9:20 **Recess**

9:35 (2580-5) **CRDS for Emerging Spec Gas Applications**

LISA BERGSON, Tiger Optics, LLC

ORAL SESSION Session 2590

Affinity-Based Measurement Methods

Thursday Morning, Room 309AB

Udara R Dharmasiri, Louisiana State University, Presiding

8:00 (2590-1) **Capillary Electrophoretic Evolution of Aptamers Targeting Specific Post-Translational Modifications** STEVEN SULJAK, Santa Clara University, Michael J Hayes, Christopher M Rose, Trevor M Axelrod, Scott F Hickey

8:20 (2590-2) **Aptamer Based Affinity Capture Arrays** BASRI GULBAKAN, University of Florida, Abdullah Tahir Bayrac, Youngmi Kim, Joseph A Phillips, David H Powell, Weihong Tan

8:40 (2590-3) **Single-Wall Carbon Nanotube Forest Arrays for Immunoelectrochemical Measurement of 4 Protein Biomarkers for Prostate Cancer** BHASKARA V CHIKKAVEERAIAH, University of Connecticut, Ashwin K Bhirde, Ruchika Malhotra, Vyomesh Patel, Silvio Gutkind, James F Rusling

9:00 (2590-4) **Detection of Stress Biomarkers in Saliva on Single Wall Carbon Nanotube-Chemiresistive Immunosensors** CHAKER TLILI, University of California, Riverside, Cella Lakshmi, Wilfred Chen, Nosang V Myung, Vivek Shetty, Ashok Mulchandani

9:20 **Recess**

9:35 (2590-5) **Evaluation of Aptamer and Antibody Capture Agents for the Detection of Thrombin Using Arrays of Silicon Photonic Microring Resonators** JI-YEON BYEON, University of Illinois, Urbana-Champaign, Ryan C Bailey

9:55 (2590-6) **Aptamer-Crosslinked Hydrogel as a Colorimetric Platform for Visual Detection** ZHI ZHU, University of Florida, Haipeng Liu, Chaoyong Yang, Weihong Tan

10:15 (2590-7) **Integrated Affinity Column Microdevices for Multiplexed Biomarker Analysis** WEICHUN YANG, Brigham Young University, Xiuhua Sun, Adam T Woolley

10:35 (2590-8) **Enrichment and Detection of Escherichia coli 0157:H7 Using a Membrane-Specific Antibody Modified Microfluidic Chip** UDARA R DHARMASIRI, Louisiana State

University, Małgorzata A Witek, Andre A Adams, John Osiri, Mateusz L Hupert, Steven A Soper

ORAL SESSION Session 2600

Bioanalytical Separations

Thursday Morning, Room 307D

Chin-I Shyr, The Pittsburgh Conference, Presiding

8:00 (2600-1) **Determination of Tranexamic Acid Concentrations by Solid Phase Microextraction and Liquid Chromatography-Tandem Mass Spectrometry in Patients Operated with Use of Cardiopulmonary Bypass** BARBARA BOJKO, University of Waterloo, Dajana Vuckovic, Erasmus Cudjoe, Md Ehsanul Hoque, Janusz Pawliszyn

8:20 (2600-2) **Separation and Selective Detection of Indoleamines and its Metabolites Using CE-LINF** CHRISTOPHER A DAILEY, University of Illinois, Christine Cecala, Stanislav S Rubakhin, Jonathan V Sweedler

8:40 (2600-3) **Fast Hadamard Transform Capillary Electrophoresis with Capacitive Coupled Contactless Conductivity Detection for the Analysis of Inositol Phosphates** ELYSSIA M STEINWINTER, University of Arizona, Troy J Comi, John P Keogh, Marcus Perry, Michael Read, Kevin L Braun, Craig A Aspinwall

9:00 (2600-4) **Analyses of Circulating Steroids in Fish Using Capillary Electrophoresis to Unravel Environmentally Triggered Endocrine Disruption** LISA A HOLLAND, West Virginia University, Stephanie A Archer-Hartmann, Jana Woofter, Emily E Patterson, Jennifer Stueckle-Ripley

9:20 **Recess**

9:35 (2600-5) **Incorporation of Self-Assembled Guanosine Structures into Sieving Matrices for Separation of Microbial Community DNA Fragments by Sequence and Length in Capillary Gel Electrophoresis** YINGYING DONG, Rensselaer Polytechnic Institute, Linda B McGown, DeEtta Mills

9:55 (2600-6) **Characterization of Heparin Impurities** JOHN KUPER LIMTIACO, University of California, Riverside, Christopher J Jones, Cynthia K Larive

10:15 (2600-7) **Studies of Amyloid Peptides by Capillary Electrophoresis with Laser-Induced Fluorescence Anisotropy** RYAN PICOU, Louisiana State University, Indu Kheterpal, S Douglass Gilman

10:35 (2600-8) **Capillary Isoelectric Focusing of Individual Mitochondria** GREGORY WOLKEN, University of Minnesota, Vratislav Kostal, Edgar A Arriaga

ORAL SESSION Session 2610

Environmental: Sample Preparation (Half Session)

Thursday Morning, Room 310A

John M Kokosa, Mott Community College/MDRC, Presiding

8:00 (2610-1) **Automated, Economical Sample Preparation** JOHN ROBERT TROOST, Summit Environmental

8:20 (2610-2) **Solvent Microexraction (SME) with Solvent Cooling** JOHN M KOKOSA, Mott Community College/MDRC, Ingo Christ

8:40 (2610-3) **Design of a New Concentrator Column for Ion Chromatography and Some Selected Applications** KANNAN SRINIVASAN, Dionex Corporation, Sheetal Bhardwaj, Rong Lin, John Madden, Chris Pohl

9:00 (2610-4) **Evaluation of New Extraction Method SMSE (Silicone Membrane Sorptive Extraction) in Water Samples Followed by GC/MS Analysis** CAROLE VINCELET, Veolia Environment, David Benanou

ORAL SESSION Session 2620

Fluorescence/Luminescence for Materials Analysis

Thursday Morning, Room 311B

Michael Zumwalt, Agilent Technologies, Presiding

8:00 (2620-1) **Photoluminescence Stability of Porous Silicon** RANDI E CATTOI, University at Buffalo, SUNY, Nadine Kraut, Michelle M McGoorty, Frank V Bright

8:20 (2620-2) **NIR Luminescence Microscopy for Nano- and PV-Material Characterization** LIN CHANDLER, Horiba Jobin Yvon

8:40 (2620-3) **Metal-organic Frameworks as Antennae for Luminescent Lanthanide Cations** KRISTY A GOGICK, University of Pittsburgh, Kiley A White, Demetra A Czegan, Nathaniel L Rosi, Stephane Petoud

9:00 (2620-4) **Withdrawn**

9:20 **Recess**

9:35 (2620-5) **Near-Infrared Enhanced Fluorescence by Using Gold Nanorods for Detection of Trace Bioanalytes** CARRIE L JOHN, University of North Dakota, Shaina L Strating, Julia X Zhao

9:55 (2620-6) **An Analytical Investigation of Porous Silicon** NADINE KRAUT, University at Buffalo, SUNY, Randi E Cattoi

10:15 (2620-7) **Investigation of the Enantioselective Fluorescence Response of BNA** AMY LEUNG, Southern Illinois University, Matthew McCarroll

10:35 (2620-8) **Conversion of Chromium (VI) to Chromium (III) via Complexation with Quercetin** VERONICA ACHIENG OKELLO, SUNY Binghamton, Marcells A Omole, Omowunmi A Sadik

ORAL SESSION Session 2630

High Performance Protein and Peptide Separations

Thursday Morning, Room 311D

Richard A Henry, Supelco/Sigma-Aldrich, Presiding

8:00 (2630-1) **Protein Capillary Electrophoresis with Ultra-Low Surface Adsorption** YIMIN HUA, University of Arizona, Ronald J Wysocki, Mary J Wirth

8:20 (2630-2) **Effect of Cross-Linkers on the Preparation of Polymer Monoliths for Capillary Cation-Exchange Liquid Chromatography of Peptides and Proteins** XIN CHEN, Brigham Young University, H Dennis Tolley, Milton L Lee

8:40 (2630-3) **The Use of Superficially Porous Particles with Ultra-High Power Chromatography to Evaluate Complex Peptide Mixtures** BOB GIUFFRE, Agilent Technologies, Dawn M Stickle, Ray Lombardi, Dat Phan

9:00 (2630-4) **Fused-Core HPLC Columns for the Fast, High Resolution Separation of Peptides and Small Proteins** RICHARD A HENRY, Supleco/Sigma-Aldrich, William H Campbell, Hillel K Brandes, Wayne Way

9:20 **Recess**

9:35 (2630-5) **Functionalization of Capillary-Channeled Polymer (C-CP) Fibers for a Stationary Phase in Ion-Exchange Chromatography (IEC)** JENNIFER J PITTMAN, Clemson University, R Kenneth Marcus

9:55 (2630-6) **Voyaging Beyond 'Standard' SFC into the High Speed Analysis of Peptides** DAVID J TOGNARELLI, Jasco, Inc., Atsushi Tsukamoto, Jeff Caldwell, Walt Caldwell, Mauro Aiello

10:15 (2630-7) **Development of a Micro-Western Blotting Method for Analysis of Protein Mixtures** GWENDOLYN J ANDERSON, University of Michigan, Cynthia Cipolla, Robert T Kennedy

10:35 (2630-8) **Sub-Micron Plate Heights for Separations of Proteins in New Monolithic Capillary Columns: Silica Colloidal Crystals** DOUGLAS S MALKIN, Purdue University, Bingchuan Wei, Mary J Wirth

ORAL SESSION Session 2640

LC-MS Environmental (Half Session)

Thursday Morning, Room 310A

John M Kokosa, Mott Community College/MDRC, Presiding

9:35 (2640-1) **Development and Validation of a Liquid Chromatographic- Mass Spectrometric (LCMS) Method for the Determination of Alkylphenols and Bisphenol A in Water Column of Three Reservoirs of Central Indiana** OLUJIDE T AKINBO, Butler University, Nishaat Yunus

9:55 (2640-2) **Monitoring Pharmaceuticals Residues in Manufacturing Plant Waste Effluent by**

On-Line SPE/LC/MS/MS CLAUDE ROBIN MALLET, Waters Corporation

10:15 (2640-3) **Multiple Column Evaluation for the Analysis of Pharmaceuticals and Personal Care Products by LC/MS** MICHELLE MISSELWITZ, Restek Corporation, Rebecca E Wittrig, Rick Lake, Steve Kozel, Andre Schreiber

10:35 (2640-4) **LC-MS/MS Analysis of Perfluorinated Alkyl Acids in Drinking Water** JIA WANG, Lancaster Laboratories, Chuck Neslund, Jonathan Beck, Charles T Yang

ORAL SESSION Session 2650

Mass Spectrometry in Homeland Security/Forensics Applications

Thursday Morning, Room 311A

Christopher Pohl, Dionex Corporation, Presiding

8:00 (2650-1) **Enhanced Detection and Separation in Anti-Doping Control Screening Using Two Dimensional Gas Chromatography Time-of-Flight Mass Spectrometry (GCxGC-TOFMS) Analysis** SCOTT PUGH, LECO Corporation, John Heim

8:20 (2650-2) **Comparison of GC-IRD and GC-MS Methods for the Identification of Isomeric Drug Substances: Piperazines and Phenethylamines** RANDALL C CLARK, Auburn University, Tamer Awad, Jack DeRuiter, Karim Abdel-Hay

8:40 (2650-3) **Analysis of Controlled Substances by Use of DART Ionization** ERIN SHONSEY, ADFS, Andrea Headrick

9:00 (2650-4) **Isotopic Enrichment in Plasmas: A Nanosecond Laser Ablation Approach** TIMOTHY SUEN, Lawrence Berkeley National Laboratory, Xianglei Mao, Richard E Russo

9:20 **Recess**

9:35 (2650-5) **High Accuracy, Deterministic CBRNE Measurement with a Chemistry-Driven Universal Detection Platform** MATT PAMUKU, Applied Isotope Technologies, Howard M Kingston, G M Mizanur Rahman

9:55 (2650-6) **Sampling of Nitroaromatic and Nitroamine Explosives by Solid Phase and Coiled Wire Filament Microextraction, and Analysis Using a Portable GC–TMS** ANN M HOFFMAN, Torion Technologies Inc., Christopher R Bowerbank, Tiffany C Wirth, Edgar D Lee, Douglas W Later, Chris Lennard, Amanda J Brust

ORAL SESSION Session 2660

Microchip Fabrication Methods

Thursday Morning, Room 310B

Chenzhong Li, Florida International University, Presiding

8:00 (2660-1) **A Method for Irreversibly Encapsulating Various Microfluidic Channels** ZHIYI ZHANG, National Research Council, Ping Zhao, Gaozhi Xiao

8:20 (2660-2) **Fabrication of 1D & 2D Nanochannels in Thermoplastic Materials via Replication: Transport Dynamic of Single DNA Molecules** RATTIKAN CHANTIWAS, Louisiana State University, Mateusz L Hupert, Jiahao Wu, Jesus T Lopez, Swathi R Pullagurla, Subramanian Balamurugan, Sunggook Park, Michael C Murphy, Dimitris E Nikitopoulos, Steven A Soper

8:40 (2660-3) **Paper-Based Microfluidic Devices Coupled with Electrochemical Detection** WIJITAR DUNGCHAI, Colorado State University, Charles S Henry, Orawon Chailapakul

9:00 (2660-4) **Fabrication and On-Chip Integration of Ordered Submicron Pillar Arrays for Separations and Analysis** LISA TAYLOR, University of Tennessee, Nickolay V Lavrik, Michael J Sepaniak

9:20 **Recess**

9:35 (2660-5) **Nanopore-Based Microfluidic DNA Purification Device** YIXIAO SHENG, University of Minnesota, Michael T Bowser

9:55 (2660-6) **Enhanced Microchip Electrophoresis of Cancer Marker Proteins Using On-Chip Preconcentration with an Ion-Permeable Membrane** PAMELA N NGE, Brigham Young University, Weichun Yang, Adam T Woolley

10:15 (2660-7) **Preparation of a Microfluidic Chip Incorporating a Novel Microporous Membrane Design for Application in Isoelectric Focusing of Proteins** HEATHER L LORD, University of Waterloo, Junjie Ou, Carolyn L Ren, Janusz Pawliszyn

10:35 (2660-8) **Achieving Near Real-Time Aerosol Analysis Through the Use of a Continuous Flow Electrophoresis Microchip** MALLORY MENTELE, Colorado State University, Charles S Henry, Jeffrey L Collett

ORAL SESSION Session 2670

Microchip Fluid Control (Half Session)

Thursday Morning, Room 308C

Stephanie Archer-Hartmann, West Virginia University, Presiding

8:00 (2670-1) **Using Integrated Dielectric Actuators on Microfluidic Devices for Injections, Mixing, and Pumping** CHRISTOPHER T CULBERTSON, Kansas State University, Alexander K Price, Eve Metto

8:20 (2670-2) **Connecting Micro to Macro Fluidics: New Concept for a Disposable Indirect Microfluidic Flow Injection Analysis (FIA) System** MICHAEL RAPP, Forschungszentrum Karlsruhe , Kerstin Laenge, Bastian E Rapp, Volker Saile

8:40 (2670-3) **Viscosity Study of Non-Newtonian Fluid Phospholipids and Its Application in Non-Mechanical Valving in Microfluidic Systems** XINGWEI WU, West Virginia University, Lisa A Holland

9:00 (2670-4) **Microfluidic System for Generating High Frequency Temporal Concentration Gradients** XINYU ZHANG, Florida State University, Michael G Roper

ORAL SESSION Session 2680

Microdroplets In Analysis (Half Session)

Thursday Morning, Room 308C

Stephanie Archer-Hartmann, West Virginia University, Presiding

9:35 (2680-1) **Combining Segmented Flow With Push-Pull Perfusion Sampling** GEOVANNIE OJEDA-TORRES, University of Illinois, Scott A Shippy

9:55 (2680-2) **Introducing Digital Microfluidics to an On-Line Microdialysis System for Patient Monitoring** MICHELLE L ROGERS, Imperial College, Martyn G Boutelle, Xize Niu, Andrew de Mello

10:15 (2680-3) **A Microfluidic System for Equipment-Free Manipulation of Submicroliter Volumes in Parallel** WENBIN DU, University of Chicago, Liang Li, Rustem F Ismagilov

10:35 (2680-4) **Fluorescence Polarization Immunoassay in a Multi-Phase Flow System for Monitoring Cellular Function with Preconcentration** COLIN JENNINGS, University of Michigan, Robert T Kennedy

ORAL SESSION Session 2690

MS-General Interest

Thursday Morning, Room 308D

John P Auses, The Pittsburgh Conference, Presiding

8:00 (2690-1) **IMS/MS with Direct Ambient Ionization Methods** CHARLES N MCEWEN, University of the Sciences in Philadelphia, Hilary Major, Sarah Trimpin

8:20 (2690-2) **A New Approach to the Quantification of B and B Isotope Ratios Using a Second-Generation Focal-Plane Faraday Strip Array Detector (FPFSAD) Coupled to an Inductively Coupled Plasma Mattauch-Herzog Geometry Mass Spectrograph (ICP-MHMS)** ISAAC B BRENNER, Graz University of Technology

8:40 (2690-3) **Novel Instrumentation for Near Real Time Permeation Rates of Toxic Industrial Chemicals Through Permeable Materials** WESLEY D ERCANBRACK, US Army, Nathan L Porter, Christopher A Bailey, Christopher R Bowerbank, Russel A Bonsteel, Jacolin A Murray, Edgar D Lee, Milton L Lee, Douglas W Later

9:00 (2690-4) **Membrane Reactor for Tryptic Digestion** FEI XU, Michigan State University, Weihan Wang, Yujing Tan, Merlin L Bruening

9:20 **Recess**

9:35 (2690-5) **Nanoscale Glassy Layers on Gold for Enhancing Laser Desorption/Ionization in SALDI-MS** JICHENG DUAN, University of California, Riverside, Matthew Linman, Quan Cheng

9:55 (2690-6) **The Detection and Exact Molecular Formula Assignment of Multiply Charged Ions in Complex Mixtures by Electrospray Ionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry** DAVID C PODGORSKI, Florida State University, Daniel M Osborne, William T Cooper

10:15 (2690-7) **Extending the Boundaries of GC-MS – The New Supersonic GC-MS System** AVIV AMIRAV, Tel Aviv University, Alexander Gordin, Marina Poliak, Alexander B Fialkov

10:35 (2690-8) **The QuEChERS Approach and GCxGC-TOFMS for Pesticides in Dietary Supplements** JACK COCHRAN, Restek Corporation, Julie Kowalski, Rick Lake, Jason D Thomas, Michelle Misselwitz

ORAL SESSION Session 2700

MS-Instrumentation

Thursday Morning, Room 308B

I-Pin Ho, The Coca Cola Company, Presiding

8:00 (2700-1) **Coaxial Ion Trap: Two Superimposed Trapping Regions in One Analyzer** YING PENG, Brigham Young University, Zhiping Zhang, Brett J Hansen, Miao Wang, Milton L Lee, Aaron R Hawkins, Daniel E Austin

8:20 (2700-2) **Pressure Independent "Ion-CCD" Array Detector for Positive/negative Particle Detection** OMAR HADJAR, OI Analytical CMS Field Products, Kibelka Gottfried, Scott Shill, Scott Kassan, Chad Cameron

8:40 (2700-3) **Trapping Field Optimization in the Toroidal RF Ion Trap** STEPHEN A LAMMERT, Torion Technologies Inc., Edgar D Lee, Joseph L Oliphant

9:00 (2700-4) **High Mass Resolution and Tandem Capabilities of a Microfabricated Two-Plate Paul Trap Mass Spectrometer** ZHIPING ZHANG, Brigham Young University, Ying Peng, Brett J Hansen, Miao Wang, Milton L Lee, Aaron R Hawkins, Daniel E Austin

9:20 **Recess**

9:35 (2700-5) **Reducing Detector Time Jitter to Improve Mass Resolution in Time of Flight Mass Spectrometers** STEPHEN M RITZAU, Photonis, Paul Mitchell, Paula Holmes, Bruce N Laprade

9:55 (2700-6) **Real-Time Data Fusion of MS and FTIR Measurements for Combustion Engine Exhaust Gas Analysis** LARS SCHOMANN, Hamburg University of Technology, Jens Eichmann, Gerhard Matz, Roland Harig, Sven Krause

10:15 (2700-7) **Developments and Novel Biological Applications of the Flowing Atmospheric-Pressure Afterglow Ambient Ionization Source** JACOB T SHELLEY, Indiana University, Justin M Wiseman, Gary Martin Hieftje

10:35 (2700-8) **Custom Electric Fields in a Halo Ion Trap Mass Analyzer** MIAO WANG, Brigham Young University, Daniel E Austin, Brett J Hansen, Hannah E Quist, Aaron R Hawkins, Edgar D Lee, Milton L Lee

ORAL SESSION Session 2710

Nanotechnology - Sensors and Electrochemistry

Thursday Morning, Room 307B

Jeanette M Van Emon, US EPA, NERL, MDAB, Presiding

8:00 (2710-1) **Detection of Nanomaterials Using Color-Sensitive Waveguide Mode** MAKOTO FUJIMAKI, AIST, Ken-ichi Nomura, Kazuki Sato, Takafumi Kato, Subash Gopinath, Xiaomin Wang, Koichi Awazu, Yoshimichi Ohki

8:20 (2710-2) **Single Wall Carbon Nanotubes - Porphyrins Hybrid Chemiresistive Nanosensor Arrays** TAPAN SARKAR, University of California, Riverside, Mahendra Shirsat, Bharatan Konnanath, Andreas Spanias, Nosang V Myung, Ashok Mulchandani

8:40 (2710-3) **Impedance Sensing Approach for in vitro Nanotoxcity Assay at Cellular and Tissue Level** EVANGELIA HONDROULIS, Florida International University, Chenzhong Li

9:00 (2710-4) **A Study of the Reactivity and Stability in the Presence of H_2 of Pd Nanoparticles Coated with Mixed Monolayers of Octylamines and Hexanethiolates** MONICA MORENO, University of Louisville, Francis P Zamborini

9:20 **Recess**

9:35 (2710-5) **Development of Nanofabricated Pt Disk Probes for Scanning Electrochemical Microscopy** NIKOLOZ NIORADZE, University of Pittsburgh, Jiyeon Kim, Anahita Izadyar, Shigeru Amemiya

9:55 (2710-6) **Designing Novel Colloidal SERS Substrates and Colloidal Supported Metal Nanocatalysts (CSMNs) for Environmental Sensing and Remediation Applications** RADHA NARAYANAN, University of Rhode Island, Kalyani Gude, Susmita Kapavarapu, Benjamin Saute

10:15 (2710-7) **An Electrochemical Approach to Synthesize ZnO/SWCNT Hybrid System: A Sensitive, Selective and Stable H_2S Sensor** SANDRA CATALINA HERNÁNDEZ, University of California, Riverside, Nosang V Myung, Ashok Mulchandani

10:35 (2710-8) **Novel Sensors for the Identification and Quantitation of Engineered Nanomaterials in Environmental Matrices** SAMUEL N KIKANDI, SUNY- Binghamton, Omowunmi A Sadik, Katrina E Varner

ORAL SESSION Session 2720

Surface Enhanced Raman

Thursday Morning, Room 308A

Mustafa Culha, Yeditepe University, Presiding

8:00 (2720-1) **Surface-Enhanced Raman Scattering (SERS) Detection of Lipids** KYLE C BANTZ,

University of Minnesota, Audrey F Guerard, Christy L Haynes

8:20 (2720-2) **Polypropylene Filter Based SERS Substrates for the Detection of Selected Flavonoids and Uranyl Ion** DEEPAK BHANDARI, University of Tennessee, Michael J Sepaniak

8:40 (2720-3) **Label Free Multiplex Protein Detection Using Surface-enhanced Raman Scattering** MUSTAFA CULHA, Yeditepe University, Ilknur Sur

9:00 (2720-4) **Functionalized Nanoparticles and SERRS for Bioanalysis** DUNCAN GRAHAM, University of Strathclyde, Karen Faulds, David Thompson, Fiona McKenzie

9:20 **Recess**

9:35 (2720-5) **Fabrication, Patterning, and Thermal Stability of Silver Nanorod Array SERS** KELSEY R BEAVERS, Georgia Tech, Nicole E Marotta, Lawrence A Bottomley

9:55 (2720-6) **Exploration of Hot-Spots on SERS Substrates** PRZEMYSLAW BREJNA, University of Idaho, Peter R Griffiths

10:15 (2720-7) **Photonic Crystal Substrates for Tunable Surface Enhanced Raman Spectroscopy** LEE R CAMBREA, NAWCWD, Zachary A Sechrist, Alfred J Baca

10:35 (2720-8) **DNA Sequence Detection Using Surface Enhanced Resonance Raman Spectroscopy (SERRS) in a Homogeneous Multiplexed Assay** KAREN FAULDS, University of Strathclyde, Duncan Graham, Alexandra MacAskill, Jennifer Dougan, Douglas MacRae

ORAL SESSION Session 2730

XRD-XRF Methodology

Thursday Morning, Room 206A

Dean Tzeng, The Pittsburgh Conference, Presiding

8:00 (2730-1) **Withdrawn**

8:20 (2730-2) **New Applications of X-ray Fluorescence Microscope** SERGEY MAMEDOV, Horiba Jobin Yvon Inc., Eunah Lee, Fran Adar, Andrew Whitley

8:40 (2730-3) **Miniature XRD-XRF Instrumentation: From Mars to the Field** PHILIPPE C SARRAZIN, inXitu Inc., David Blake, Bradley Boyer, Will Brunner, David Bish, David Vaniman, Marc Gailhanou, Giacomo Chiari, Przemek Dera, Robert T Downs

9:00 (2730-4) **Inclusion of X-ray Powder Diffraction and Solid State Research in General Chemistry Courses** TED M CLARK, Ohio State University, Patrick Woodward, Matt Stoltzfus, Heather Cuthbert

9:20 **Recess**

9:35 (2730-5) **New Advances in Elemental X-ray Imaging: Low Z Imaging the Chemical Fossil** ROBERT W MORTON, Children of the Middle Waters Institute, Nickolaus A Morton, Ken G

Huntley, Peter L Larson, Uwe Bergmann, Phil Manning, Roy A Wogelius

9:55 (2730-6) **Total Cement and Raw Materials Fusion/XRF Analytical Solution** MATHIEU BOUCHARD, Corporation Scientifique Claisse Inc., John A Anzelmo, Sebastien Rivard, Alexander Seyfarth, Larry G Arias, Kai Behrens

10:15 (2730-7) **Withdrawn**

10:35 (2730-8) **Improving the Accuracy of Fundamental Parameter Methods for XRF Analysis of Samples with Significant Organic Component** LAURA OELOFSE, Rigaku Americas Corporation

POSTER SESSION Session 2740

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Aptamers

Thursday Morning, Blue Area - Hall A2, Aisles 700-1300

(2740-1 P) **Development of DNA Aptamers for Glioblastoma Multiforme** ABDULLAH TAHIR BAYRAC, Middle East Technical University, Sefah Kwame, Dalia L Colon, Huseyin A Oktem, Weihong Tan

(2740-2 P) **Aptamers as Virus Detecting Molecules** TAMÁS MÉSZÁROS, Semmelweis University, Zsófia Balogh, Viola Bardóczy, Gergely Lautner, Beata Komorowska, Robert E Gyurcsanyi

(2740-3 P) **Selection of Aptamers for a Protein a-synuclein in Lewy Bodies Found in Neurodegenerative Diseases** PARAG A PAREKH, University of Florida, Abdullah Tahir Bayrac, Shoudong Li, Nicholas Muzyczka, Weihong Tan

(2740-4 P) **Aptamer-based Drug Delivery Systems for Multidrug-Resistant Cancer Cells** YANRONG WU, University of Florida, Ruowen Wang, Weihong Tan

(2740-5 P) **Aptamer Conjugate for Multi-functional Detection of Cancer Cells** GUIZHI ZHU, University of Florida, Youngmi Kim, Weihong Tan

POSTER SESSION Session 2750

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Environmental Field Studies in Africa, Asia, India, and the Middle East

Thursday Morning, Blue Area - Hall A2, Aisles 700-1300

(2750-1 P) **Evaluation of Metal and Anionic Drinking Water Contaminants in Rural Villages in Ghana, Africa** YAYI GUO, Johns Hopkins Bloomberg School of Public Health, Jana Mihalic, Alison Geyh, Kellogg J Schwab

(2750-2 P) **Assessment of Zn, Cu, Pb and Cd Contamination in Soils and Vegetables from some Farmlands in Lagos Metropolis, Lagos, Nigeria** ALICE I BABATUNDE, University of Lagos, Oluwakemi T Oyelola

(2750-3 P) **The Chemical Analysis of the Wetlands Around Iba Community in Lagos State, Nigeria by Atomic Absorption Spectrophotmetry** OMOLARA A BAMGBOYE, Lagos State University, Medinat O Osundiya, Daniel A Adeniyi, Ibrahim O Abdulsalami

(2750-4 P) **Quantification of the Anions and Total Hydrocarbon Content (THC) in the Surface Water of Okpai (An Oil Bearing Community) Niger-Delta – Nigeria Using UV/Visible Spectrophotometer** CHUKWUDI OGWU, Lagos State University, Omolara A Bamgboye, S Bakre, J P Uyimadu

(2750-5 P) **Withdrawn**

(2750-6 P) **Acid Rain in the Northern Japan During 2006-2010 and Its Application to the Environmental Education** MASAHIKO KAN, Hokkaido University of Education Sapporo

(2750-7 P) **Correlation Study on Physico-Chemical Parameters and Quality Assessment of Purified Ganga River Water, Kanpur, India** SUKARMA THAREJA, Ch. Ch. College, Priyanka Trivedi, Amita Bajpai

POSTER SESSION Session 2760

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Environmental Field Studies in North America

Thursday Morning, Blue Area - Hall A2, Aisles 700-1300

(2760-1 P) **An Investigation of Selected Metals and Nonmetals in River Water Near an Industrialized Area: Preliminary Results, and Exploration of Simultaneous Determination of Arsenic and Phosphorus by UV-VIS and the Molybdate Method** MARK T STAUFFER, University of Pittsburgh at Greensburg, Adam J McShane

(2760-2 P) **Preliminary Evaluation of Abandoned Mine Drainage Effects on an Otherwise "Clean" Creek: A Study of Gillespie Run by "Traditional Lab" and "On-site Lab" Approaches** MARK T STAUFFER, University of Pittsburgh at Greensburg

(2760-3 P) **Monitoring Cyanobacterial Toxins in Missouri Water Treatment Plants by LC/MS/MS** XIAOLIANG CHENG, Missouri S&T

(2760-4 P) **Withdrawn**

(2760-5 P) **Comprehensive Investigation of Removal and Degradation of Pharmaceuticals and Personal Care Products in Water Treatment Processes Using LC-MS/MS** CHUAN WANG, Missouri University of Science and Technology, Honglan Shi, Craig D Adams, Terry Timmons, Yinfa Ma

(2760-6 P) **Environmental Studies in Southwest Louisiana** JOSEPH SNEDDON, McNeese State

University, Joel C Richert, Craig Moss, Carey J Hardaway

POSTER SESSION Session 2770

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Environmental Field Studies in South America

Thursday Morning, Blue Area - Hall A2, Aisles 700-1300

(2770-1 P) **Hormones and Bisphenol A in Drinking Waters in the State of São Paulo, Brazil** WILSON F JARDIM, Unicamp, Cassiana C Montagner, Fernando F Sodré, Igor C Pescara

(2770-2 P) **Antibiotics in Brazilian Surface Waters** WILSON F JARDIM, unicamp, Marco A F Locatelli, Fernando F Sodré

(2770-3 P) **Monitoring of Pesticides Levels in Water from Cauca River in the City of Cali-Colombia** FERNANDO E LARMAT, Universidad del Valle, Alejandro Soto

(2770-4 P) **Determination of the Heavy Metal (Pb, Cd, Cr and Hg) Levels in Water From Cauca River in the City of Cali-Colombia** FERNANDO E LARMAT, Universidad del Valle, Alejandro Soto

POSTER SESSION Session 2775

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

High Throughput Chemical Analysis

Thursday Morning, Blue Area - Hall A2, Aisles 700-1300

(2775-1 P) **Analysis of Biologically Active Components in Natural Products by On-line SFE/SFC – UHPLC with Photodiode Array Detection** YAMAGUCHI TAKAYUKI, JASCO Corporation, Kamezawa Kazutoshi, Iwaya Keijin, Sato Yasuyo, Miyaji Toshihiko, Bounoshita Masao, Saito Muneo

(2775-2 P) **The Benefits of Using NQAD (Nano Quantity Analyte Detector) and Sub-2um Phases for the High Speed Analysis of Traditional Chinese Medicines** MARK JACYNO, Grace Discovery Sciences

(2775-3 P) **Characteristics of New Ion Chromatography Columns For High-Throughput Ion Analysis** SHINJI SATO, Tosoh Corporation, Yoshimitsu Tada, Hiroyuki Moriyama

(2775-4 P) **Fast GC Analysis of Isomeric Compounds Using Nano Stationary Phase Capillary Columns** ALLEN J BRITTEN, Cape Breton University, Krishnat P Naikwadi

(2775-5 P) **Multiplexed Beverages Analysis: Application of a Multi-channel Microfluidic Platform Coupled to an FTIR Imaging Detector** ALEXANDER L ENFIELD, McGill

University, Ashraf A Ismail, Jacqueline Sedman, Andrew Ghetler

(2775-6 P) **Automated Micro-peristaltic Pump for Highly Stable Low Flow Rate Sample Introduction on ICP Based Instrumentation** CORY GROSS, Elemental Scientific, Patrick Sullivan, Nathan J Saetveit, Daniel Wiederin

(2775-7 P) **Automated Mixing of Wear Oil and Trace Metal Determination by ICPOES with Sample-to-Sample Time Less Than 20 Seconds** NATHAN J SAETVEIT, Elemental Scientific, Cory Gross, Daniel Wiederin, Patrick Sullivan

(2775-8 P) **Effect of Silylation Methods on the Cleanness and Ion Exchange Capacity of SCX Sorbent for Sample Preparation** HUQUN LIU, Varian, Inc., Andrew Li, Paul Boguszewski, Linda Lloyd, Yung-Lin Chen

(2775-9 P) **Freeze-dry Deposition of Semi-crystalline Adsorbent Polymer for Chemical Micro Preconcentrators** BASSAM ALFEELI, Virginia Tech, Daniel Moodie, Masoud Agah

(2775-10 P) **Increasing Lab Productivity through Automated On-Line Sample Preparation** REBECCA VEENEMAN, Agilent Technologies, Chinkai Meng

(2775-11 P) **Latest Advances in Thermal Desorption Technology – Tube and Sample Data-tracking** MATTHEW BATES, Markes International Ltd., Elizabeth Woolfenden, John Dwan

(2775-12 P) **Ionic Liquid Based, Silica Bonded Polymeric Materials for Solid Phase Micro Extractions** ERANDA WANIGASEKARA, University of Texas at Arlington, Sirantha Perera, Jeffrey A Crack, Leonard Sidisky, Robert E Shirey, Alain Berthod, Daniel Armstrong

POSTER SESSION Session 2780

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Laboratory Management

Thursday Morning, Blue Area - Hall A2, Aisles 700-1300

(2780-1 P) **Real-time Laboratory Asset Management/Tracking (RFID)** RALPH DIOGUARDI, PerkinElmer, Rob Evans, Gary Grecsek, Joe Tehrani

(2780-2 P) **Relocation Strategy for Mission Critical Labs in Regulated & Non-Regulated Facilities** RALPH DIOGUARDI, PerkinElmer, Rob Evans, Gary Grecsek, Joe Tehrani

(2780-3 P) **OneSource Lab Equipment Services – From Repair, Qualification, to Asset Management of All Equipment by a Single Vendor** GARY GRECSEK, PerkinElmer, Paul Coombes, Ralph DioGuardi, Joe Tehrani

POSTER SESSION Session 2790

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Liquid Chromatography - Method Development I

Thursday Morning, Blue Area - Hall A2, Aisles 700-1300

(2790-1 P) **A Modular Preparative HPLC System for the Isolation of Puerarin from Kudzu Root Extracts** ANDREW AUBIN, Waters Corporation, Ronan Cleary

(2790-2 P) **Comparison of Universal Detection Techniques for Liquid Chromatography** BRUCE BAILEY, ESA Biosciences, Inc., Christopher A Crafts, Marc Plante, Paul H Gamache, John Waraska, Ian N Acworth

(2790-3 P) **Rapid Separations of Polypeptides** BARRY E BOYES, Advanced Materials Technology, Stephanie A Schuster, Brian M Wagner, Joseph J Kirkland

(2790-4 P) **The Use of Multiple Targets as Probes to Examine the Orthogonal Selectivity Abilities of Unique Modular Open Tubular, High Performance Liquid Chromatography (OT HPLC) Instrumentation Plus the Advantages of Sequential OT HPLC / HPLC** LESLIE BROWN, AECS-QuikPrep Ltd, Gregory K Webster, Trinh Luu, Lorraine Henriques

(2790-5 P) **Study of Effect of Particle Size Distribution on Chromatographic Performance of Superficially Porous Silica Particles** WU CHEN, Agilent Technologies, Ta-Chen Wei

(2790-6 P) **Liquid Chromatography of Proteins Using Alkylammonium Ionic Liquid Mobile Phase Modifiers** MATTHEW P COLLINS, Miami University, Ohio, Wenjun Wei, Neil D Danielson

(2790-7 P) **New Approaches for the Analysis of Organic and Inorganic Pharmaceutical Salts** CHRISTOPHER A CRAFTS, ESA Magellan Biosciences, Ian N Acworth, Bruce Bailey, Marc Plante, Paul H Gamache, John Waraska

(2790-8 P) **Preparation and Characterization of a Polymeric Monolithic HPLC Column as an Undergraduate Analytical Chemistry Laboratory Experiment** NEIL D DANIELSON, Miami University, Ohio, Michael P Bindis, Stacey L Bretz

(2790-9 P) **Optimization of Polymerization Conditions for Affinity Monolith Columns Containing Immobilized Proteins** ERIKA L PFAUNMILLER, University of Nebraska-Lincoln, David S Hage

(2790-10 P) **Effects of Changing Shell Thickness and Pore Size of Fused-Core Particles** JOSEPH J DESTEFANO, Advanced Materials Technology, Stephanie A Schuster, Brian M Wagner, William L Johnson, Joseph J Kirkland

(2790-11 P) **Effects of Extra-Column Band Spreading, LC System Operating Pressure, and Column Temperature on the Performance of Sub-2-µm Porous Particles** KENNETH J FOUNTAIN, Waters Corporation, Uwe D Neue, Eric S Grumbach, Diane M Diehl

(2790-12 P) **Characteristics of Diol Column and Retention Behavior of Hydrophilic Compounds in Hydrophilic Interaction Chromatography (HILIC)** KOZUE FUNAKOH, YMC Co., Ltd., Taeko Nakajima, Saoko Nozawa, Naohiro Kuriyama, Noriko Shoji

(2790-13 P) **Evaluation of UHPLC System Performance Under High Throughput Conditions**

WILLIAM HEDGEPETH, Shimadzu, Masatoshi Takahashi

(2790-14 P) **Full Automation of Polyolefin Preparative Fractionation in the Grams Scale Based on a New Column Technology** BENJAMIN MONRABAL, Polymer Char, Pilar Del Hierro, Juan Sancho-Tello, Alberto Ortín, Raquel Úbeda

(2790-15 P) **Practical Comparison of 2.7µm Fused-core Silica Particles and Porous sub-2µm Particles for Fast Separations in Pharmaceutical Process Development** YURI BEREZNITSKI, Merck & Co., Inc., Mohammad Al-Sayah, Naijun Wu, Peter J Skrdla, Yadan Chen, Ahmed Abrahim

(2790-16 P) **Easy Method Transfer Using a Universal, Sub 2um to 10um HPLC Media Platform** SUSAN DIAZ, Grace Discovery Sciences, Karin Hallberg, Reno Nguyen, Scott Anderson, Laura Kaepplinger

(2790-17 P) **New Column Format for Process Development** M CARLSSON, GE Healthcare, M Fasth, R Kurt-Fuentes, A Heijbel, S Lindqvist, A Karlsson, K Stenklo

POSTER SESSION Session 2795

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Blue Area, Hall A2, Aisles 700-1300.

Liquid Chromatography - Method Development II

Thursday Morning, Blue Area - Hall A2, Aisles 700-1300

(2795-1 P) **Fast LC Using a New Generation Micro-UHPLC System with Array-based UV Detection** DAVID NEYER, Eksigent Technologies, Remco van Soest, Steve Hobbs, Phillip Paul, Don Arnold

(2795-2 P) **Withdrawn**

(2795-3 P) **Exploring the Separation Capabilities for New Halogen Containing Carbohydrate Based Chiral Stationary Phases** MATTHEW PRZYBYCIEL, ES Industries

(2795-4 P) **The Development and Application of Non ODS Based HPLC Columns Packed with Sub 2 Micron Packing Materials** MATTHEW PRZYBYCIEL, ES Industries

(2795-5 P) **Method Transfer Considerations and Subsequent Opportunities Using Ultra High Pressure Liquid Chromatography up to 18,000 psi** WILHAD M REUTER, PerkinElmer, Joseph DiCesare, Alessandro Baldi

(2795-6 P) **PAT/QbD Initiatives Result in Robust Streamlined Analytical Methodology Suitable for Product Quality Assessment of a Multi-Component Synthetic Pulmonary Surfactant** KRISTEN RILEY, Discovery Laboratories, Michelle DeCrosta, Victoria Scott

(2795-7 P) **HPLC vs UPLC** JENNIFER MARIE ROOSIEN, Perrigo Company

(2795-8 P) **On-Column Redox Derivatization for Enhancement of Separation Selectivity of Liquid Chromatography: Use of Electrochemically Modulated Liquid Chromatography and Porous Graphitic Carbon as Packing Material** KAZUNORI

SAITOH, Nihon University, Kohta Koichi, Takashi Oda, Tatsuro Nakagama, Marc Porter, Masami Shibukawa

(2795-9 P) **Advances in Software for SEC Data Processing and Integrated Statistical Quality Control (SQC) Tools** JUAN SANCHO-TELLO, Polymer Char, Alberto Ortín, Benjamin Monrabal, Rebeca Chiva, Raquel Úbeda, Pilar Del Hierro

(2795-10 P) **Automated Method Development Utilizing Design of Experiments for Scale Up of Synthetic Peptide Purification** LORI SANDFORD, Varian, Inc., Ritu Arora, Ben Yong

(2795-11 P) **Separation of Peptides by HPLC Using a Surface Confined Ionic Liquid Stationary Phase** APRYLL STALCUP, University of Cincinnati, Karnakar R Chitta, David S Van Meter

(2795-12 P) **Liquid Chromatographic Chiral Separations Using Surface Confined Ionic Liquids** APRYLL STALCUP, University of Cincinnati, Phanichand Kodali

(2795-13 P) **High Performance Liquid Chromatography with Surface Ionization Detection** TAKUYA SUGA, Meisei University, Seiji Takahashi, Masamichi Tsukagoshi, Toshihiro Fujii

(2795-14 P) **Novel Reversed Phase Column with Hybrid Silica Gel** TAKAI TAKATOMO, YMC Co., Ltd., Hiyoshi Yayoi, Kashida Akiko, Takashi Sato, Shoji Noriko, Omote Masakatsu, Kuriyama Naohiro

(2795-15 P) **High Speed LC with 0.5 mm i.d. Columns: Overcoming the Challenges of Frictional Heating in UHPLC** REMCO VAN SOEST, Eksigent Technologies, Phillip Paul, David Neyer

(2795-16 P) **Current Industry Trends for Automated LC Qualification** JIM WILLIS, PerkinElmer, Paul Coombes, Serge Njamfa, Joe Tehrani, Gary Grecsek

(2795-17 P) **Optimization of Small Scale Chiral HPLC Prep Separations** SYLVIA WINKEL PETTERSSON, Akzo Nobel, Britt Kofoed-Hansen, Mattias Bengtsson, Joakim Högblom, Johan Ekeroth

(2795-18 P) **Considerations for Stationary Phase Selectivity when Transferring Methods between HPLC and UPLC Technology** ZHE YIN, Waters Corporation, Kenneth J Fountain, Doug McCabe, Diane M Diehl

(2795-19 P) **Comparison of SCX-C18 Mix Phase with the Sequential Combination of SCX and C18 Columns** QUN J WANG, Chinese Academy of Agricultural Science

(2795-20 P) **HPLC Columns for Simultaneous Analysis of Counter-Ions** VLAD ORLOVSKY, SIELC Technologies, Yury Zelechonok, Tatiana Zgibnev

POSTER SESSION Session 2800

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Liquid Chromatography Application

Thursday Morning, Blue Area - Hall A2, Aisles 700-1300

(2800-1 P) **Withdrawn**

(2800-2 P) **Analysis of Neuroactive Amino Acids Using UHPLC Techniques** BRUCE BAILEY, ESA Biosciences, Inc., Marc Plante, Christopher A Crafts, Ian N Acworth, Paul H Gamache, John Waraska

(2800-3 P) **Fast Screening of Edible Oils for PolyAromatic Hydrocarbons Using a Water-Methanol Gradient** MARK EDWARD BENVENUTI, Waters Corporation, Alice Di Gioia, Joseph Romano, Peter J Lee

(2800-4 P) **Rapid Analysis of Emerging Sweeteners in Beverages** MARK EDWARD BENVENUTI, Waters Corporation, Alice Di Gioia, Joseph Romano

(2800-5 P) **Validation of a Simple HPLC Method for Analysis of Sodium Cyclamate in Carbonated Beverage Samples** SNEH D BHANDARI, Silliker Inc.

(2800-6 P) **Detailing the Successful Search for Universal Selectivity in a Single Chiral Analytical or Process Preparative Chiral Phase** LESLIE BROWN, MicroSolv Technology Corporation, Raj Rao, Lorraine Henriques, Gregory K Webster

(2800-7 P) **Sensitive Analysis of Commonly Used Artificial and Natural Sweeteners Including Stevia and Their Impurities and Degradation Products** CHRISTOPHER A CRAFTS, ESA Magellan Biosciences, Bruce Bailey, Ian N Acworth, Marc Plante, Paul H Gamache, John Waraska

(2800-8 P) **Rapid and Sensitive Analysis of Aminoglycoside Antibiotics Using UHPLC with Corona Ultra Detection** CHRISTOPHER A CRAFTS, ESA Magellan Biosciences, Marc Plante, Bruce Bailey, Ian N Acworth, Paul H Gamache, John Waraska

(2800-9 P) **Increased Process Understanding for QbD by Introducing Universal Detection at Several Stages of the Pharmaceutical Process** CHRISTOPHER A CRAFTS, ESA Magellan Biosciences, Bruce Bailey, Ian N Acworth, Marc Plante, Paul H Gamache, John Waraska

(2800-10 P) **Automated Multistep Chromatographic Workflows for Biopharmaceutical Purification and Analysis** WIM DECROP, Dionex, Remco Swart

(2800-11 P) **Importance of Sample Preparation in the Validation and Analysis of 4-chloroaniline in Complex Chlorhexidine Formulations** MINH HOANG, BD Medical Systems, Mohammad Khan, Anna Medley, Christine McPhee

(2800-12 P) **Withdrawn**

(2800-13 P) **Protein and Peptide Separations by HPLC Using a 300 Å Silica Hydride Stationary Phase** MARIA MATYSKA, Microsolv Technology Corporation, Joseph Pesek, Josh Young

(2800-14 P) **Metabolite Profiling of Human Serum Using HPLC and NMR Spectroscopy** KWADWO OWUSU-SARFO, Purdue University, Emmanuel Appiah-Amponsah, Tao Ye, GAN Gowda , Daniel Raftery

(2800-15 P) **New Developments in Capillary Ion Chromatography Systems with Electrochemical Detection and Their Applications** JASON S WOOD, Dionex Corporation, Jun Cheng, Petr Jandik, Chris Pohl

(2800-16 P) **HPLC Method Pre-Validation and Performance Prediction Model for Separations in Pharmaceutical Liquid Formulations** MIKE PEOPLES, Wyeth Consumer Healthcare, Tara Wood, Todd Koch

(2800-17 P) **Determination of 5-Methyltetrahydrofolate in CSF by Ion Pair Chromatography with Fluorescence Detection** HUA H TANG, Cincinnati Children's Hospital

(2800-18 P) **Investigation of Preparative HPLC Applications Performed at Both Acidic and Basic pH** SYLVIA WINKEL PETTERSSON, Akzo Nobel, Mattias Bengtsson, Britt Kofoed-Hansen, Joakim Högblom, Johan Ekeroth

(2800-19 P) **In-tube Molecularly Imprinted Monolith Solid Phase Microextraction Integrated on-line with HPLC/UV for Determination of Urinary 8-hydroxy-2`-deoxyguanosine** CAIYING WU, Wuhan University, Shaowen Zhang, Xiaojie Sun, Jun Xing, Lingshuang Cai

(2800-20 P) **Development of a Mixed Stationary Phase and a HPLC Method without Ion-pairing Agents to Separate Phthalocyanine Zinc Complex** HAN YONG, Agela Technologies

POSTER SESSION Session 2805

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Mass Spectrometry Methodologies

Thursday Morning, Gray Area - Hall B4, Aisles 3400-3900

(2805-1 P) **Solvent Effects and the Role of Solubility in Desorption Electrospray Ionization** K BADU-TAWIAH, Purdue University, Celien Bland, Dahlia I Campbell, R Graham Cooks

(2805-2 P) **Total Arsenic Determination in Rice Grain and Rice Straw by Microwave Assisted Digestion followed by Inductively Coupled Plasma - Mass Spectrometry** TIFFANY BERG, University of Massachusetts, Amherst, Julian Tyson

(2805-3 P) **Oxidation of Purines in On-line Electrochemistry Electrospray Ionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry (EC/ESI FTICR MS)** ANNA BRAJTER-TOTH, University of Florida, Imran Iftikhar, Donq W Looi

(2805-4 P) **Detection of Nucleotides in the Positive Ion Mode ESI-MS Using Cationic Ion-pairing Reagents** ZACHARY BREITBACH, University of Texas at Arlington, Edra Dodbiba, Daniel Armstrong

(2805-5 P) **ICP-MS-based Ultrasensitive Detection Method Using Oligonucleotide–Gold Nanoparticle Conjugates for Rapid Determination of Viral RNA Sequence** I-HSIANG HSU, National Tsing Hua University, Yuh-Chang Sun

(2805-6 P) **A GC/MS for Fast On-site Analysis** GOTTFRIED KIBELKA, OI Analytical, Omar Hadjar, Scott Kassan, Scott Shill, Chad Cameron

(2805-7 P) **N-glycosylation Profile of Human CD24** ZHENXIN LIN, University of Michigan

(2805-8 P) **Novel Developments in Proton-Transfer-Reaction Mass-Spectrometry (PTR-MS): Switchable Reagent Ions (PTR+SRI-MS) and ppqv Detection Limit** LUKAS MÄRK, IONICON Analytik, Alfons Jordan, Gernot Hanel, Eugen Hartungen, Philipp Sulzer, Hans Seehauser, Stefan Haidacher, Ralf Schottkowsky, Christian Lindinger, Tilmann D Märk

(2805-9 P) **Proton-Transfer-Reaction Time of Flight Mass Spectrometry (PTR-TOF-MS): Comparison of Compact-Time of Flight (C TOF) and High Resolution-Time of Flight (HRS TOF) Platforms** LUKAS MÄRK, IONICON Analytik, Alfons Jordan, Gernot Hanel, Eugen Hartungen, Philipp Sulzer, Hans Seehauser, Stefan Haidacher, Ralf Schottkowsky, Fredrik Petersson, Christian Lindinger, Tilmann D Märk

(2805-10 P) **HPLC-MS Analysis of Pheromone Glucoconjugates in Oral Secretions of Tephritid Fruit Flies** SCOTT NIEMANN, CSS Analytical Co Inc., Spencer Walse

(2805-11 P) **RF Plasma Polymerization of Ethyenediamine for Bioselective MALDI Mass Spectrometry** LIJUAN PENG, Southern Illinois University Carbondale, Gary R Kinsel

(2805-12 P) **The Analysis of Complex Fragrance Samples Using a New High Sensitivity Bench Top Time of Flight Mass Spectrometer, Incorporating Online Dynamic Background Compensation, and Chemometric Data Analysis** GARETH M ROBERTS, ALMSCO International, Nick Bukowski, Gerhard Horner

(2805-13 P) **Determination of Lithium Isotope Ratios in Environmental Water Samples by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)** CHARLES RAYMOND SHICK, JR, Savannah River National Laboratory

(2805-14 P) **Analytical Method Development for the Measurement of Lipid-related Exometabolome Species of S. Cerevisiae by Tandem Mass Spectrometry** TAO SUN, Duquesne University, Mitchell E Johnson

(2805-15 P) **Combination of Thermogravimetry and a New Ebel-Photoionization-Mass-Spectrometer and Its Applications** ANDREAS WALTE, Airsense Analytics, Wolf Muenchmeyer, Bert Ungethuem, Mohammad Saraji-bozorgzad, Matthias Bente, Markus S Eschner, Ralf Zimmermann

(2805-16 P) **Superhydrophobic Surfaces for Improved Performance of Matrix Assisted Laser Desorption/Ionization Mass Spectrometry** NOAH WEISS, Arizona State University, Mark A Hayes, Melissa McLauchlin

(2805-17 P) **Fast and Effective Complex Sample Clean-up for LC/MS/MS Analysis** LYDIA WU, Thermo Fisher Scientific, Catherine CL Wong

(2805-18 P) **Electron Capture Dissociation of Divalent Metal Ion Adducted Phospholipids (Met-L)** HYUN JU YOO, University of Michigan, Kristina Hakansson

(2805-19 P) **Evaluation of Tetracationic Salts as Gas-Phase Ion-Pairing Reagents for the Detection of Trivalent Anions in Positive Mode ESI-MS** XAOTONG ZHANG, University of Texas at Arlington, Eranda Wanigasekara, Zachary Breitbach, Daniel Armstrong

(2805-20 P) **Calibrationless Quantification of Sodium Azide in Drinking Water by ESI-ID-TOF-MS, SPE-ESI-ID-TOF-MS, and I-spike-ESI-ID-TOF-MS for Homeland Security Applications** GREGORY M ZINN, Duquesne University, Howard M Kingston, G M Mizanur Rahman, John C Kern, Matt Pamuku

(2805-21 P) **New Ebel-Photoionization TOF-Mass-Spectrometer for the Online Analysis of Tobacco Smoke** ANDREAS WALTE, Airsense Analytics, Wolf Muenchmeyer, Bert Ungethuem, Matthias Bente, Mohammad Saraji-bozorgzad, Markus S Eschner, Ralf Zimmermann

(2805-22 P) **Generic Compound Isolation System Using Solid-phase Trapping** YOSUKE IWATA, Shimadzu, Tomoyuki Yamazaki, Masayuki Nishimura, Shuzo Maruyama, Junichi Masuda, Bob Boughtflower, Przemslaw Stasica

POSTER SESSION Session 2810

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Natural Product Analysis

Thursday Morning, Gray Area - Hall B4, Aisles 3400-3900

(2810-1 P) **A Novel Approach to the Measurement of Biologically Active Analytes in Natural Products, Supplements, and Animal and Human Tissues** IAN N ACWORTH, ESA Biosciences, Inc., John Waraska, Paul H Gamache

(2810-2 P) **Analysis of Fractional Collections of Hydro-Distillates of the Essential Oil from the Leaves of Emilia Coccinea by GC-MS: A Useful Method for the Detection of Micro Constituents** MORUFU ADEMOYE, University of Lagos, Modupe Ogunlesi, Wesley O Okiei, Elizabeth Adejoke Osibote

(2810-3 P) **Determination of the Constituents of the Essential Oil from the Leaves of the Baobab Tree Adansonia Digitata, A Herbal Medication for Asthma by GC– MS** EDITH OFOR, University of Lagos, Modupe Ogunlesi, Wesley O Okiei, Elizabeth Adejoke Osibote

(2810-4 P) **Identification of Constituents of the Fractionated Samples from the 50% Methanol Extract from the Leaves of Petiveria Alliacea by GC-MS** MODUPE OGUNLESI, University of Lagos, Wesley O Okiei, Elizabeth Adejoke Osibote

(2810-5 P) **Proliferation Effects of Phyllanthus Amarus Extracts on TM4 Sertoli Cells Using MTT and Fluorescence Assays** ELIZABETH ADEJOKE OSIBOTE, University of Lagos, Modupe Ogunlesi, Denise McGee, Omowunmi A Sadik, Wesley O Okiei

(2810-6 P) **Origins of Life: Exploring Prebiotic RNA Polymerization Products Using MALDI-MS** LAUREN CASSIDY, Rensselaer Polytechnic Institute, Linda B McGown, James P Ferris, Prakash C Joshi, Michael Aldersley

POSTER SESSION Session 2815

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Physical Measurement

Thursday Morning, Gray Area - Hall B4, Aisles 3400-3900

(2815-1 P) **Transferability of Pipette Calibrations – A Prerequisite for Method Validation and Method Transfer** A BJOERN CARLE, ARTEL, George W Rodrigues, Keith J Albert

(2815-2 P) **Monitoring the Cytotoxic Effects of Lipophilic Antioxidants at QCM Electrodes Under Inert Conditions** ROBERT B CONGDON, State University of New York at Binghamton, Ailing Zhou, Omowunmi A Sadik

(2815-3 P) **A Multi Parameter Automated Measuring System for Density, Refractive Index, pH, Conductivity and Color** TORE FOSSUM, Mettler Toledo, Inc., Wallace Harvey

(2815-4 P) **Particle Size: Laser Diffraction vs Dynamic Light Scattering** KAPEELESHWAR KRISHANA, Malvern Instruments

(2815-5 P) **The Performance of a High Temperature Combustion Analyzer using Static Pressure Concentration Technology for the Determination of TOC/TN Analyses for a Variety of Key Applications** STEPHEN LAWSON, Teledyne Tekmar, Anne Jurek, Roger Bardsley, Stephen Proffitt

(2815-6 P) **Understanding Intellidilution For Use With A UV/ Persulfate Analyzer** STEPHEN LAWSON, Teledyne Tekmar, Anne Jurek, Roger Bardsley, Stephen Proffitt

POSTER SESSION Session 2820

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Protein and Peptide Analysis

Thursday Morning, Gray Area - Hall B4, Aisles 3400-3900

(2820-1 P) **Identification and Quantitation of Glycation Sites on In-vitro Glycated Human Serum Albumin Using ^{18}O Labeling MALDI-TOF/MS and Matlab** OMAR S BARNABY, University of Nebraska-Lincoln, Ronald L Cerny, David S Hage, William Clarke, Ala Qadi

(2820-2 P) **Applications of Novel Squarylium Dyes as Protein Probes in CE-LIF Analyses** STEPHANIE ROCKETT, Wake Forest University, Lin Xiuli, G B Turner, Hiroyuki Nakazumi, Christa L Colyer

(2820-3 P) **Optimization of a UPLC Amino Acid Analysis (AAA) Method for Protein Concentration Determinations Toward Standardization of Diagnostic Biomarker Immunoassays** SAM DIEP, Abbott Laboratories, Tracey Rae, Jeffrey Fishpaugh, Yon-Yih Chen

(2820-4 P) **Monolithic Columns for High-efficiency LC-MS/MS Peptide Mapping** S EELTINK, Dionex, Remco Swart

(2820-5 P) **Effect of O-glycosylation on Transcription Factor Binding to the Insulin Promoter** ALIX GRIMLEY, Florida State University, Michael G Roper

(2820-6 P) **New Ion Exchange Analytical Column for Monoclonal Antibody Variants Characterization** YUANXUE HOU, Dionex Corporation, Yury Agroskin, Srinivasa Rao, Chris Pohl

(2820-7 P) **In vitro Glycation of Human Fibrinogen with Methyl Glyoxal** LASKER S LASKER, University of Rhode Island, Joel A Dain, Menashi A Cohenford

(2820-8 P) **Triazine Based Chemistry Modifications of Capillary-Channeled Polymer (C-CP) Fibers to Produce a Stationary Phase for High Performance Immobilized Metal Affinity Chromatography (HP IMAC)** JENNIFER J PITTMAN, Clemson University, R Kenneth Marcus

(2820-9 P) **Surface Plasmon Resonance and Elipsometry Biosensor for Direct Detection of Antibodies** ARUNAS RAMANAVICIUS, Vilnius University, Zigmas Balevicius, Leva Baleviciute, Asta Kausaite, Urte Bubniene, Almira Ramanaviciene

(2820-10 P) **Preparation and Utilization of Novel Recombinant Parathyroid Hormone (1-34) Analogs for Chemical Analysis** FEMINA RAUF, University of Arizona, Zhen Li, Craig A Aspinwall

(2820-11 P) **The in vitro Glycation of Human Serum Albumin by Dihydroxyacetone Phosphate and Dihydroxyacetone** PADMANIE C SENEVIRATNE, University of Rhode Island, Menashi A Cohenford, Weixi Liu

(2820-12 P) **Comprehensive Amino Acid Analysis via Multiple HPLC Techniques** M ALEXANDER SHAW, Hitachi High Technologies America, Troy Purvis, Steve Watts

(2820-13 P) **A Newly Developed Hydrophilic Polymer-based Ion Exchange Resin for Analysis and Purification of Various Biological Molecules** NORIKO SHOJI, YMC Co., Ltd., Akiko Matsui, Masakatsu Omote, Naohiro Kuriyama

(2820-14 P) **Sensitive and Rapid Results of Amino Acid Contents by Interplay of Reliable UHPLC Instruments and Intelligent Software** FRANK STEINER, Dionex, Susanne Fabel, Tobias Fehrenbach, Fraser McLeod

(2820-15 P) **Development of Novel Fluorescent Reagents for Easy and Highly-Sensitive Detection of Proteins** YOSHIO SUZUKI, AIST, Nao Sakaguchi, Atsunori Hiratsuka, Nobuyuki Takagi, Tomoyuki Chimuro, Atsushi Shinohara, Kenji Yokoyama

(2820-16 P) **Independence of Channel Length in Dynamic Isoelectric Focusing** SCOTT DOUDERA, Southern Illinois University, Shannon Courtney Banning, Luke Tolley

POSTER SESSION Session 2830

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Proteomics and Metabolomics

Thursday Morning, Gray Area - Hall B4, Aisles 3400-3900

(2830-1 P) **Disulfide Bonds Mapping in Salmon Egg Lectin 24K Using MALDI MS and MS/MS** FAN XIANG, Shimadzu BioTech

(2830-2 P) **Small Metabolite Profile Comparisons in Complex Biological Samples Utilizing Statistical Compare, Fisher Ratios, and Multivariate Analysis for GCxGC-TOFMS Data** SCOTT PUGH, LECO Corporation, John Heim, Joe E Binkley

(2830-3 P) **Cell Surface Glycoproteins from Glioma-derived Stem-like Cells** JINTANG HE, University of Michigan

POSTER SESSION Session 2840

All posters are to be mounted by 10:00 AM and remain on display until 2:30 PM. You cannot get onto the Exposition Floor until after 9:00 AM. Authors must be present from 11:30 AM to 1:30 PM. Location of the posters is on the Exposition Floor - Gray Area, Hall B4, Aisles 3400-3900.

Quality/QA/QC

Thursday Morning, Gray Area - Hall B4, Aisles 3400-3900

(2840-1 P) **Lot-to-Lot Reproducibility Methodology – A Quality Tool for Chromatographic Column Characterization** YURY AGROSKIN, Dionex Corporation, Harjit Gill, Iqbal Hundal

(2840-2 P) **Ionic Liquid Based Low-pass Tunable RC Filter: An Application of Electrowetting on Dielectric (EWOD)** YASITH S NANAYAKKARA, University of Texas at Arlington, Hyejin Moon, Daniel Armstrong

(2840-3 P) **Determination and Uncertainty of Residual Inorganic Content by Microash Analysis for Certification of Reference Materials** RYAN CARRELL, Cerilliant Corporation, Huahua Jian, Isil Dilek, Kevin Gates, Uma Sreenivasan

(2840-4 P) **Withdrawn**

(2840-5 P) **Traceable Photometric Certification Measurements** STEVEN JOSEPH CHOQUETTE, NIST, Melody V Smith, John C Travis, David L Duewer

(2840-6 P) **Fast Analysis of Soy Isoflavones Using Optimized UHPLC Methodology** WILLIAM GOODMAN, PerkinElmer, Padmaja Prabhu, Wilhad M Reuter, Sharanya Reddy

(2840-7 P) **Improved Throughput for the Determination of Fat Soluble Vitamins in Dietary Supplements Using UHPLC** WILLIAM GOODMAN, PerkinElmer, Padmaja Prabhu, Wilhad M Reuter, Sharanya Reddy

(2840-8 P) **Internal Standard Calculations for Non-linear Detectors** YURI KALAMBET, Ampersand International, Inc., Yuri Kozmin, Sergey Maltsev

(2840-9 P) **Application of Liquid Chromatographic Method for Estimation of Repaglinide in Pharmaceutical Formulation** PRAMOD B KHEDEKAR, Rtm Nagpur University Campus, Seema M Dhole, Nikhil D Amnerkar, Kishore P Bhusari

(2840-10 P) **Analysis of Copper by Reverse Polarity DC Arc Spectroscopy Utilizing a CID Solid-State Camera Spectrometer** GARRY KUNSELMAN, Teledyne Leeman Labs, Maura Mahar, Paul Dalagar, Peter Perzl

(2840-11 P) **Cyanide Analysis – Reducing Laboratory Operating Costs without Compromising Data Quality or Regulatory Compliance** WILLIAM LIPPS, OI Analytical, Gary Engelhart

(2840-12 P) **Determination of Properties of Cellulose Properties by Near-Infrared Spectroscopy of Eucalyptus Wood** CELIO PASQUINI, UNICAMP, Claudio J Carneiro, Jônatas P Araújo

(2840-13 P) **Quantifying the Impact of Operator Error in Pipetting** DOREEN A RUMERY, ARTEL, Aaron B Davis, George Rodriques

(2840-14 P) **Coded Aperture Spectrometer for Raman Imaging of Lateral Flow Immunoassays** BRETT D GUENTHER, Centice, Prasant Potuluri, Evan Cull, Ron Ghofrani, Kevin Schnatter, Scott Norton

(2840-15 P) **GLP/GMP Multi-Vendor Lab Instrument Qualification and Service – Based on USP <1058> AIQ Guideline** JOE TEHRANI, PerkinElmer, Ralph DioGuardi, Joseph Romo, Jim Willis, Gary Grecsek

(2840-16 P) **Ultrafast Laser Induced Breakdown Spectroscopy (LIBS) for Quality Control of TiO_2 Thin Films on Quartz** ERIN K CANFIELD, Lawrence Berkeley National Laboratory, Travis N Owens, Xianglei Mao, Richard E Russo

(2840-17 P) **Validation Decisions for Laboratory Informatics: What Direction Do You Take?** MARK PARRISH, CSols, Inc.

(2840-18 P) **Continuous Improvements Using Lean Six Sigma Tools** MAROOF H QURASHI, NSWC, Crane

(2840-19 P) **Heat Flow Microcalorimetry (HFMC) Laboratory** MAROOF H QURASHI, NSWC, Crane

THURSDAY, MARCH 4, 2010
AFTERNOON

SYMPOSIUM Session 2850

Carbon Nanomaterial-based Electrochemical Biosensing - arranged by Chenzhong Li, Florida International University

Thursday Afternoon, Room 205A

Chenzhong Li, Florida International University, Presiding

2:00 **Introductory Remarks - Chenzhong Li**

2:05 (2850-1) **Biofunctionalization of Carbon Nanotube and Graphene for Sensing** YUEHE LIN, Pacific Northwest National Laboratory

2:40 (2850-2) **Carbon Electrode Materials as Platforms for Chemical and Biological Sensing** GREG SWAIN, Michigan State University

3:15 (2850-3) **Physically Small Hydrogenated Carbon Electrodes for Biosensing** DANNY KY WONG, Macquarie University, Shaneel Chandra, Subbiah Alwarappan, Simon McMullan, Philip J Martin, Avi Bendavid

3:50 (2850-4) **Carbon Nanotubes in Electrochemical Biosensing: Enhanced Stability and Sensitivity** ALEX L SIMONIAN, Auburn University

4:25 (2850-5) **Graphene Nanosheets Integrated Biosensors: Feasibility Test and Performance Evaluation** CHENZHONG LI, Florida International University, Subbiah Alwarappan

SYMPOSIUM Session 2860

Novel Molecular Approaches in Biomedical Imaging - arranged by Stephane Petoud, University of Pittsburgh

Thursday Afternoon, Room 205B

Stephane Petoud, University of Pittsburgh, Presiding

2:00 **Introductory Remarks - Stephane Petoud**

2:05 (2860-1) **Enhancement of Molecular Biomedical Imaging by Nanoparticle Platforms** RAOUL KOPELMAN, University of Michigan

2:40 (2860-2) **Nanoflares: A New Modality in Biodiagnostics and Bioimaging** CHAD A MIRKIN, Northwestern University

3:15 (2860-3) **Responsive and Bimodal (Optical/MRI) Imaging Agents** EVA JAKAB TOTH, CNRS

3:50 (2860-4) **Luminescent Lanthanide-dendrimer Agents for In vivo Imaging** STEPHANE PETOUD, University of Pittsburgh/CNRS Orleans, Chad M Shade, Hyounsoo Uh, Kristy A Gogick, Anthony P Otero

4:25 (2860-5) **Molecular Imaging Approaches to Understanding Chemistry in the Brain** CHRISTOPHER J CHANG, University of California, Berkeley

SYMPOSIUM Session 2870

Probing the BioNano Self-Assembly World - arranged by

Mark A Hayes, Arizona State University and S Douglass Gilman, Louisiana State University

Thursday Afternoon, Room 205C

Mark A Hayes, Arizona State University, Presiding

2:00 **Introductory Remarks - Mark A Hayes**

2:05 (2870-1) **Capillary Electrophoretic Studies of Peptide Aggregation with Fluorescence and Light Scattering Detection** S DOUGLASS GILMAN, Louisiana State University, Ryan Picou, Indu Kheterpal, Suresh C Regmi

2:40 (2870-2) **New Tools for Analysis of Self-Assembled Biosystem** MARK A HAYES, Arizona State University, Josemar Castillo, Sarah Staton, Michelle M Meighan, Kangping Chen, Michael W Keebaugh, Stacy M Kenyon, Paul Jones, J Rafael Pacheco

3:15 (2870-3) **Designer DNA Architectures for Nanobiotechnology** HAO YAN, Arizona State University

3:50 (2870-4) **Relating Structure to Function and Aggregation for the Parkinson's Disease-linked Protein Alpha-synclein** DAVID ELIEZER, Weill Cornell Medical College

4:25 (2870-5) **Probing Amyloid Self-assembly and Structures – State of the Art and Future Challenges** RONALD WETZEL, University of Pittsburgh School of Medicine

ORGANIZED CONTRIBUTED SESSION Session 2880

ACS Division of Analytical Chemistry

Innovations in Separation Science II - arranged by Lisa Ann Holland, West Virginia University

Thursday Afternoon, Room 311C

Lisa Ann Holland, West Virginia University, Presiding

2:00 (2880-1) **Perfluoroalkylated and Alkylated Porous Graphitic Carbon for Liquid Chromatography** DAVID S JENSEN, Brigham Young University, Li Yang, Landon A Wiest, Michael A Vail, Andrew Dadson, Matthew R Linford

2:20 (2880-2) **Solid-phase Microextraction as Sample Preparation Tool for Metabolomics Using Liquid Chromatography and New Generation Orbitrap Mass Spectrometer** DAJANA VUCKOVIC, University of Waterloo, Brad Gien, Ines de Lannoy, Janusz Pawliszyn

2:40 (2880-3) **Origin of the Memory Effect on Stationary Phase** JOEL G PUTNAM, University of Tennessee, Georges Guiochon

3:00 (2880-4) **Thermodynamic-based Piecewise Predictive Modeling of Gas Chromatographic Retention** BRYAN KAROLAT, University of Alberta, James J Harynuk

3:20 **Recess**

3:35 (2880-5) **Polymer Brushes for the Isolation of Biological Macromolecules in Dynamic Isoelectric Focusing Applications** CECIL B BAILEY, Southern Illinois University, Milind D Bisen, Daniel J Dyer, Matthew McCarroll, Luke Tolley

3:55 (2880-6) **Microanalytical Techniques for Pharmaceutically Relevant Neuropeptides** COURTNEY D KUHNLINE, University of Kansas, Susan M Lunte

4:15 (2880-7) **Investigations into Causes of Peak Tailing and the Implications to Chromatographic Performance** BRIAN BIDLINGMEYER, Agilent Technologies, Robert D Ricker

4:35 (2880-8) **Superheated Water Ion-Exchange Chromatography: A New Approach to Alteration of Selectivity in Ion-Exchange Separation** MASAMI SHIBUKAWA, Saitama University, Tomomi Shimasaki, Shingo Saito, Kazunori Saitoh, Takashi Yarita

ORGANIZED CONTRIBUTED SESSION Session 2890

Characterization and Uses of Stationary Phase Selectivity - An Applied Perspective - arranged by Peter W Carr, University of Minnesota and Lloyd R Snyder, LC Resources

Thursday Afternoon, Room 207B

Lloyd R Snyder, LC Resources, Presiding

2:00 (2890-1) **The Hydrophobic-Subtraction Model (HSM) for Characterizing Reversed-phase Column Selectivity** PETER W CARR, University of Minnesota, Yu Zhang

2:20 (2890-2) **Reversed-phase Column Selectivity** UWE D NEUE, Waters Corporation, Pamela C Iraneta, Bonnie A Alden, Kevin Wyndham, Kenneth J Fountain

2:40 (2890-3) **Application of Snyder-Dolan Reversed Phase Classification Scheme to the Selection of "Orthogonal" Columns for Gradient Elution Pharmaceutical Applications** ADAM PETER SCHELLINGER, Abbott Laboratories, Peter W Carr, Wenzhe Fan, Wayne A Pritts

3:00 (2890-4) **Continuing Innovations in Reversed-phase Liquid Chromatography** RONALD E MAJORS, Agilent Technologies

3:20 **Recess**

3:35 (2890-5) **Understanding and Deconvolving the Role of the Stationary Phase and the Silica Support in Order to Optimize HPLC Separations** FRANK L DORMAN, Restek Corporation, Ty Kahler, Mike Wittrig, Bruce Albright, Randy Romesberg, Rick Lake, Vernon Bartlett, Rebecca E Wittrig

3:55 (2890-6) **Integration of the Hydrophobic Subtraction Model into Stationary Phase Selectivity Engineering** IAN CHAPPELL, Grace Discovery Sciences

4:15 (2890-7) **How Knowledge of Stationary Phase and Solute Chemical Interactions can Accelerate HPLC Method Development** RICHARD A HENRY, Supelco/Sigma-Aldrich, David S Bell, Craig R Aurand, Hillel K Brandes, William H Campbell

4:35 (2890-8) **Applications of Quality by Design for HPLC-Columns** IMRE L MOLNÁR, Molnár-Institute

ORGANIZED CONTRIBUTED SESSION Session 2900

Specialty Gas Analysis II (Half Session) - arranged by

Tracey Jacksier, Air Liquide

Thursday Afternoon, Room 307C

Barbara Marshik, MKS Instruments, Presiding

2:00 (2900-1) **Spectroscopic Detection of Trace Impurities in Hydrogen Fuel Used for PEM Fuel Cell Applications** SCOTT MCWHORTER, Savannah River National Laboratory, H Colon-

Mercado

2:20 (2900-2) **Measuring of HC Composition in Gaseous Streams of MTP Process (Lurgi Methanol to Propylene Technology) by Micro Gas Chromatography** DANIEL REISER, Air Liquide

2:40 (2900-3) **Advances in Aluminum Oxide Trace Moisture Measurement and Calibration** THOMAS M BALLARD, GE Sensing

3:00 (2900-4) **Online Analysis of Chlorine Gas Purity Using Long-Path FTIR** WENDY C FLORY, The Dow Chemical Company, Lamar R Dewald, Gary L Gellise, Todd M Beebe, Joseph A Bonadies

ORAL SESSION Session 2910

Analysis of Biomolecular Interactions (Half Session)

Thursday Afternoon, Room 309AB

Richard Schultz, Dr. Eyal Bressler & Co., Ltd. Patent Attorney, Presiding

2:00 (2910-1) **Particle Beam/Hollow Cathode-Optical Emission Spectroscopy (PB/HC-OES) Method as a Tool for Metallomic Studies: Competitive Metal Binding Determinations with Apo-Transferrin** C DERRICK QUARLES, Clemson University, R Kenneth Marcus, Julia L Brumaghim

2:20 (2910-2) **Analysis of Protein/Protein and Protein/Carbohydrate Interactions via Capillary Electrophoresis** STEPHANIE A ARCHER-HARTMANN, West Virginia University, Ruijuan Luo, Lisa A Holland

2:40 (2910-3) **Label-free, High-throughput DNA-protein Interaction Studies: Re-evaluating Eukaryotic Transcription** ROSTEM J IRANI, Boston University, Emre Ozkumur, Sunmin Ahn, David Bergstein, Ayca Yalcin, M S Unlu, Charles DeLisi

3:00 (2910-4) **Analysis of Peptide-Protein Conjugates Using Imaged Capillary Isoelectric Focusing** COLIN D MEDLEY, Pfizer, Xiaoping He, Jeffrey Schneiderheinze, Paul Mehelic, Charles Demarest

ORAL SESSION Session 2920

Analytical Microdialysis (Half Session)

Thursday Afternoon, Room 307A

Michael Markelov, ACS Labs, Presiding

2:00 (2920-1) **Potentiometric and Amperometric Sensors for Online Microdialysis – A Multi-analyte Tool for in vivo Measurements in the Brain** DELPHINE FEUERSTEIN, Imperial College London, Tetsuya Kumagai, Paula Gabel, Anthony J Strong, Rudolf Graf, Martyn G Boutelle

2:20 (2920-2) **Low-flow Push-pull Perfusion Sampling of the Subtle Gray Mouse Brain** SRIVANI BORRA, University of Illinois, Scott A Shippy

2:40 (2920-3) **Development of an On-line High Speed Microdialysis Capillary Electrophoresis Assay for Monitoring Pharmacokinetics of Intranasal Administration** ANNE P MOHNS, University of Minnesota, Jared M Fine, Leah R Hanson, William H Frey, Michael T Bowser

3:00 (2920-4) **An Integrated Microfluidic Device Coupled with Microdialysis Sampling for in vivo Monitoring of Amino Acid Neurotransmitters Labeled with Naphthalene-2,3-Dicarboxaldehyde** MAOJUN GONG, University of Michigan, Hernan V Fuentes, Robert T Kennedy

ORAL SESSION Session 2930

Aptamer Generation and Purification (Half Session)

Thursday Afternoon, Room 310A

Ruth Ann Armitage, Eastern Michigan University, Presiding

2:00 (2930-1) **Capillary Electrophoresis-Systematic Evolution of Ligands by Exponential Enrichment Study on Sarco/Endoplasmic Reticulum Ca2+-ATPase** MENG JING, University of Minnesota, Jennifer R Furchak, Michael T Bowser

2:20 (2930-2) **Using Gradient Micro-Free Flow Electrophoresis for Determination of Dissociation Constants and Binding Stoichiometry of Aptamers** RYAN T TURGEON, University of Minnesota, Michael T Bowser

2:40 (2930-3) **A Continuous Flow Microfluidic Fraction Collection Device for the Automated Selection of DNA Aptamers** CHRISTOPHER A BAKER, Florida State University, Michael G Roper

3:00 (2930-4) **Withdrawn**

ORAL SESSION Session 2940

Biotransformation Analysis in Microscale Systems (Half Session)

Thursday Afternoon, Room 307B

Justin M Zook, National Institute of Standards and Technology, Presiding

2:00 (2940-1) **Electrophoretically Mediated Microanalysis Studies of Enzyme Kinetics by Monitoring Fluorescent Substrate Depletion** RACHEL L HERNKEN, Louisiana State University, S Douglass Gilman

2:20 (2940-2) **Investigating the Dynamics of Small Molecule Reactions within a Capillary Tube** TIMOTHY G STREIN, Bucknell University, John W Stahl, Sarah A Scubert, Sarah Findeis, William N Napoli

2:40 (2940-3) **Monitoring of Real Time Glutathione Reductase Kinetics Using a Microfluidic Chip with Precolumn Derivatization of Thiols and Confocal Laser Induced Fluorescence Detection** JUANFANG WU, University of Pittsburgh, Jerome P Ferrance, Stephen G Weber

3:00 (2940-4) **Microfluidic Hydrodynamic Focusing to Study the Effects of Formation Temperature and Phase Transition Temperature on Liposome Formation and Size** JUSTIN M ZOOK, National Institute of Standards and Technology, Wyatt N Vreeland

ORAL SESSION Session 2950

Cell and Tissue Imaging (Half Session)

Thursday Afternoon, Room 308B

Prasad Oruganti, Case Western Reserve University, Presiding

2:00 (2950-1) **Optical Measurement of Drug Penetration in Cancer Tumor Spheroids** PRASAD ORUGANTI, Case Western Reserve University, Dexing Wang, Nikhil Mohan, Miklos Gratzl

2:20 (2950-2) **High Intensity Fluorescent Polyacrylamide-Core Silica-Shell Nanoparticles for Cellular Labeling** COLLEEN JANCZAK, University of Arizona, S Scott Saavedra, Craig A Aspinwall

2:40 (2950-3) **A Practical Potassium PEBBLE Nano-Sensor for Real Time Intracellular Chemical Imaging** TAMIR EPSTEIN, University of Michigan, Taeyjuana Y Curry, Martin A Philbert, Raoul Kopelman

3:00 (2950-4) **Titration of Indicator Dyes and Drug Molecules within Single Cancer Cells** PRASAD ORUGANTI, Case Western Reserve University, Miklos Gratzl

ORAL SESSION Session 2960

Chiral Separation Media (Half Session)

Thursday Afternoon, Room 311B

Lin Wang, Eli Lilly and Company, Presiding

2:00 (2960-1) **New Directions in Chiral Capillary Electrochromatography: A Novel Surfactant-Bound Monolithic Stationary Phase** JUN HE, Georgia State University, Congying Gu, Shahab A Shamsi

2:20 (2960-2) **CE Separation of Salsolinol Enantiomers** HAO WU, Jackson State University, Yiming Liu

2:40 (2960-3) **Investigating Chirally Selective Interactions of Binapthyl Compounds by Bile Salt Micelles: Understanding Micelle Formation and Chiral Resolution Using NMR and CE** JENNA YEHL, Bucknell University, Kyle W Eckenroad, Greg A Manley, Laura E Thompson, Christine M Hebling, Timothy G Strein, David Rovnyak

3:00 (2960-4) **Super-critical Fluid Chromatography (SFC) with Tandem Mass Spectrometry (MS/MS) to Evaluate the Disposition of Individual Stereo-isomers of Drugs** MARK J HAYWARD, Lundbeck, Qing Ping Han

ORAL SESSION Session 2970

Education/Teaching (Half Session)

Thursday Afternoon, Room 310A

Ruth Ann Armitage, Eastern Michigan University, Presiding

3:35 (2970-1) **An Integrated Analytical and Organic Chemistry Creative Scientific Inquiry Experience** RUTH ANN ARMITAGE, Eastern Michigan University, Amy Johnson, Harriet Lindsay

3:55 (2970-2) **Research-Based Learning in the Undergraduate Analytical Laboratory: Evaluation and Application of Analytical Methods for Quantifying Ions in Environmental Water Analysis** JUSTIN C HARRIS, The Ohio State University

4:15 (2970-3) **Withdrawn**

4:35 (2970-4) **Introducing Authentic Research Experiences to First and Second year Students through Environmental Chemistry** TED M CLARK, Ohio State University

ORAL SESSION Session 2980

Environmental: Advances in Gas Chromatography Techniques (Half Session)

Thursday Afternoon, Room 308C

Thomas Edward Wheat, Waters Corporation, Presiding

2:00 (2980-1) **Applications of Capillary Ion Chromatography Systems in Trace Analysis** YAN LIU, Dionex Corporation, Victor Barreto, Zhongqing Lu, Chris Pohl

2:20 (2980-2) **A New Series of Low-Bleed, High-Inertness Capillary GC Columns, Through Improved Deactivation Chemistry and Stationary Phase Synthesis** GARY STIDSEN, Restek Corporation, Roy Lautamo, Jaap de Zeeuw, Jack Cochran, Michelle Misselwitz, Chris English

2:40 (2980-3) **Highly Inert Capillary GC Columns: Less Activity, Better Peak Shape, and More Sample Signal** KENNETH G LYNAM, Agilent Technologies, Allen K Vickers

3:00 (2980-4) **Long Term, Automated Monitoring of VOC Contaminants in Drinking Water Supplies Using a Modified GC System Equipped with a Micro Argon Ionization Detector** ROBERT FELTY, INFICON, Teresa Kristoff

ORAL SESSION Session 2990

Environmental: Metals Analysis (Half Session)

Thursday Afternoon, Room 310B

James Berry, Environmental Consultant, Presiding

2:00 (2990-1) **Mercury Species Analysis by Method 1630** MARK L BRUCE, TestAmerica, Ray Shock, David S Heakin

2:20 (2990-2) **Development of Laser Induced-breakdown Spectroscopy for Copper in the Aqueous Solution with Ion-exchange Concentrator** TAESAM KIM, Northern Illinois University, Michael Ricchia, Chhiu-Tsu Lin

2:40 (2990-3) **Trace Detection in Ceramics, Organic and Biological Samples by Microwave-assisted Laser-induced Plasma Spectroscopy** BAUDELET MATTHIEU, Townes Laser Institute - CREOL, Liu Yuan, Richardson Martin

3:00 (2990-4) **Alternate Matrix Modifiers for GF/AAS Analysis of Trace Metals in Acid Mine Drainage** RONALD T SMITH, Indiana Geological Survey

ORAL SESSION Session 3000

FTIR/IR Photoacoustic Spectroscopy

Thursday Afternoon, Room 206A

John F Turner II, Cleveland State University, Presiding

2:00 (3000-1) **Low-level Gas Detection and Identification by Cavity-enhanced FTIR Absorption Spectroscopy with an NIR Superluminescent Led Source** BEN PERSTON, PerkinElmer, Cathryn Langley, Gus Hancock, Wolfgang Denzer, Dean Brown

2:20 (3000-2) **Withdrawn**

2:40 (3000-3) **Combining FTIR Imaging and Thermal Techniques – The Importance of Scale** RICHARD SPRAGG, PerkinElmer, Kevin P Menard, Dean Brown

3:00 (3000-4) **FT-IR Spectroscopy, Scanning Electron Microscopy and Porosity Measurements to Determine the Firing Temperature of Ancient Megalithic Period Potteries Excavated from Adichanallur Archaeological Site in India** G VELRAJ, Periyar University, A Mohamed Musthafa, M Vigneswari

3:20 **Recess**

3:35 (3000-5) **Advantages of Gas Phase Photoacoustic FTIR Spectroscopy** ISMO KAUPPINEN, Gasera Ltd., Jussi Raittila, Juho Uotila

3:55 (3000-6) **Physical Modeling of the Interferometric Cantilever Microphone Used in Photoacoustic Spectroscopy** JYRKI KAUPPINEN, University of Turku, Juho Uotila, Jussi Raittila

4:15 (3000-7) **Measurement of Hot Gases With Cantilever Enhanced Photoacoustic Gas Cell** JUSSI RAITTILA, Gasera Ltd., Jyrki Kauppinen, Ismo Kauppinen, Juho Uotila, Helle Aleksi

4:35 (3000-8) **Cantilever Enhanced Photoacoustic FTIR Challenges ATR and Diffuse Reflectance Techniques** JUHO UOTILA, Gasera Ltd., Jussi Raittila, Ismo Kauppinen, Jyrki Kauppinen

ORAL SESSION Session 3010

Functional and Diagnostic Proteomics (Half Session)

Thursday Afternoon, Room 307D

Partha Basu, Duquesne University, Presiding

2:00 (3010-1) **2DE-MALDI-TOF Tandem MS for Evaluation of Protein Expression Patterns in Tissues of the Model Fish Species, *Fundulus Grandis*** NAGA V ABBARAJU, University of New Orleans, Mohamed N Boutaghou, Richard B Cole, Bernard B Rees

2:20 (3010-2) **Investigation of Microbial Transformation of a Chicken Feed Additive Using LC MS/MS** PARTHA BASU, Duquesne University, Vadiraja Bhat, Peter Chovanec, John Stolz

2:40 (3010-3) **Double Blind Bacterial Identification by Mass Spectrometry-based Proteomics** RABIH E JABBOUR, Science Applications International Corporation, Samir V Deshpande, Michael F Stanford, Charles H Wick, Alan W Zulich, A Peter Snyder

3:00 (3010-4) **Proteomic Applications of Capillary Isoelectric Focusing Coupled to Matrix Assisted Laser Desorption/Ionization Mass Spectrometry** NOAH WEISS, Arizona State University, Mark A Hayes

ORAL SESSION Session 3020

Integrated Function Microchips

Thursday Afternoon, Room 207C

Ryan Kelly, Pacific Northwest National Laboratory, Presiding

2:00 (3020-1) **Continuous Capillary Electrophoresis on Chip for the Simultaneous Detection of Cations and Anions in Gaseous and Liquid Process Flows** K PHILLIP SCHIERJOTT, Karlsruhe Institute of Technology, Achim Voigt, Werner E Hoffmann, Andreas Guber, Volker Saile

2:20 (3020-2) **Micro Gas Chromatographic Determination of Parts-Per-Trillion Levels TCE Vapor** HUNG-WEI CHANG, University of Michigan, Sun Kyu Kim, Edward T Zellers

2:40 (3020-3) **Detection of Viral Contaminations with Molecular Imprinted Polymers Integrated in a Microfluidic Biochip Using Contact-Less Dielectric Microsensors** GERALD M BIRNBAUMER, Austrian Institute of Technology, Peter A Lieberzeit, Lukas A Richter, Romana Schirhagl, Marcus Milnera, Franz L Dickert, Andrew Bailey, Peter Ertl

3:00 (3020-4) **From "Lab-On-Chip" to "Chip-In-Lab": Advanced Capillary Electrophoresis in Chip Format for Low-Cost Analysis** WERNER E HOFFMANN, Karlsruhe Institute of Technology, Wonhee Hwang, Holger Muehlberger, K Phillip Schierjott, Ludmila Petrova, Andreas Guber, Volker Saile

3:20 **Recess**

3:35 (3020-5) **Development of Automated Lab-on-a-Chip Analysis Systems for in situ Planetary Exploration** PETER A WILLIS, Caltech/JPL, Frank Greer, Anita Fisher, Hong Jiao, Dieudonne Mair

3:55 (3020-6) **Multi-Drug Resistant Tuberculosis Molecular Assay Using a Low-Cost Integrated Microfluidic Genosenor** HUI-WEN CHEN, Louisiana State University, Hong Wang, Mateusz L Hupert, Steven A Soper

4:15 (3020-7) **Coupling Microfluidics with Mass Spectrometry for Single Cell Biochemical Analyses** RYAN T KELLY, Pacific Northwest National Laboratory, Xuefei Sun, Nitin Agrawal, Jason S Page, Keqi Tang, Richard D Smith

ORAL SESSION Session 3030

Liquid Chromatography - Method Development and Applications (Half Session)

Thursday Afternoon, Room 308C

Thomas Edward Wheat, Waters Corporation, Presiding

3:35 (3030-1) **Ionic Liquids Containing the Tris(pentafluoroethyl) trifluorophosphate (FAP) Anion as Selective Extraction Solvents for Polycyclic Aromatic Hydrocarbons Using Direct Immersion Single Drop Microextraction-High Performance Liquid Chromatography** CONG YAO, The University of Toledo, William R Pitner, Jared L Anderson

3:55 (3030-2) **Separation and Determination of Procyanidins in Various Fruit/Bean Extracts by Reversed-Phase HPLC** CHRISTINE M STRAUT, Battelle Natick Operations, Ann Barrett, Amy B Howell

4:15 (3030-3) **Withdrawn**

4:35 (3030-4) **Optimized UPLC Technology for the Separations of Biological Macromolecules** THOMAS EDWARD WHEAT, Waters Corporation, Jeffrey R Mazzeo

ORAL SESSION Session 3040

Metabolomic and Proteomic Methods

Thursday Afternoon, Room 206C

Barbara Manner, The Pittsburgh Conference, Presiding

2:00 (3040-1) **Characterization of Diaper and Cotton Ball Contamination in Metabonomic Studies of Newborn Diseases Using NMR and LC/MS** AARON M GOODPASTER, Miami University, Ohio, Joshua Hicks, Kimberly L Colson, Gabriela Zurek, Eshwar H Ramadas, Michael A Kennedy

2:20 (3040-2) **Phospho-Peptides Enrichment Based on Group IV Metal Oxides** STEFAN VUJCIC, University at Buffalo, SUNY, Lisandra Santiago-Capeles, Jose G Rivera, Luis A Colon

2:40 (3040-3) **Metabolic Fingerprinting of Canine Chemotherapy Using Capillary Electrophoresis** RYAN E HOLCOMB, Colorado State University, Roy A Miller, James R Kraly, Susan E Lana, Charles S Henry

3:00 (3040-4) **Quantitative Determination of Sarcosine and Related Compounds in Urinary Samples by Liquid Chromatography with Tandem Mass Spectrometry** YONGQING

JIANG, Missouri University, Xiaoliang Cheng, Chuan Wang, Yinfa Ma

3:20 **Recess**

3:35 (3040-5) **LC/MS Metabonomic Analysis of Urine from Mice Treated with Enrofloxacin** AARON M GOODPASTER, Miami University, Ohio, Lindsey E Romick, Eshwar H Ramadas, Neil B Patel, Michael A Kennedy

3:55 (3040-6) **Determination of Fluorescent Phosphoinositides Metabolism by Capillary Electrophoresis** SIMON M MWONGELA, Kent State University, Emmanuel W Quainoo, Anthony C Otieno

4:15 (3040-7) **Single Cell Analysis of Phophoinositide 3-Kinase Activity for Cellular Signaling Studies** DECHEN JIANG, University of North Carolina, Chapel Hill, Christopher E Sims, Nancy L Allbritton

4:35 (3040-8) **Undirected Metabolomic Analysis of Glucose Stimulated Insulation Secretion in β-Cells by Liquid Chromatography - Time of Flight Mass Spectrometry Using an Optimized Sample Preparation Procedure** MATTHEW ALLEN LORENZ, University of Michigan, Robert T Kennedy

ORAL SESSION Session 3050

Nanoparticles as (Psuedo)stationary Phases (Half Session)

Thursday Afternoon, Room 311B

Lin Wang, Eli Lilly and Company, Presiding

3:35 (3050-1) **Withdrawn**

3:55 (3050-2) **Continuous Full Filling Capillary Electrochromatography** PETER SPEGEL, Nanosep AB, David Malmström, Jonas Bergquist

4:15 (3050-3) **Implications of Covalently-Functionalized Nanoparticles on Separations of Parkinson's Disease Biomarkers** MICHAEL R IVANOV, University of Iowa

4:35 (3050-4) **Carbon Coated Magnetite Nanoparticles, A New Stationary Phase in Capillary Electrochromatography** GWENAELLE S PHILIBERT, The Ohio State University, Susan V Olesik

ORAL SESSION Session 3060

Nanotechnology - Novel Uses

Thursday Afternoon, Room 206B

Douglas R Kauffman, The University of Pittsburgh, Presiding

2:00 (3060-1) **Magnetically Driven DNA Nanomotor** SUWUSSA BAMRUNGSAP, University of Florida, Joseph A Phillips, Youngmi Kim, Weihong Tan

2:20 (3060-2) **Nanomaterials for Chemical Sensor and Energy Production Applications** DOUGLAS R KAUFFMAN, University of Pittsburgh / NETL, Chad M Shade, Hyounsoo Uh, Daniel C Sorescu, Brett L Allen, Stephane Petoud, Alexander Star

2:40 (3060-3) **In Search of Parkinson's Disease Biomarkers Using Nanoparticles and Capillary Electrophoresis** VARUNI SUBRAMANIAM, University of Iowa, Michael R Ivanov, Amanda J Haes

3:00 (3060-4) **Nanopen Lithography** PRADEEP RAMIAH RAJASEKARAN, University of Chicago, Haibo Wang, Samir Aouadi, Chuanhong Zhou, Punit Kohli

3:20 **Recess**

3:35 (3060-5) **Trapping of Biological Nanoparticles Using Planar Fluidic Devices** JIE XUAN, Brigham Young University, Mark N Hamblin, Aaron R Hawkins, H Dennis Tolley, Daniel R Maynes, Adam T Woolley, David M Belnap, Milton L Lee

ORAL SESSION Session 3070

Near Infrared Identification and Analysis (Half Session)

Thursday Afternoon, Room 308D

Frederick G Haibach, Polychromix, Inc., Presiding

2:00 (3070-1) **A New Series of NIR Spectrometers** FRANKLIN ELLWOOD BARTON, Light Light Solutions, LLS, James A de Haseth

2:20 (3070-2) **Continuous Glucose Monitoring with Noninvasive Near-Infrared Spectroscopy** GARY W SMALL, University of Iowa

2:40 (3070-3) **Near Infrared Measurements, What Configuration Of A Spectrophotometric Instrument Do I Use?** JIM STEENSRUD, Varian, Inc., Frank S Weston

3:00 (3070-4) **Signal Processing Methods for Process Monitoring Applications of Near-Infrared Spectroscopy** QIAOHAN GUO, University of Iowa, Gary W Small

ORAL SESSION Session 3080

Novel Technologies in Homeland Security/Forensics

Thursday Afternoon, Room 311A

David Rahni, Pace University, Presiding

2:00 (3080-1) **Novel and Unorthodox Applications of Analytical Technologies to Covert PCIDs for Pharmaceutical Anti-counterfeiting** PETER D GABRIELE, Armark Authentication Technologies, LLC, Michael Flemmens, Andrew Hogan

2:20 (3080-2) **Sniffer Technology for BioWeapen Detection** SANDY WEINBERG, Clayton State University, Carl Rockburne

2:40 (3080-3) **Comparison of the Capabilities of LIBS and LAICPMS for the Forensic Analysis of Paper and Gel Ink** TATIANA TREJOS, Florida International University, Jose Almirall

3:00 (3080-4) **A Model for Strategic Biodefense** SANDY WEINBERG, Clayton State University

3:20 **Recess**

3:35 (3080-5) **Development of a Novel Test Fixture for Evaluation of Real-Time Toxic Chemical Vapor Detection Systems** SUN MCMASTERS, US Army Dugway Proving Ground, Charles Evans, Wesley D Ercanbrack, Brian K Bennett, Mingin Wu

3:55 (3080-6) **Long Period Grating-Based Chemoselective and Reversible Fiberoptic Sensor Array for Chemical Warefare Agents** SAMPATHKUMARAN UMA, InnoSense LLC, Tania Betancourt, Thomas Owen, Kisholoy Goswami

4:15 (3080-7) **Assuring the Quality of Trace Explosives Measurements with NIST Standard Reference Materials (SRMs)** WILLIAM A MACCREHAN, NIST, Stephanie Moore, Michele Miller Schantz

4:35 (3080-8) **Molecularly Imprinted Polymers for the Detection of Airbourne Chemical Agents** AMANDA L JENKINS, ASK Inc., Leonard Buettner, Michael Ellzy

ORAL SESSION Session 3090

Physical Measurements (Half Session)

Thursday Afternoon, Room 308A

Fu-mei C Lin, The Pittsburgh Conference, Presiding

2:00 (3090-1) **Particle Size Distribution by Laser Diffraction - *In situ* Change of Optical Properties of the Material Without Change in the Size Distribution** ALAN F RAWLE, Malvern Instruments, Joe Wolfgang

2:20 (3090-2) **Simultaneous Analysis of Particle Size and Density via Density-Gradient Stabilized Centrifugal Sedimentation – Application to Colloidal Silica** EDWARD E REMSEN, Bradley University, David W Boldridge, Mungai Kamiti

ORAL SESSION Session 3100

Sampling & Sample Preparation - Environmental Applications (Half Session)

Thursday Afternoon, Room 310B

James Berry, Environmental Consultant, Presiding

3:35 (3100-1) **A Simple Tool for Characterization of Organic Compounds in Environmental Matrices** DAVID BENANOU, Veolia, Christophe Tondelier, Thomas Thouvenot

3:55 (3100-2) **Thin Film Microextraction under Controlled Agitation Conditions for Rapid On-Site Sampling of Organic Pollutants in Water** JANUSZ PAWLISZYN, University of Waterloo

4:15 (3100-3) **Increasing Efficiency and Pesticide Recovery from the QuEChERS Approach for Fruits and Vegetable Products Using Mechanical Disruption** JOAN M STEVENS, Agilent Technologies, William Long, Tom Logan

4:35 (3100-4) **Simple and Sensitive Thermal Desorption Method for Quantifying Key Odorants From Animal Feeding Operations** LINGSHUANG CAI, Iowa State University, Shicheng Zhang, Jacek A Koziel, Larry Jacboson, Albert Heber, David Parker

ORAL SESSION Session 3110

Surface Analysis - Nanomaterials (Half Session)

Thursday Afternoon, Room 308D

Frederick G Haibach, Polychromix, Inc., Presiding

3:35 (3110-1) **Controlling Adsorption Strength of Gold Colloids on Substrates for Lithography** STUART BURRIS, Western Kentucky University, VaraPrasad Sakampally

3:55 (3110-2) **Solid Extraction of Au Nanoparticles from within Dendrimers** MARIA D CABEZAS, University of Texas at Austin, Francisco J Guerra, Richard M Crooks

4:15 (3110-3) **Characterization of Magnetic Properties of Nanoparticles Using a Hybrid Method Combining Magnetic Sample Modulation and Contact-mode Atomic Force Microscopy** JAYNE C GARNO, Louisiana State University

4:35 (3110-4) **The Localized Surface Plasmon Resonance Response of Au Nanoplates Synthesized Directly on Surfaces with Almost 100% Purity and Functionalized with Anti-IgG Preferentially at Edge Sites** FRANCIS P ZAMBORINI, University of Louisville, Srinivas Reddy Beeram

ORAL SESSION Session 3120

Validation and Data Analysis in Proteomics (Half Session)

Thursday Afternoon, Room 307D

Partha Basu, Duquesne University, Presiding

3:35 (3120-1) **Modeling Complex Proteomic Sample Analysis Using a Combinatorial Synthetic Approach** RANDY J ARNOLD, Indiana University, Predrag Radivojac, Haixu Tang, Brian Bohrer, David E Clemmer, James Reilly, Sujun Li, Yong F Li, Xiaohui Liu

3:55 (3120-2) **GlycoPepGrader - A Tool for Deciphering Glycopeptide Compositions** CARRIE L WOODIN, University of Kansas, Kathryn R Rebecchi, Melinda L Toumi, Heather Desaire

4:15 (3120-3) **Principal Component Directed Partial Least Squares Analysis for Combining NMR and MS Data in Metabolomics: Application to the Detection of Breast Cancer** VINCENT M ASIAGO, Purdue University, Haiwei M Gu, Zhengzheng Pan, Bowei Xi, Brian D Musselman, Daniel Raftery

4:35 (3120-4) **Comparing Different Concepts for Data Analysis for Comprehensive Two-**

dimensional Gas Chromatography and Related Comprehensive Techniques

THOMAS GROEGER, Helmholt Zentrum Muenchen, Marion Schaeffer, Markus S Eschner, Ralf Zimmermann